Table 1
Vince Bayou Sediment Data Compared to Ecological Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	Saltwater Benchmark (PSV)	PSV Source	Sample ID and Date												
			VBSD-19-A 0-0.5 2/11/2019	VBSD-19-A 0.5-1 2/11/2019	VBSD-19-B 0-0.5 2/11/2019	VBSD-20-A 0-0.5 02/11/2019	VBSD-20-B 0-0.5 02/11/2019	VBSD-20-B 0.5-1 02/11/2019	VBSD-21-A 0-0.5 7/12/2018	VBSD-21-B 0-0.5 02/11/2019	VBSD-21-B 0.5-1 02/11/2019	VBSD-21-C 0-0.5 02/11/2019	VBSD-21-C 0.5-1 02/11/2019	VBSD-22-A 0-0.5 7/12/2018	VBSD-22-B 0-0.5 02/11/2019
METALS															
Antimony	2	1	0.337 UJ	0.167 J	0.134 UJ	< 0.0854	0.201 UJ	0.319 UJ	**7.07**	**152**	**199**	0.479 J	0.821	0.825	0.317 J
Arsenic	8.2	1	**27.5**	**11**	4.94	2.96	**10.1**	**13.3**	**325**	**1540**	**946**	4.48	6.15	**80.6**	6.19
Barium	2218	3	107	116	150	35.8	140	291	127	303	198	126	298	173	218
Boron	2.5	4	**11.9**	**12**	**15.2**	**12**	**14.1**	**11.6**	**13.4**	**59.8**	**71.5**	**9.81**	**14.1**	**15**	**22.7**
Chromium	81	1	31.6	29.2	22	10.3	29.4	33	40.7	**84.1**	77.5	22.1	46.4	22	36.2
Cobalt	10	2	6.88	6.64	8.46	6.46	8.19	**11.9**	6.47	**11.4**	8.55	3.78	6.3	7.63	9.38
Manganese	260	2	167	177	**867**	30.1	237	**1490**	183	**433**	**460**	101	214	**270**	**296**
Mercury	0.15	1	**0.249**	0.114	0.0119	0.0107 U	**0.212**	0.14	**1.27**	**176**	**0.977**	**0.259**	**0.451**	**0.622**	**0.489**
Selenium	1	2	0.816	0.49 J	0.625 J	0.499 UJ	0.711 J	0.953	**7.03**	**67.8**	**53.8**	0.575 J	0.558 J	0.867	0.897
Thallium	0.5	4	< 0.291	< 0.289	< 0.32	< 0.293	< 0.322	< 0.317	0.341 J	**3.94**	**2.48**	< 0.313	< 0.354	<0.29	< 0.368

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COPC	Saltwater Benchmark (PSV)	PSV Source	Sample ID and Date									
			VBSD-23-A 0-0.5 7/12/2018	VBSD-23-B 0-0.5 02/11/2019	VBSD-24-A 0-0.5 7/13/2018	VBSD-24-B 0-0.5 02/11/2019	VBSD-24-C 0-0.5 02/11/2019	VBSD-24-C 0.5-1 02/11/2019	VBSD-25-A 0-0.5 7/13/2018	VBSD-26-A 0-0.5 02/11/2019	VBSD-27-A 0-0.5 7/13/2018	VBSD-27-B 0-0.5 02/11/2019
METALS												
Antimony	2	1	**5.71**	< 0.0943	**5.19**	0.087 J	0.322 J	0.368 J	0.271 J	0.174 J	1.68	1.65 JL
Arsenic	8.2	1	**258**	1.27	**1370**	6.05	4.19	6.56	**16**	7	**97.1**	**247**
Barium	2218	3	662	112	193	186	113	180	163	94.7	155	247
Boron	2.5	4	**22.3**	**7.98**	**14.7**	**10.7**	**9.91**	**10.2**	**10.5**	**9.69**	**12.6**	**17.9**
Chromium	81	1	37.1	9.22	32.2	17.2	30.1	39.5	18	40.2	29.9 JH	37.5
Cobalt	10	2	**11.1**	4.75	6.77	9.45	4.82	5.64	6.63	7.95	7.57	9.9
Manganese	260	2	**611**	24.8	260	99.9	143	210	**359**	**488**	243	213
Mercury	0.15	1	**45.9**	0.00623 U	**3.36**	0.00597 U	0.108	**0.244**	0.0886	0.0946	**2.17 JH**	**0.737**
Selenium	1	2	**13.3**	0.497 UJ	**4.58**	0.625 J	0.6 J	0.341 J	0.214 J	0.517 UJ	0.701 J	**1.1**
Thallium	0.5	4	**0.98**	< 0.324	<0.4	< 0.296	< 0.35	< 0.329	<0.28	< 0.329	<0.38	< 0.337

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COPC	Saltwater Benchmark (PSV)	PSV Source	Sample ID and Date							
			VBSD-27-B 0.5-0.7 02/11/2019	VBSD-28-A 0-0.5 02/12/2019	VBSD-28-A 0.5-1 02/12/2019	VBSD-28-B 0-0.5 02/12/2019	VBSD-29-A 0-0.5 2/12/2019	VBSD-29-A 0.5-1 2/12/2019	VBSD-29-B 0-0.5 2/12/2019	VBSD-29-B 0.5-1 2/12/2019
METALS										
Antimony	2	1	1.92	0.675 J	0.156 UJ	0.276 J	0.561 J	0.164 UJ	0.344 UJ	0.491 J
Arsenic	8.2	1	**198**	**89.9**	6.7	4.1	5.72	4.23	6.89	6.45
Barium	2218	3	169	302	163	187	138	75.9	345	405
Boron	2.5	4	**18.9**	**19.3**	**12.8**	**11**	**15.5**	**10.5**	**13.9**	**22.5**
Chromium	81	1	28.7	71.2	73	31	29.1	23.8	33.3	46.5
Cobalt	10	2	5.28	**10.1**	9.26	5.21 J	6.36	7.49	8.45	6.88
Manganese	260	2	**319**	**561**	**362**	167 J	198	111	**376**	239
Mercury	0.15	1	**0.545**	**0.168**	0.0634	**0.276**	**0.177**	**0.328**	**0.97**	**0.713**
Selenium	1	2	0.4 J	**1.33**	0.45 J	0.617 J	0.825 J	0.394 J	0.563 J	0.876
Thallium	0.5	4	< 0.312	< 0.43	< 0.282	< 0.309	< 0.434	< 0.291	< 0.349	< 0.383

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COPC	Saltwater Benchmark (PSV)	PSV Source	Sample ID and Date												
			VBSD-19-A 0-0.5 2/11/2019	VBSD-19-A 0.5-1 2/11/2019	VBSD-19-B 0-0.5 2/11/2019	VBSD-20-A 0-0.5 02/11/2019	VBSD-20-B 0-0.5 02/11/2019	VBSD-20-B 0.5-1 02/11/2019	VBSD-21-A 0-0.5 7/12/2018	VBSD-21-B 0-0.5 02/11/2019	VBSD-21-B 0.5-1 02/11/2019	VBSD-21-C 0-0.5 02/11/2019	VBSD-21-C 0.5-1 02/11/2019	VBSD-22-A 0-0.5 7/12/2018	VBSD-22-B 0-0.5 02/11/2019
PESTICIDES AND HERBICIDES															
2,4-D	0.0066	4	< 0.043	< 0.042	< 0.051	< 0.046	< 0.05	< 0.049	<0.001	< 0.05	< 0.057	< 0.051	< 0.057	<0.001	< 0.06
2,4-DB	0.0066	4	< 0.043	< 0.042	< 0.051	< 0.046	< 0.05	< 0.049	<0.0013	< 0.05	< 0.057	< 0.051	< 0.057	<0.0013	< 0.06
4,4´-DDD	0.0012	1	**0.012**	**0.0014 J**	< 0.0011	< 0.01	< 0.011	< 0.0011	<0.0008	**71**	**43**	< 0.011	< 0.0013	<0.0007	< 0.013
4,4´-DDE	0.0021	1	**0.022 J**	**0.0052 J**	< 0.0011	< 0.01	**0.034 J**	**0.016 J**	<0.0008	**16 J**	**7.1 J**	**0.046 J**	**0.015**	<0.0007	< 0.013
4,4´-DDT	0.0039	1	0.001 J	< 0.00099 J	< 0.0011 J	< 0.01 J	**0.013 J**	0.0028 J	<0.0008	**0.64 J**	**0.052 J**	< 0.0065	**0.015 J**	<0.0007	< 0.013 J
Aldrin	0.0095	2	0.0012 J	0.001 J	< 0.00068	< 0.0061	0.0092 J	< 0.00066	<0.0005	**5.5**	**3.4**	< 0.0065	< 0.00077	<0.0004	< 0.0079
alpha-BHC	0.0003	1	< 0.00062	< 0.00059	< 0.00068	< 0.0061	< 0.0068	< 0.00066	<0.0005	**0.033 J**	**0.015 J**	< 0.0065	< 0.00077	<0.0004	< 0.0079
alpha-Chlordane	0.0023	1	0.0013 J	< 0.0004	< 0.00045	< 0.0041	< 0.0045	< 0.00044	<0.0003	**4.6 J**	**2**	< 0.0043	< 0.00051	<0.0003	< 0.0053
beta-BHC	0.0003	1	< 0.00062	< 0.00059	< 0.00068	< 0.0061	< 0.0068	< 0.00066	<0.0005	**1.0 J**	**0.48**	< 0.0065	< 0.00077	<0.0004	< 0.0079
Dalapon	0.0033	4	< 0.17 JL	< 0.17 JL	< 0.21 JL	< 0.18 JL	< 0.2 JL	< 0.2 JL	<0.0018	< 0.2 JL	< 0.23 JL	< 0.2	< 0.23 JL	<0.0017	< 0.24 JL
delta-BHC	0.0003	1	< 0.00041	< 0.0004	< 0.00045	< 0.0041	< 0.0045	< 0.00044	<0.0003	**0.12 J**	**0.13**	< 0.0043	< 0.00051	<0.0003	< 0.0053
Dichloroprop	0.0066	4	< 0.043	< 0.042	< 0.051	< 0.046	< 0.05	< 0.049	<0.0024	< 0.05	< 0.057	< 0.051	< 0.057	<0.0023	< 0.06
Dieldrin	0.0007	1	**0.0041 J**	< 0.00099	< 0.0011	< 0.01	< 0.011	< 0.0011	<0.0008	**4.8 J**	**2.2 J**	< 0.011	**0.0014 J**	<0.0007	< 0.013
Dinoseb	0.0033	4	< 0.043 JL	< 0.042 R	< 0.051 JL	< 0.046 JL	< 0.05 JL	< 0.049 JL	<0.0021 J	< 0.05 JL	< 0.057 JL	< 0.051	< 0.057 JL	<0.002 J	< 0.06 JL
Endosulfan I	0.0017	4	< 0.00062	< 0.00059	< 0.00068	< 0.0061	< 0.0068	< 0.00066	<0.0005	**0.75 J**	**0.096 J**	< 0.0065	< 0.00077	<0.0004	< 0.0079
Endosulfan II	0.0033	4	< 0.0012	< 0.0012	< 0.0014	< 0.012	< 0.014	< 0.0013	<0.0009	**0.75 J**	**0.13 J**	< 0.013	< 0.0015	<0.0009	< 0.016
Endosulfan sulfate	0.0033	4	< 0.0012	< 0.0012	< 0.0014	< 0.012	< 0.014	< 0.0013	<0.0009	**0.23**	**0.09**	< 0.013	0.0028 J	<0.0009	< 0.016
Endrin	0.0027	1	< 0.0012	< 0.0012	< 0.0014	< 0.012	< 0.014	< 0.0013	<0.0009	**2.0 J**	**0.034 J**	< 0.013	< 0.0015	<0.0009	< 0.016
Endrin aldehyde	0.0027	1	< 0.0012	< 0.0012	< 0.0014	< 0.012	< 0.014	< 0.0013	<0.0009	**1.2 J**	**0.5 J**	< 0.013	0.0019 J	<0.0009	< 0.016
Endrin ketone	0.0027	1	< 0.0012	< 0.0012	< 0.0014	< 0.012	< 0.014	< 0.0013	<0.0009	**0.72 J**	**0.086 J**	< 0.013	0.0016 J	<0.0009	< 0.016
gamma-BHC	0.0003	1	< 0.00041	< 0.0004	< 0.00045	< 0.0041	< 0.0045	< 0.00044	<0.0003	< 0.49 J	< 0.00052	< 0.0043	< 0.00051	<0.0003	< 0.0053
gamma-Chlordane	0.0023	1	0.002 J	0.00057 J	< 0.00045	< 0.0041	< 0.0045	0.00054 J	<0.0003	**7.5 J**	**4.4**	< 0.0043	**0.0024 J**	<0.0003	< 0.0053
Heptachlor	0.0006	1	< 0.00062	< 0.00059	< 0.00068	< 0.0061	< 0.0068	< 0.00066	<0.0005	**0.38 J**	**0.18 J**	< 0.0065	< 0.00077	<0.0004	< 0.0079
Heptachlor epoxide	0.0006	1	< 0.00062	< 0.00059	< 0.00068	< 0.0061	< 0.0068	< 0.00066	<0.0005	**2.0 J**	**0.043 J**	< 0.0065	< 0.00077	<0.0004	< 0.0079
MCPA	0.66	4	< 4.3	< 4.2	< 5.1	< 4.6	< 5	< 4.9	<0.15 JL	< 5	< 5.7	< 5.1	< 5.7	<0.14	< 6
MCPP	0.66	4	< 4.3	< 4.2	< 5.1	< 4.6	< 5	< 4.9	<0.24 JL	< 5	< 5.7	< 5.1	< 5.7	<0.23	< 6
Toxaphene	0.0001	2	< 0.0099	< 0.0095	< 0.011	< 0.098	< 0.11	< 0.011	<0.01	< 0.12 J	< 0.013	< 0.1	< 0.012	< 0.0068	< 0.13

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PESTICIDES AND HERBICIDES												
2,4-D	0.0066	4	<0.0011 JL	< 0.051	<0.0014 JL	< 0.048	< 0.051	< 0.05	<0.0009 JL	< 0.054	<0.0013 JL	< 0.051
2,4-DB	0.0066	4	<0.0015 JL	< 0.051	**0.03 J**	< 0.048	< 0.051	< 0.05	<0.0012 JL	< 0.054	<0.0016 JL	< 0.051 J
4,4´-DDD	0.0012	1	**0.076**	< 0.011	**0.3**	< 0.011	< 0.012	< 0.0012	**0.0098**	< 0.011	**0.0058 J**	**0.044 JL**
4,4´-DDE	0.0021	1	**0.17 J**	< 0.011	**0.084**	< 0.011	< 0.012	**0.0099 J**	**0.0048**	< 0.011	**0.013**	**0.096 JH**
4,4´-DDT	0.0039	1	**0.77**	< 0.011 J	**1.2**	< 0.011 J	**0.043 J**	**0.016 J**	**0.0077**	**0.021 J**	**0.0043 J**	**0.025 JL**
Aldrin	0.0095	2	**3.6**	< 0.0065	**0.027 J**	< 0.0064	< 0.007	< 0.00069	0.0034	< 0.0067	0.0035	< 0.0059 JH
alpha-BHC	0.0003	1	<0.0005	< 0.0065	**0.0099**	< 0.0064	< 0.007	< 0.00069	**0.0024**	< 0.0067	<0.0005	< 0.0059
alpha-Chlordane	0.0023	1	**0.0053 J**	< 0.0043	**0.017**	< 0.0042	< 0.0047	0.00049 J	<0.0003	< 0.0045	<0.0004	< 0.0039
beta-BHC	0.0003	1	<0.0005	< 0.0065	**0.032**	< 0.0064	< 0.007	< 0.00069	<0.0004	< 0.0067	<0.0005	< 0.0059
Dalapon	0.0033	4	<0.002 JL	< 0.2 JL	<0.0023 JL	< 0.19 JL	< 0.2 JL	< 0.2 J	<0.0016 JL	< 0.22 JL	<0.0022 JL	< 0.21 JL
delta-BHC	0.0003	1	**0.0017 J**	< 0.0043	<0.0004	< 0.0042	< 0.0047	< 0.00046	<0.0003	< 0.0045	**0.0017 J**	< 0.0039
Dichloroprop	0.0066	4	<0.0026 JL	< 0.051	<0.0031 JL	< 0.048	< 0.051	< 0.05	<0.0021 JL	< 0.054	<0.0029 JL	< 0.051
Dieldrin	0.0007	1	**0.018 J**	< 0.011	**0.016 J**	< 0.011	< 0.012	**0.0014 J**	**0.001 J**	< 0.011	**0.0026 J**	**0.02 J**
Dinoseb	0.0033	4	<0.0023 JL	< 0.051 JL	<0.0027 JL	< 0.048 JL	< 0.051 JL	< 0.05 JL	<0.0019 JL	< 0.054 JL	<0.0025 JL	< 0.051 JL
Endosulfan I	0.0017	4	**0.084 J**	< 0.0065	**0.013**	< 0.0064	< 0.007	< 0.00069	<0.0004	< 0.0067	<0.0005	< 0.0059 JL
Endosulfan II	0.0033	4	0.0025 J	< 0.013	**0.015**	< 0.013	< 0.014	< 0.0014	<0.0008	< 0.013	<0.0011	< 0.012
Endosulfan sulfate	0.0033	4	0.0018 J	< 0.013	0.0025 J	< 0.013	< 0.014	< 0.0014	<0.0008	< 0.013	<0.0011	< 0.012
Endrin	0.0027	1	<0.001	< 0.013	**0.018 J**	< 0.013	< 0.014	< 0.0014	<0.0008	< 0.013	0.0019 J	< 0.012
Endrin aldehyde	0.0027	1	**0.0028 J**	< 0.013	**0.017**	< 0.013	< 0.014	**0.0027 J**	<0.0008	< 0.013	0.0015 J	< 0.012
Endrin ketone	0.0027	1	**0.0061**	< 0.013	**0.0096 J**	< 0.013	< 0.014	< 0.0014	<0.0008	< 0.013	0.0013 J	< 0.012
gamma-BHC	0.0003	1	<0.0003	< 0.0043	<0.0004	< 0.0042	**0.022 J**	< 0.00046	<0.0003	< 0.0045	<0.0004	< 0.0039
gamma-Chlordane	0.0023	1	**0.026 J**	< 0.0043	0.016 UJ	< 0.0042	< 0.0047	**0.0024 J**	0.0015 UJ	< 0.0045	0.0057 UJ	**0.03 JH**
Heptachlor	0.0006	1	<0.0005	< 0.0065	<0.0006	< 0.0064	< 0.007	< 0.00069	<0.0004	< 0.0067	<0.0005	< 0.0059
Heptachlor epoxide	0.0006	1	**0.0039 J**	< 0.0065	**0.0093 J**	< 0.0064	< 0.007	< 0.00069	<0.0004	< 0.0067	**0.0027 J**	**0.013 JL**
MCPA	0.66	4	<0.16 JL	< 5.1	<0.19 JL	< 4.8	< 5.1	< 5	<0.13 JL	< 5.4	<0.18 JL	< 5.1
MCPP	0.66	4	<0.26 JL	< 5.1	**3.3 JL**	< 4.8	< 5.1	< 5	<0.21 JL	< 5.4	<0.29 JL	< 5.1
Toxaphene	0.0001	2	< 0.0078	< 0.1	< 0.0093	< 0.1	< 0.11	< 0.011	< 0.0064	< 0.11	< 0.0086	**0.23 J**

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PESTICIDES AND HERBICIDES										
2,4-D	0.0066	4	< 0.05	< 0.048	< 0.045	< 0.059	< 0.073	< 0.047	< 0.06	< 0.062
2,4-DB	0.0066	4	< 0.05	< 0.048	< 0.045	< 0.059	< 0.073	< 0.047	< 0.06	< 0.062
4,4´-DDD	0.0012	1	**0.031**	< 0.015	< 0.0099	< 0.01	< 0.016	< 0.01	< 0.012	< 0.014
4,4´-DDE	0.0021	1	**0.023 J**	< 0.015	< 0.0099	< 0.01	< 0.016	< 0.01	< 0.012	< 0.014
4,4´-DDT	0.0039	1	0.0013 J	< 0.015 J	< 0.0099 J	< 0.01 J	< 0.016 J	< 0.01 J	< 0.012 J	< 0.014 J
Aldrin	0.0095	2	0.00068 J	< 0.091	< 0.0059	< 0.0062	< 0.0094	< 0.0061	< 0.0075	< 0.0082
alpha-BHC	0.0003	1	< 0.00067	< 0.091	< 0.0059	< 0.0062	< 0.0094	< 0.0061	< 0.0075	< 0.0082
alpha-Chlordane	0.0023	1	**0.0042**	< 0.0061	< 0.0039	< 0.0042	< 0.0063	< 0.0041	< 0.005	< 0.0055
beta-BHC	0.0003	1	**0.0028 J**	< 0.0091	< 0.0059	< 0.0042	< 0.0094	< 0.0061	< 0.0075	< 0.0082
Dalapon	0.0033	4	< 0.2 JL	< 0.19 JL	< 0.18 JL	< 0.24 JL	< 0.29 JL	< 0.19 JL	< 0.24 JL	< 0.25 JL
delta-BHC	0.0003	1	**0.0025 J**	< 0.0061	< 0.0039	< 0.0042	< 0.0063	< 0.0041	< 0.005	< 0.0055
Dichloroprop	0.0066	4	< 0.05	< 0.048	< 0.045	< 0.0062	< 0.073	< 0.047	< 0.06	< 0.081
Dieldrin	0.0007	1	**0.0075**	< 0.015	< 0.0099	< 0.01	< 0.016	< 0.01	< 0.012	< 0.014
Dinoseb	0.0033	4	< 0.05 JL	< 0.048 JL	< 0.045 JL	< 0.059 JL	< 0.073 JL	< 0.047 JL	< 0.06 JL	< 0.062 JL
Endosulfan I	0.0017	4	< 0.00067	< 0.0091	< 0.0059	< 0.0062	< 0.0094	< 0.0061	< 0.0075	< 0.0082
Endosulfan II	0.0033	4	**0.048 J**	< 0.018	< 0.012	< 0.012	< 0.019	< 0.012	< 0.015	< 0.016
Endosulfan sulfate	0.0033	4	< 0.0013	< 0.018	< 0.012	< 0.012	< 0.019	< 0.012	< 0.015	< 0.016
Endrin	0.0027	1	< 0.0013	< 0.018	< 0.012	< 0.012	< 0.019	< 0.012	< 0.015	< 0.016
Endrin aldehyde	0.0027	1	< 0.0013	< 0.018	< 0.012	< 0.012	< 0.019	< 0.012	< 0.015	< 0.016
Endrin ketone	0.0027	1	< 0.0013	< 0.018	< 0.012	< 0.012	< 0.019	< 0.012	< 0.015	< 0.016
gamma-BHC	0.0003	1	< 0.00045	< 0.0061	< 0.0039	< 0.0042	< 0.0063	< 0.0041	< 0.005	< 0.0055
gamma-Chlordane	0.0023	1	**0.011 J**	< 0.0061	< 0.0039	< 0.0042	< 0.0063	< 0.0041	< 0.005	< 0.0055
Heptachlor	0.0006	1	< 0.00067	< 0.0091	< 0.0059	< 0.0062	< 0.0094	< 0.0061	< 0.0075	< 0.0082
Heptachlor epoxide	0.0006	1	< 0.00067	< 0.0091	< 0.0059	< 0.0062	< 0.0094	< 0.0061	< 0.0075	< 0.0082
MCPA	0.66	4	< 5	< 4.8	< 4.5	< 5.9	< 7.3	< 4.7	< 6	< 6.2
MCPP	0.66	4	< 5	< 4.8	< 4.5	< 5.9	< 7.3	< 4.7	< 6	< 6.2
Toxaphene	0.0001	2	< 0.011	< 0.15	< 0.095	< 0.1	< 0.15	< 0.097	< 0.12	< 0.13

Table 1
Vince Bayou Sediment Data Compared to Ecological Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	Saltwater Benchmark (PSV)	PSV Source	Sample ID and Date												
			VBSD-19-A 0-0.5 2/11/2019	VBSD-19-A 0.5-1 2/11/2019	VBSD-19-B 0-0.5 2/11/2019	VBSD-20-A 0-0.5 02/11/2019	VBSD-20-B 0-0.5 02/11/2019	VBSD-20-B 0.5-1 02/11/2019	VBSD-21-A 0-0.5 7/12/2018	VBSD-21-B 0-0.5 02/11/2019	VBSD-21-B 0.5-1 02/11/2019	VBSD-21-C 0-0.5 02/11/2019	VBSD-21-C 0.5-1 02/11/2019	VBSD-22-A 0-0.5 7/12/2018	VBSD-22-B 0-0.5 02/11/2019
SEMI-VOLATILE ORGANIC COMPOUNDS															
1,4-Dioxane	0.33	4	< 0.0045 JL	< 0.0035 JL	< 0.005 JL	< 0.0065 JL	< 0.0075 JL	< 0.0038 JL	<0.0033	<0.008	< 0.0056 JL	< 0.0073	< 0.0075	<0.0031	< 0.0058 JL
1-Methylnaphthalene	0.07	1	< 0.0031	< 0.0024	< 0.0034	< 0.0044	< 0.0051	< 0.0026	0.008	< 0.0054 JL	0.0064 JL	< 0.005	0.0058 JL	0.0027 J	< 0.004
2-Methylnaphthalene	0.07	1	< 0.001	0.0019 J	< 0.0011	< 0.0015	< 0.0017	< 0.00086	0.011	< 0.0018 JL	0.014 JL	< 0.0017	0.0094 JL	<0.0007	0.0095
Acenaphthene	0.016	1	< 0.001	< 0.00079	< 0.0011	< 0.0015	< 0.0017	< 0.00086	<0.0008	< 0.0018 JL	< 0.0013 JL	< 0.0017	**0.019 JL**	<0.0007	0.011
Acenaphthylene	0.044	1	< 0.002	< 0.0016	< 0.0023	< 0.003	< 0.0034	< 0.0017	<0.0015	< 0.0036 JL	< 0.0026 JL	0.0057 J	< 0.0034 JL	<0.0014	< 0.0026
Anthracene	0.0853	1	0.0069	0.0014 J	< 0.0011	< 0.0015	< 0.0017	< 0.00086	<0.0008	0.01 JL	0.01 JL	0.014	0.026 JL	<0.0007	0.009
Benz(a)anthracene	0.261	1	0.027	0.0047 J	0.0099	< 0.0047	0.017	0.012	<0.0024	0.13 JL	0.11 JL	0.16	0.092 JL	0.042	0.016
Benzo(a)pyrene	0.43	1	0.031	0.012	0.009	< 0.003	0.018	0.032	<0.0015	0.11 JL	0.066 JL	0.18	0.087 JL	0.058	0.013
Benzo(b)fluoranthene	1.1	2	0.047	0.0063	0.019	0.0056 J	0.026	0.031	0.0092	0.11 JL	0.074 JL	0.27	0.15 JL	0.061	0.018
Benzo(g,h,i)perylene	0.497	2	0.026	0.0027 J	0.01	0.0058 J	0.02	0.039	0.0063	0.085 JL	0.042 JL	0.18	0.095 JL	0.05	0.012
Benzo(k)fluoranthene	0.537	2	0.016	0.0029 J	0.0084	0.0027 J	0.015	0.024	0.0029 J	0.066 JL	0.015 JL	0.14	0.06 JL	0.016	0.0058 J
Bis(2-ethylhexyl)phthalate	0.182	1	0.025	0.0031 J	0.019	0.0051 JL	0.012 JL	0.047	0.0054 J	0.024 J	0.024	**2.2**	**2**	0.0067 J	0.013 JL
Butyl benzyl phthalate	0.049	1	< 0.0026	< 0.0021	< 0.003	< 0.0039 JL	< 0.0044 JL	0.012	<0.0019	< 0.0047	< 0.0033	< 0.0043	< 0.0044	<0.0018	< 0.0034 JL
Carbazole	0.0066	4	**0.0085 J**	0.0051 J	**0.0079 J**	< 0.0036 JL	< 0.0041 JL	0.0059 J	<0.0018	< 0.0043	< 0.0031	**0.013 J**	< 0.0041	<0.0017	< 0.0032 JL
Chrysene	0.384	1	0.03	0.0062	0.016	< 0.0024	0.022	0.015	0.0086	0.36 JL	0.23 JL	0.2	0.13 JL	0.069	0.029
Dibenz(a,h)anthracene	0.0634	1	< 0.0033	< 0.0025	< 0.0037	< 0.0047	< 0.0055	0.037	<0.0024	0.031 JL	0.019 JL	**0.077**	0.019 JL	0.013	< 0.0042
Fluoranthene	0.6	1	0.041	0.007	0.022	< 0.0033	0.03	0.015	0.01	0.083 JL	0.042 JL	0.35	0.21 JL	0.036	0.053
Fluorene	0.019	1	< 0.0022	< 0.0017	< 0.0025	< 0.0033	< 0.0037	< 0.0019	<0.0016	< 0.004 JL	< 0.0028 JL	< 0.0036	0.019 JL	<0.0016	< 0.0029
Indeno(1,2,3-cd)pyrene	0.488	2	0.026	0.0035 J	0.011	0.003 J	0.018	0.043	0.0043 J	0.042 JL	0.031 JL	0.18	0.084 JL	0.041	0.0085 J
Naphthalene	0.16	1	< 0.0012	0.0014 J	< 0.0014	< 0.0018	< 0.002	< 0.001	0.009	< 0.0022 JL	0.0092 JL	< 0.002	< 0.002 JL	<0.0009	< 0.0016
Phenanthrene	0.24	1	0.02	0.0064	< 0.0034	< 0.0044	< 0.0051	0.008	0.0052	0.025 JL	0.035 JL	0.041	0.12 JL	0.0089	0.028
Pyrene	0.665	1	0.057	0.0071	0.027	< 0.0018	0.023	0.019	0.014	0.3 JL	0.28 JL	0.3	0.23 JL	0.043	0.059
Total PAHs	4.022	1	0.34	0.07	0.15	0.06	0.22	0.28	0.10	1.37	0.99	2.1	1.4	0.45	0.29

Table 1
Vince Bayou Sediment Data Compared to Ecological Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	Saltwater Benchmark (PSV)	PSV Source	Sample ID and Date									
			VBSD-23-A 0-0.5 7/12/2018	VBSD-23-B 0-0.5 02/11/2019	VBSD-24-A 0-0.5 7/13/2018	VBSD-24-B 0-0.5 02/11/2019	VBSD-24-C 0-0.5 02/11/2019	VBSD-24-C 0.5-1 02/11/2019	VBSD-25-A 0-0.5 7/13/2018	VBSD-26-A 0-0.5 02/11/2019	VBSD-27-A 0-0.5 7/13/2018	VBSD-27-B 0-0.5 02/11/2019
SEMI-VOLATILE ORGANIC COMPOUNDS												
1,4-Dioxane	0.33	4	<0.0036	< 0.0047 JL	<0.0042	< 0.0047 JL	< 0.052	< 0.0051	<0.003	< 0.05	<0.004	< 0.0044 JL
1-Methylnaphthalene	0.07	1	<0.0024	< 0.0032	0.0037 J	< 0.0032	0.037 JL	<0.0034 JL	0.056	< 0.034 JL	<0.0027	< 0.003
2-Methylnaphthalene	0.07	1	<0.0008	< 0.0011	0.0052 J	< 0.0011	**0.072 JL**	0.0055 JL	**0.076**	< 0.011 JL	<0.0009	0.0036 J
Acenaphthene	0.016	1	<0.0008	< 0.0011	<0.001	< 0.0011	< 0.012 JL	0.015 JL	<0.0007	< 0.011 JL	<0.0009	0.0023 J
Acenaphthylene	0.044	1	<0.0016	< 0.0021	<0.0019	< 0.0022	< 0.024 JL	<0.0023 JL	<0.0013	< 0.023 JL	<0.0018	0.0026 J
Anthracene	0.0853	1	<0.0008	< 0.0011	0.0026 J	< 0.0011	0.02 JL	0.045 JL	<0.0007	< 0.011 JL	0.0053 J	0.0051 J
Benz(a)anthracene	0.261	1	0.017	< 0.0034	0.017	< 0.0034	0.26 JL	0.15 JL	0.0036 J	< 0.036 JL	0.028	0.014
Benzo(a)pyrene	0.43	1	0.02	< 0.0021	0.022	0.0035 J	0.31 JL	0.11 JL	0.0048	0.026 JL	0.025	0.016
Benzo(b)fluoranthene	1.1	2	0.029	< 0.0025	0.036	0.0071	0.5 JL	0.23 JL	0.007	0.04 JL	0.039	0.024
Benzo(g,h,i)perylene	0.497	2	0.016	< 0.0015	0.019	0.0047 J	0.28 JL	0.1 JL	0.0042 J	0.023 JL	0.018	0.013
Benzo(k)fluoranthene	0.537	2	0.011	< 0.0019	0.014	0.0023 J	0.2 JL	0.085 JL	0.0035 J	< 0.02 JL	0.016	0.0088
Bis(2-ethylhexyl)phthalate	0.182	1	0.046	< 0.0036 JL	0.07	0.0061 JL	< 0.04	**0.8**	0.02	< 0.039	0.075	0.072 JL
Butyl benzyl phthalate	0.049	1	<0.0021	< 0.0028 JL	0.0042 J	< 0.0028 JL	< 0.031	< 0.003	<0.0017	< 0.029	<0.0023	< 0.0026 JL
Carbazole	0.0066	4	<0.0019	< 0.0025 JL	<0.0023	< 0.0026 JL	< 0.029	**0.031**	<0.0016	< 0.027	0.003 J	0.0038 JL
Chrysene	0.384	1	0.022	< 0.0017	0.03	0.0047 J	**0.41 JL**	0.17 JL	0.0056	0.035 JL	0.036	0.017
Dibenz(a,h)anthracene	0.0634	1	0.0049 J	< 0.0034	0.0049 J	< 0.0034	**0.064 JL**	0.029 JL	<0.0021	< 0.036 JL	0.0051 J	0.0048 J
Fluoranthene	0.6	1	0.027	< 0.0023	0.038	0.0058 J	**0.79 JL**	0.27 JL	0.0065	0.043 JL	0.052	0.029
Fluorene	0.019	1	<0.0018	< 0.0023	<0.0021	< 0.0024	< 0.026 JL	0.012 JL	0.0025 J	< 0.025 JL	<0.002	0.0024 J
Indeno(1,2,3-cd)pyrene	0.488	2	0.02	< 0.0017	0.022	0.0042 J	0.29 JL	0.12 JL	0.0048	0.021 JL	0.024	0.013
Naphthalene	0.16	1	<0.001	< 0.0013	<0.0012	< 0.0013	0.018 JL	<0.0014 JL	0.0025 J	< 0.014 JL	<0.0011	0.0025 J
Phenanthrene	0.24	1	0.0052 J	< 0.0032	0.011	< 0.0032	**0.25 JL**	0.15 JL	0.0043 J	< 0.034 JL	0.018	0.014
Pyrene	0.665	1	0.022	< 0.0013	0.031	0.0053 J	0.59 JL	0.29 JL	0.005	0.037 JL	0.045	0.021
Total PAHs	4.022	1	0.20	0.04	0.26	0.06	**4.15**	1.8	0.19	0.48	0.32	0.20

Table 1
Vince Bayou Sediment Data Compared to Ecological Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	Saltwater Benchmark (PSV)	PSV Source	Sample ID and Date							
			VBSD-27-B 0.5-0.7 02/11/2019	VBSD-28-A 0-0.5 02/12/2019	VBSD-28-A 0.5-1 02/12/2019	VBSD-28-B 0-0.5 02/12/2019	VBSD-29-A 0-0.5 2/12/2019	VBSD-29-A 0.5-1 2/12/2019	VBSD-29-B 0-0.5 2/12/2019	VBSD-29-B 0.5-1 2/12/2019
SEMI-VOLATILE ORGANIC COMPOUNDS										
1,4-Dioxane	0.33	4	< 0.0032 JL	< 0.064 JL	< 0.0045 JL	< 0.047 JL	< 0.0088	< 0.0043 JL	< 0.0073 JL	< 0.0077 JL
1-Methylnaphthalene	0.07	1	< 0.0022	< 0.044	< 0.0031	< 0.032	< 0.006 JL	< 0.0029	0.016	0.018
2-Methylnaphthalene	0.07	1	0.0038 J	< 0.015	0.0066 J	< 0.011	< 0.002 JL	0.006 J	0.015	0.018
Acenaphthene	0.016	1	< 0.00073	< 0.015	0.0076	< 0.011	< 0.002 JL	< 0.00098	**0.048**	**0.058**
Acenaphthylene	0.044	1	< 0.0015	< 0.029	< 0.0021	< 0.022	< 0.004 JL	0.0028 J	< 0.0033	0.013
Anthracene	0.0853	1	0.0059	**0.13**	0.026	0.044 J	0.021 JL	0.0065	0.055	**0.089**
Benz(a)anthracene	0.261	1	0.019	**0.65**	0.085	0.2 J	0.26 JL	0.018	0.14	0.2
Benzo(a)pyrene	0.43	1	0.02	**0.62**	0.1	0.21 J	0.4 JL	0.018	0.15	0.12
Benzo(b)fluoranthene	1.1	2	0.036	0.87	0.17	0.42 J	0.74 JL	0.026	0.26	0.19
Benzo(g,h,i)perylene	0.497	2	0.019	0.37	0.086	0.23 J	0.37 JL	0.023	0.16	0.11
Benzo(k)fluoranthene	0.537	2	0.015	0.37	0.074	0.15 J	0.22	0.0074	0.11	0.1
Bis(2-ethylhexyl)phthalate	0.182	1	0.023	< 0.049 JL	0.022	**5 JL**	**0.25**	0.0095 J	**7.9**	**6.8**
Butyl benzyl phthalate	0.049	1	< 0.0019	< 0.038 JL	< 0.0027	< 0.028 JL	0.028	< 0.0025	< 0.0043	< 0.0045
Carbazole	0.0066	4	**0.007 J**	**0.036 JL**	**0.018**	**0.038 JL**	**0.028 JL**	<0.0023	**0.019 J**	**0.02 J**
Chrysene	0.384	1	0.024	**0.85**	0.11	0.34 J	**0.46 JL**	0.021	0.24	0.23
Dibenz(a,h)anthracene	0.0634	1	0.0058	**0.092 J**	0.025	< 0.034	**0.086 JL**	0.0075	0.026	0.02
Fluoranthene	0.6	1	0.033	**1.4**	0.13	0.58 J	0.46 JL	0.029	0.38	0.43
Fluorene	0.019	1	< 0.0016	< 0.032	< 0.0023	< 0.024	< 0.0044 JL	< 0.0022	**0.071**	**0.089**
Indeno(1,2,3-cd)pyrene	0.488	2	0.019	0.34	0.091	0.2 J	0.4 JL	0.023	0.13	0.081
Naphthalene	0.16	1	< 0.00087	< 0.017	< 0.0012	< 0.013	< 0.0024 JL	0.0027 J	< 0.002	0.0089 J
Phenanthrene	0.24	1	0.015	**0.65**	0.071	0.13 J	0.097 JL	0.015	0.19	**0.37**
Pyrene	0.665	1	0.038	**1.6**	0.15	0.43 J	0.57 JL	0.028	0.39	0.35
Total PAHs	4.022	1	0.26	**8.1**	1.1	3.1	**4.1**	0.2	2.4	2.5

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US Oil Recovery Superfund Site
Pasadena, TX

COPC	Saltwater Benchmark (PSV)	PSV Source	Sample ID and Date												
			VBSD-19-A 0-0.5 2/11/2019	VBSD-19-A 0.5-1 2/11/2019	VBSD-19-B 0-0.5 2/11/2019	VBSD-20-A 0-0.5 02/11/2019	VBSD-20-B 0-0.5 02/11/2019	VBSD-20-B 0.5-1 02/11/2019	VBSD-21-A 0-0.5 7/12/2018	VBSD-21-B 0-0.5 02/11/2019	VBSD-21-B 0.5-1 02/11/2019	VBSD-21-C 0-0.5 02/11/2019	VBSD-21-C 0.5-1 02/11/2019	VBSD-22-A 0-0.5 7/12/2018	VBSD-22-B 0-0.5 02/11/2019
VOLATILE ORGANIC COMPOUNDS															
1,4-Dichlorobenzene	0.7	1	--	--	--	--	--	--	<0.0016	--	--	--	--	<0.0015	--
Benzene	1.36	1	--	--	--	--	--	--	<0.0008	--	--	--	--	<0.0007	--
Chlorobenzene	2.73	1	--	--	--	--	--	--	<0.0009	--	--	--	--	<0.0009	--
PETROLEUM HYDROCARBONS															
C6-C12	25	4	--	--	--	--	--	--	<14	--	--	--	--	16 J	--
>C12-C28	25	4	--	--	--	--	--	--	<14	--	--	--	--	<14	--
>C28-C35	25	4	--	--	--	--	--	--	<11	--	--	--	--	<10	--
TPH	25	4	--	--	--	--	--	--	<11	--	--	--	--	16 J	--

Notes:

All units milligrams per kilogram (mg/kg)

PSV - Preliminary Screening Value

Values in orange text are sample detection limits that exceed the PSV.

Bolded and highlighted values are concentrations that exceed the PSV.

PSV sources are as follows:

1. Sediment Benchmarks, Second Effects Levels, and Benthic PCLs, TCEQ 2014
2. Screening Quick Reference Table for Organics in Sediment and Soil NOAA 2008;
3 Leung, K.M.Y., et.al., Deriving Sediment Quality Guidelines from Field-Based Species Sensitivity Distributions.
4. The Method Quantitation Limit for that compound.

Table 1
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US Oil Recovery Superfund Site
Pasadena, TX

COPC	Saltwater Benchmark (PSV)	PSV Source	Sample ID and Date									
			VBSD-23-A 0-0.5 7/12/2018	VBSD-23-B 0-0.5 02/11/2019	VBSD-24-A 0-0.5 7/13/2018	VBSD-24-B 0-0.5 02/11/2019	VBSD-24-C 0-0.5 02/11/2019	VBSD-24-C 0.5-1 02/11/2019	VBSD-25-A 0-0.5 7/13/2018	VBSD-26-A 0-0.5 02/11/2019	VBSD-27-A 0-0.5 7/13/2018	VBSD-27-B 0-0.5 02/11/2019
VOLATILE ORGANIC COMPOUNDS												
1,4-Dichlorobenzene	0.7	1	<0.0018	--	<0.0013	--	--	--	<0.0019	--	<0.0016 JL	--
Benzene	1.36	1	<0.0009	--	<0.0007	--	--	--	<0.001	--	<0.0008	--
Chlorobenzene	2.73	1	<0.0011	--	<0.0008	--	--	--	<0.0011	--	<0.001	--
PETROLEUM HYDROCARBONS												
C6-C12	25	4	<13	--	<9	--	--	--	<13	--	<12	--
>C12-C28	25	4	<17	--	<12	--	--	--	<17	--	<16	--
>C28-C35	25	4	<17	--	<12	--	--	--	<17	--	<16	--
TPH	25	4	<13	--	<9	--	--	--	<13	--	<12	--

Notes:
All units milligrams per kilogram (mg/kg)
PSV - Preliminary Screening Value
Values in orange text are sample detection limits that exceed the PSV.
Bolded and highlighted values are concentrations that exceed the PSV.
PSV sources are as follows:
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from Field-Based Species Sensitivity Distributions.
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US Oil Recovery Superfund Site
Pasadena, TX

COPC	Saltwater Benchmark (PSV)	PSV Source	Sample ID and Date							
			VBSD-27-B 0.5-0.7 02/11/2019	VBSD-28-A 0-0.5 02/12/2019	VBSD-28-A 0.5-1 02/12/2019	VBSD-28-B 0-0.5 02/12/2019	VBSD-29-A 0-0.5 2/12/2019	VBSD-29-A 0.5-1 2/12/2019	VBSD-29-B 0-0.5 2/12/2019	VBSD-29-B 0.5-1 2/12/2019
VOLATILE ORGANIC COMPOUNDS										
1,4-Dichlorobenzene	0.7	1	--	--	--	--	--	--	--	--
Benzene	1.36	1	--	--	--	--	--	--	--	--
Chlorobenzene	2.73	1	--	--	--	--	--	--	--	--
PETROLEUM HYDROCARBONS										
C6-C12	25	4	--	--	--	--	--	--	--	--
>C12-C28	25	4	--	--	--	--	--	--	--	--
>C28-C35	25	4	--	--	--	--	--	--	--	--
TPH	25	4	--	--	--	--	--	--	--	--

Notes:
All units milligrams per kilogram (mg/kg)
PSV - Preliminary Screening Value
Values in orange text are sample detection limits that exceed the PSV.
Bolded and highlighted values are concentrations that exceed the PSV.
PSV sources are as follows:
1. Sediment Benchmarks, Second Effects Levels, and Benthic PCLs, TCEQ 2014
2. Screening Quick Reference Table for Organics in Sediment and Soil NOAA 2008;
3 Leung, K.M.Y., et.al., Deriving Sediment Quality Guidelines
from Field-Based Species Sensitivity Distributions.
4. The Method Quantitation Limit for that compound.

ED_004012_00007079-00012

Table 2
Vince Bayou Sediment Data Compared to Human Health Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	$^{Tot}Sed_{Comb}$	Sample ID and Date												
		VBSD-19-A 0-0.5 2/11/2019	VBSD-19-A 0.5-1 2/11/2019	VBSD-19-B 0-0.5 2/11/2019	VBSD-20-A 0-0.5 02/11/2019	VBSD-20-B 0-0.5 02/11/2019	VBSD-20-B 0.5-1 02/11/2019	VBSD-21-A 0-0.5 7/12/2018	VBSD-21-B 0-0.5 02/11/2019	VBSD-21-B 0.5-1 02/11/2019	VBSD-21-C 0-0.5 02/11/2019	VBSD-21-C 0.5-1 02/11/2019	VBSD-22-A 0-0.5 7/12/2018	VBSD-22-B 0-0.5 02/11/2019
METALS														
Antimony	83	0.337 UJ	0.167 J	0.134 UJ	< 0.0854	0.201 UJ	0.319 UJ	7.07	**152**	**199**	0.479 J	0.821	0.825	0.317 J
Arsenic	115	27.5	11	4.94	2.96	10.1	13.3	**325**	**1540**	**946**	4.48	6.15	80.6	6.19
Barium	22861	107	116	150	35.8	140	291	127	303	198	126	298	173	218
Boron	106513	11.9	12	15.2	12	14.1	11.6	13.4	59.8	71.5	9.81	14.1	15	22.7
Chromium	36460	31.6	29.2	22	10.3	29.4	33	40.7	84.1	77.5	22.1	46.4	22	36.2
Cobalt	31954	6.88	6.64	8.46	6.46	8.19	11.9	6.47	11.4	8.55	3.78	6.3	7.63	9.38
Manganese	14028	167	177	867	30.1	237	1490	183	433	460	101	214	270	296
Mercury	34	0.249	0.114	0.0119	0.0107 U	0.212	0.14	1.27	**176**	0.977	0.259	0.451	0.622	0.489
Selenium	2663	0.816	0.49 J	0.625 J	0.499 UJ	0.711 J	0.953	7.03	67.8	53.8	0.575 J	0.558 J	0.867	0.897
Thallium	43	< 0.291	< 0.289	< 0.32	< 0.293	< 0.322	< 0.317	0.341 J	3.94	2.48	< 0.313	< 0.354	<0.29	< 0.368

ED_004012_00007079-00013

Table 2
Vince Bayou Sediment Data Compared to Human Health Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	$^{Tot}Sed_{Comb}$	Sample ID and Date									
		VBSD-23-A 0-0.5 7/12/2018	VBSD-23-B 0-0.5 02/11/2019	VBSD-24-A 0-0.5 7/13/2018	VBSD-24-B 0-0.5 02/11/2019	VBSD-24-C 0-0.5 02/11/2019	VBSD-24-C 0.5-1 02/11/2019	VBSD-25-A 0-0.5 7/13/2018	VBSD-26-A 0-0.5 02/11/2019	VBSD-27-A 0-0.5 7/13/2018	VBSD-27-B 0-0.5 02/11/2019
METALS											
Antimony	83	5.71	< 0.0943	5.19	0.087 J	0.322 J	0.368 J	0.271 J	0.174 J	1.68	1.65 JL
Arsenic	115	**258**	1.27	**1370**	6.05	4.19	6.56	16	7	97.1	**247**
Barium	22861	662	112	193	186	113	180	163	94.7	155	247
Boron	106513	22.3	7.98	14.7	10.7	9.91	10.2	10.5	9.69	12.6	17.9
Chromium	36460	37.1	9.22	32.2	17.2	30.1	39.5	18	40.2	29.9 JH	37.5
Cobalt	31954	11.1	4.75	6.77	9.45	4.82	5.64	6.63	7.95	7.57	9.9
Manganese	14028	611	24.8	260	99.9	143	210	359	488	243	213
Mercury	34	**45.9**	0.00623 U	3.36	0.00597 U	0.108	0.244	0.0886	0.0946	2.17 JH	0.737
Selenium	2663	13.3	0.497 UJ	4.58	0.625 J	0.6 J	0.341 J	0.214 J	0.517 UJ	0.701 J	1.1
Thallium	43	0.98	< 0.324	<0.4	< 0.296	< 0.35	< 0.329	<0.28	< 0.329	<0.38	< 0.337

Table 2
Vince Bayou Sediment Data Compared to Human Health Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	$^{Tot}Sed_{Comb}$	Sample ID and Date							
		VBSD-27-B 0.5-0.7 02/11/2019	VBSD-28-A 0-0.5 02/12/2019	VBSD-28-A 0.5-1 02/12/2019	VBSD-28-B 0-0.5 02/12/2019	VBSD-29-A 0-0.5 2/12/2019	VBSD-29-A 0.5-1 2/12/2019	VBSD-29-B 0-0.5 2/12/2019	VBSD-29-B 0.5-1 2/12/2019
METALS									
Antimony	83	1.92	0.675 J	0.156 UJ	0.276 J	0.561 J	0.164 UJ	0.344 UJ	0.491 J
Arsenic	115	**198**	89.9	6.7	4.1	5.72	4.23	6.89	6.45
Barium	22861	169	302	163	187	138	75.9	345	405
Boron	106513	18.9	19.3	12.8	11	15.5	10.5	13.9	22.5
Chromium	36460	28.7	71.2	73	31	29.1	23.8	33.3	46.5
Cobalt	31954	5.28	10.1	9.26	5.21 J	6.36	7.49	8.45	6.88
Manganese	14028	319	561	362	167 J	198	111	376	239
Mercury	34	0.545	0.168	0.0634	0.276	0.177	0.328	0.97	0.713
Selenium	2663	0.4 J	1.33	0.45 J	0.617 J	0.825 J	0.394 J	0.563 J	0.876
Thallium	43	< 0.312	< 0.43	< 0.282	< 0.309	< 0.434	< 0.291	< 0.349	< 0.383

Table 2
Vince Bayou Sediment Data Compared to Human Health Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	$^{Tot}Sed_{Comb}$	Sample ID and Date												
		VBSD-19-A 0-0.5 2/11/2019	VBSD-19-A 0.5-1 2/11/2019	VBSD-19-B 0-0.5 2/11/2019	VBSD-20-A 0-0.5 02/11/2019	VBSD-20-B 0-0.5 02/11/2019	VBSD-20-B 0.5-1 02/11/2019	VBSD-21-A 0-0.5 7/12/2018	VBSD-21-B 0-0.5 02/11/2019	VBSD-21-B 0.5-1 02/11/2019	VBSD-21-C 0-0.5 02/11/2019	VBSD-21-C 0.5-1 02/11/2019	VBSD-22-A 0-0.5 7/12/2018	VBSD-22-B 0-0.5 02/11/2019
PESTICIDES AND HERBICIDES														
2,4-D	2534	< 0.043	< 0.042	< 0.051	< 0.046	< 0.05	< 0.049	<0.001	< 0.05	< 0.057	< 0.051	< 0.057	<0.001	< 0.06
2,4-DB	1225	< 0.043	< 0.042	< 0.051	< 0.046	< 0.05	< 0.049	<0.0013	< 0.05	< 0.057	< 0.051	< 0.057	<0.0013	< 0.06
4,4´-DDD	123	0.012	0.0014 J	< 0.0011	< 0.01	< 0.011	< 0.0011	<0.0008	71	43	< 0.011	< 0.0013	<0.0007	< 0.013
4,4´-DDE	87.0	0.022 J	0.0052 J	< 0.0011	< 0.01	0.034 J	0.016 J	<0.0008	16 J	7.1 J	0.046 J	0.015	<0.0007	< 0.013
4,4´-DDT	87.0	0.001 J	< 0.00099 J	< 0.0011 J	< 0.01 J	0.013 J	0.0028 J	<0.0008	0.64 J	0.052 J	< 0.0065	0.015 J	<0.0007	< 0.013 J
Aldrin	0.84	0.0012 J	0.001 J	< 0.00068	< 0.0061	0.0092 J	< 0.00066	<0.0005	**5.5**	**3.4**	< 0.0065	< 0.00077	<0.0004	< 0.0079
alpha-BHC	4.1	< 0.00062	< 0.00059	< 0.00068	< 0.0061	< 0.0068	< 0.00066	<0.0005	0.033 J	0.015 J	< 0.0065	< 0.00077	<0.0004	< 0.0079
alpha-Chlordane	41	0.0013 J	< 0.0004	< 0.00045	< 0.0041	< 0.0045	< 0.00044	<0.0003	4.6 J	2	< 0.0043	< 0.00051	<0.0003	< 0.0053
beta-BHC	14	< 0.00062	< 0.00059	< 0.00068	< 0.0061	< 0.0068	< 0.00066	<0.0005	1.0 J	0.48	< 0.0065	< 0.00077	<0.0004	< 0.0079
Dalapon	4593	< 0.17 JL	< 0.17 JL	< 0.21 JL	< 0.18 JL	< 0.2 JL	< 0.2 JL	<0.0018	< 0.2 JL	< 0.23 JL	< 0.2	< 0.23 JL	<0.0017	< 0.24 JL
delta-BHC	14	< 0.00041	< 0.0004	< 0.00045	< 0.0041	< 0.0045	< 0.00044	<0.0003	0.12 J	0.13	< 0.0043	< 0.00051	<0.0003	< 0.0053
Dichloroprop	1531	< 0.043	< 0.042	< 0.051	< 0.046	< 0.05	< 0.049	<0.0024	< 0.05	< 0.057	< 0.051	< 0.057	<0.0023	< 0.06
Dieldrin	0.89	0.0041 J	< 0.00099	< 0.0011	< 0.01	< 0.011	< 0.0011	<0.0008	**4.8 J**	**2.2 J**	< 0.011	0.0014 J	<0.0007	< 0.013
Dinoseb	153	< 0.043 JL	< 0.042 R	< 0.051 JL	< 0.046 JL	< 0.05 JL	< 0.049 JL	<0.0021 J	< 0.05 JL	< 0.057 JL	< 0.051	< 0.057 JL	<0.002 J	< 0.06 JL
Endosulfan I	306	< 0.00062	< 0.00059	< 0.00068	< 0.0061	< 0.0068	< 0.00066	<0.0005	0.75 J	0.096 J	< 0.0065	< 0.00077	<0.0004	< 0.0079
Endosulfan II	919	< 0.0012	< 0.0012	< 0.0014	< 0.012	< 0.014	< 0.0013	<0.0009	0.75 J	0.13 J	< 0.013	< 0.0015	<0.0009	< 0.016
Endosulfan sulfate	919	< 0.0012	< 0.0012	< 0.0014	< 0.012	< 0.014	< 0.0013	<0.0009	0.23	0.09	< 0.013	0.0028 J	<0.0009	< 0.016
Endrin	46	< 0.0012	< 0.0012	< 0.0014	< 0.012	< 0.014	< 0.0013	<0.0009	2.0 J	0.034 J	< 0.013	< 0.0015	<0.0009	< 0.016
Endrin aldehyde	46	< 0.0012	< 0.0012	< 0.0014	< 0.012	< 0.014	< 0.0013	<0.0009	1.2 J	0.5 J	< 0.013	0.0019 J	<0.0009	< 0.016
Endrin ketone	46	< 0.0012	< 0.0012	< 0.0014	< 0.012	< 0.014	< 0.0013	<0.0009	0.72 J	0.086 J	< 0.013	0.0016 J	<0.0009	< 0.016
gamma-BHC	20	< 0.00041	< 0.0004	< 0.00045	< 0.0041	< 0.0045	< 0.00044	<0.0003	< 0.49 J	< 0.00052	< 0.0043	< 0.00051	<0.0003	< 0.0053
gamma-Chlordane	41	0.002 J	0.00057 J	< 0.00045	< 0.0041	< 0.0045	0.00054 J	<0.0003	7.5 J	4.4	< 0.0043	0.0024 J	<0.0003	< 0.0053
Heptachlor	3.2	< 0.00062	< 0.00059	< 0.00068	< 0.0061	< 0.0068	< 0.00066	<0.0005	0.38 J	0.18 J	< 0.0065	< 0.00077	<0.0004	< 0.0079
Heptachlor epoxide	1.6	< 0.00062	< 0.00059	< 0.00068	< 0.0061	< 0.0068	< 0.00066	<0.0005	**2.0 J**	0.043 J	< 0.0065	< 0.00077	<0.0004	< 0.0079
MCPA	77	< 4.3	< 4.2	< 5.1	< 4.6	< 5	< 4.9	<0.15 JL	< 5	< 5.7	< 5.1	< 5.7	<0.14	< 6
MCPP	153	< 4.3	< 4.2	< 5.1	< 4.6	< 5	< 4.9	<0.24 JL	< 5	< 5.7	< 5.1	< 5.7	<0.23	< 6
Toxaphene	1.29	< 0.0099	< 0.0095	< 0.011	< 0.098	< 0.11	< 0.011	<0.01	< 0.12 J	< 0.013	< 0.1	< 0.012	< 0.0068	< 0.13

Table 2
Vince Bayou Sediment Data Compared to Human Health Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	$^{Tot}Sed_{Comb}$	Sample ID and Date									
		VBSD-23-A 0-0.5 7/12/2018	VBSD-23-B 0-0.5 02/11/2019	VBSD-24-A 0-0.5 7/13/2018	VBSD-24-B 0-0.5 02/11/2019	VBSD-24-C 0-0.5 02/11/2019	VBSD-24-C 0.5-1 02/11/2019	VBSD-25-A 0-0.5 7/13/2018	VBSD-26-A 0-0.5 02/11/2019	VBSD-27-A 0-0.5 7/13/2018	VBSD-27-B 0-0.5 02/11/2019
PESTICIDES AND HERBICIDES											
2,4-D	2534	<0.0011 JL	< 0.051	<0.0014 JL	< 0.048	< 0.051	< 0.05	<0.0009 JL	< 0.054	<0.0013 JL	< 0.051
2,4-DB	1225	<0.0015 JL	< 0.051	0.03 J	< 0.048	< 0.051	< 0.05	<0.0012 JL	< 0.054	<0.0016 JL	< 0.051 J
4,4′-DDD	123	0.076	< 0.011	0.3	< 0.011	< 0.012	< 0.0012	0.0098	< 0.011	0.0058 J	0.044 JL
4,4′-DDE	87.0	0.17 J	< 0.011	0.084	< 0.011	< 0.012	0.0099 J	0.0048	< 0.011	0.013	0.096 JH
4,4′-DDT	87.0	0.77	< 0.011 J	1.2	< 0.011 J	0.043 J	0.016 J	0.0077	0.021 J	0.0043 J	0.025 JL
Aldrin	0.84	**3.6**	< 0.0065	0.027 J	< 0.0064	< 0.007	< 0.00069	0.0034	< 0.0067	0.0035	< 0.0059 JH
alpha-BHC	4.1	<0.0005	< 0.0065	0.0099	< 0.0064	< 0.007	< 0.00069	0.0024	< 0.0067	<0.0005	< 0.0059
alpha-Chlordane	41	0.0053 J	< 0.0043	0.017	< 0.0042	< 0.0047	0.00049 J	<0.0003	< 0.0045	<0.0004	< 0.0039
beta-BHC	14	<0.0005	< 0.0065	0.032	< 0.0064	< 0.007	< 0.00069	<0.0004	< 0.0067	<0.0005	< 0.0059
Dalapon	4593	<0.002 JL	< 0.2 JL	<0.0023 JL	< 0.19 JL	< 0.2 JL	< 0.2 J	<0.0016 JL	< 0.22 JL	<0.0022 JL	< 0.21 JL
delta-BHC	14	0.0017 J	< 0.0043	<0.0004	< 0.0042	< 0.0047	< 0.00046	<0.0003	< 0.0045	0.0017 J	< 0.0039
Dichloroprop	1531	<0.0026 JL	< 0.051	<0.0031 JL	< 0.048	< 0.051	< 0.05	<0.0021 JL	< 0.054	<0.0029 JL	< 0.051
Dieldrin	0.89	0.018 J	< 0.011	0.016 J	< 0.011	< 0.012	0.0014 J	0.001 J	< 0.011	0.0026 J	0.02 J
Dinoseb	153	<0.0023 JL	< 0.051 JL	<0.0027 JL	< 0.048 JL	< 0.051 JL	< 0.05 JL	<0.0019 JL	< 0.054 JL	<0.0025 JL	< 0.051 JL
Endosulfan I	306	0.084 J	< 0.0065	0.013	< 0.0064	< 0.007	< 0.00069	<0.0004	< 0.0067	<0.0005	< 0.0059 JL
Endosulfan II	919	0.0025 J	< 0.013	0.015	< 0.013	< 0.014	< 0.0014	<0.0008	< 0.013	<0.0011	< 0.012
Endosulfan sulfate	919	0.0018 J	< 0.013	0.0025 J	< 0.013	< 0.014	< 0.0014	<0.0008	< 0.013	<0.0011	< 0.012
Endrin	46	<0.001	< 0.013	0.018 J	< 0.013	< 0.014	< 0.0014	<0.0008	< 0.013	0.0019 J	< 0.012
Endrin aldehyde	46	0.0028 J	< 0.013	0.017	< 0.013	< 0.014	0.0027 J	<0.0008	< 0.013	0.0015 J	< 0.012
Endrin ketone	46	0.0061	< 0.013	0.0096 J	< 0.013	< 0.014	< 0.0014	<0.0008	< 0.013	0.0013 J	< 0.012
gamma-BHC	20	<0.0003	< 0.0043	<0.0004	< 0.0042	0.022 J	< 0.00046	<0.0003	< 0.0045	<0.0004	< 0.0039
gamma-Chlordane	41	0.026 J	< 0.0043	0.016 UJ	< 0.0042	< 0.0047	0.0024 J	0.0015 UJ	< 0.0045	0.0057 UJ	0.03 JH
Heptachlor	3.2	<0.0005	< 0.0065	<0.0006	< 0.0064	< 0.007	< 0.00069	<0.0004	< 0.0067	<0.0005	< 0.0059
Heptachlor epoxide	1.6	0.0039 J	< 0.0065	0.0093 J	< 0.0064	< 0.007	< 0.00069	<0.0004	< 0.0067	0.0027 J	0.013 JL
MCPA	77	<0.16 JL	< 5.1	<0.19 JL	< 4.8	< 5.1	< 5	<0.13 JL	< 5.4	<0.18 JL	< 5.1
MCPP	153	<0.26 JL	< 5.1	3.3 JL	< 4.8	< 5.1	< 5	<0.21 JL	< 5.4	<0.29 JL	< 5.1
Toxaphene	1.29	< 0.0078	< 0.1	< 0.0093	< 0.1	< 0.11	< 0.011	< 0.0064	< 0.11	< 0.0086	0.23 J

Table 2
Vince Bayou Sediment Data Compared to Human Health Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	$^{Tot}Sed_{Comb}$	Sample ID and Date							
		VBSD-27-B 0.5-0.7 02/11/2019	VBSD-28-A 0-0.5 02/12/2019	VBSD-28-A 0.5-1 02/12/2019	VBSD-28-B 0-0.5 02/12/2019	VBSD-29-A 0-0.5 2/12/2019	VBSD-29-A 0.5-1 2/12/2019	VBSD-29-B 0-0.5 2/12/2019	VBSD-29-B 0.5-1 2/12/2019
PESTICIDES AND HERBICIDES									
2,4-D	2534	< 0.05	< 0.048	< 0.045	< 0.059	< 0.073	< 0.047	< 0.06	< 0.062
2,4-DB	1225	< 0.05	< 0.048	< 0.045	< 0.059	< 0.073	< 0.047	< 0.06	< 0.062
4,4´-DDD	123	0.031	< 0.015	< 0.0099	< 0.01	< 0.016	< 0.01	< 0.012	< 0.014
4,4´-DDE	87.0	0.023 J	< 0.015	< 0.0099	< 0.01	< 0.016	< 0.01	< 0.012	< 0.014
4,4´-DDT	87.0	0.0013 J	< 0.015 J	< 0.0099 J	< 0.01 J	< 0.016 J	< 0.01 J	< 0.012 J	< 0.014 J
Aldrin	0.84	0.00068 J	< 0.091	< 0.0059	< 0.0062	< 0.0094	< 0.0061	< 0.0075	< 0.0082
alpha-BHC	4.1	< 0.00067	< 0.091	< 0.0059	< 0.0062	< 0.0094	< 0.0061	< 0.0075	< 0.0082
alpha-Chlordane	41	0.0042	< 0.0061	< 0.0039	< 0.0042	< 0.0063	< 0.0041	< 0.005	< 0.0055
beta-BHC	14	0.0028 J	< 0.0091	< 0.0059	< 0.0042	< 0.0094	< 0.0061	< 0.0075	< 0.0082
Dalapon	4593	< 0.2 JL	< 0.19 JL	< 0.18 JL	< 0.24 JL	< 0.29 JL	< 0.19 JL	< 0.24 JL	< 0.25 JL
delta-BHC	14	0.0025 J	< 0.0061	< 0.0039	< 0.0042	< 0.0063	< 0.0041	< 0.005	< 0.0055
Dichloroprop	1531	< 0.05	< 0.048	< 0.045	< 0.0062	< 0.073	< 0.047	< 0.06	< 0.081
Dieldrin	0.89	0.0075	< 0.015	< 0.0099	< 0.01	< 0.016	< 0.01	< 0.012	< 0.014
Dinoseb	153	< 0.05 JL	< 0.048 JL	< 0.045 JL	< 0.059 JL	< 0.073 JL	< 0.047 JL	< 0.06 JL	< 0.062 JL
Endosulfan I	306	< 0.00067	< 0.0091	< 0.0059	< 0.0062	< 0.0094	< 0.0061	< 0.0075	< 0.0082
Endosulfan II	919	0.048 J	< 0.018	< 0.012	< 0.012	< 0.019	< 0.012	< 0.015	< 0.016
Endosulfan sulfate	919	< 0.0013	< 0.018	< 0.012	< 0.012	< 0.019	< 0.012	< 0.015	< 0.016
Endrin	46	< 0.0013	< 0.018	< 0.012	< 0.012	< 0.019	< 0.012	< 0.015	< 0.016
Endrin aldehyde	46	< 0.0013	< 0.018	< 0.012	< 0.012	< 0.019	< 0.012	< 0.015	< 0.016
Endrin ketone	46	< 0.0013	< 0.018	< 0.012	< 0.012	< 0.019	< 0.012	< 0.015	< 0.016
gamma-BHC	20	< 0.00045	< 0.0061	< 0.0039	< 0.0042	< 0.0063	< 0.0041	< 0.005	< 0.0055
gamma-Chlordane	41	0.011 J	< 0.0061	< 0.0039	< 0.0042	< 0.0063	< 0.0041	< 0.005	< 0.0055
Heptachlor	3.2	< 0.00067	< 0.0091	< 0.0059	< 0.0062	< 0.0094	< 0.0061	< 0.0075	< 0.0082
Heptachlor epoxide	1.6	< 0.00067	< 0.0091	< 0.0059	< 0.0062	< 0.0094	< 0.0061	< 0.0075	< 0.0082
MCPA	77	< 5	< 4.8	< 4.5	< 5.9	< 7.3	< 4.7	< 6	< 6.2
MCPP	153	< 5	< 4.8	< 4.5	< 5.9	< 7.3	< 4.7	< 6	< 6.2
Toxaphene	1.29	< 0.011	< 0.15	< 0.095	< 0.1	< 0.15	< 0.097	< 0.12	< 0.13

Table 2
Vince Bayou Sediment Data Compared to Human Health Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	$^{Tot}Sed_{Comb}$	Sample ID and Date												
		VBSD-19-A 0-0.5 2/11/2019	VBSD-19-A 0.5-1 2/11/2019	VBSD-19-B 0-0.5 2/11/2019	VBSD-20-A 0-0.5 02/11/2019	VBSD-20-B 0-0.5 02/11/2019	VBSD-20-B 0.5-1 02/11/2019	VBSD-21-A 0-0.5 7/12/2018	VBSD-21-B 0-0.5 02/11/2019	VBSD-21-B 0.5-1 02/11/2019	VBSD-21-C 0-0.5 02/11/2019	VBSD-21-C 0.5-1 02/11/2019	VBSD-22-A 0-0.5 7/12/2018	VBSD-22-B 0-0.5 02/11/2019
SEMI-VOLATILE ORGANIC COMPOUNDS														
1,4-Dioxane	4954	< 0.0045 JL	< 0.0035 JL	< 0.005 JL	< 0.0065 JL	< 0.0075 JL	< 0.0038 JL	<0.0033	<0.008	< 0.0056 JL	< 0.0073	< 0.0075	<0.0031	< 0.0058 JL
1-Methylnaphthalene	8660	< 0.0031	< 0.0024	< 0.0034	< 0.0044	< 0.0051	< 0.0026	0.008	< 0.0054 JL	0.0064 JL	< 0.005	0.0058 JL	0.0027 J	< 0.004
2-Methylnaphthalene	495	< 0.001	0.0019 J	< 0.0011	< 0.0015	< 0.0017	< 0.00086	0.011	< 0.0018 JL	0.014 JL	< 0.0017	0.0094 JL	<0.0007	0.0095
Acenaphthene	7423	< 0.001	< 0.00079	< 0.0011	< 0.0015	< 0.0017	< 0.00086	<0.0008	< 0.0018 JL	< 0.0013 JL	< 0.0017	0.019 JL	<0.0007	0.011
Acenaphthylene	7423	< 0.002	< 0.0016	< 0.0023	< 0.003	< 0.0034	< 0.0017	<0.0015	< 0.0036 JL	< 0.0026 JL	0.0057 J	< 0.0034 JL	<0.0014	< 0.0026
Anthracene	37113	0.0069	0.0014 J	< 0.0011	< 0.0015	< 0.0017	< 0.00086	<0.0008	0.01 JL	0.01 JL	0.014	0.026 JL	<0.0007	0.009
Benz(a)anthracene	16	0.027	0.0047 J	0.0099	< 0.0047	0.017	0.012	<0.0024	0.13 JL	0.11 JL	0.16	0.092 JL	0.042	0.016
Benzo(a)pyrene	1.6	0.031	0.012	0.009	< 0.003	0.018	0.032	<0.0015	0.11 JL	0.066 JL	0.18	0.087 JL	0.058	0.013
Benzo(b)fluoranthene	16	0.047	0.0063	0.019	0.0056 J	0.026	0.031	0.0092	0.11 JL	0.074 JL	0.27	0.15 JL	0.061	0.018
Benzo(g,h,i)perylene	3711	0.026	0.0027 J	0.01	0.0058 J	0.02	0.039	0.0063	0.085 JL	0.042 JL	0.18	0.095 JL	0.05	0.012
Benzo(k)fluoranthene	159	0.016	0.0029 J	0.0084	0.0027 J	0.015	0.024	0.0029 J	0.066 JL	0.015 JL	0.14	0.06 JL	0.016	0.0058 J
Bis(2-ethylhexyl)phthalate	244	0.025	0.0031 J	0.019	0.0051 JL	0.012 JL	0.047	0.0054 J	0.024 J	0.024	2.2	2	0.0067 J	0.013 JL
Butyl benzyl phthalate	30618	< 0.0026	< 0.0021	< 0.003	< 0.0039 JL	< 0.0044 JL	0.012	<0.0019	< 0.0047	< 0.0033	< 0.0043	< 0.0044	<0.0018	< 0.0034 JL
Carbazole	710	0.0085 J	0.0051 J	0.0079 J	< 0.0036 JL	< 0.0041 JL	0.0059 J	<0.0018	< 0.0043	< 0.0031	0.013 J	< 0.0041	<0.0017	< 0.0032 JL
Chrysene	1592	0.03	0.0062	0.016	< 0.0024	0.022	0.015	0.0086	0.36 JL	0.23 JL	0.2	0.13 JL	0.069	0.029
Dibenz(a,h)anthracene	1.6	< 0.0033	< 0.0025	< 0.0037	< 0.0047	< 0.0055	0.037	<0.0024	0.031 JL	0.019 JL	0.077	0.019 JL	0.013	< 0.0042
Fluoranthene	4948	0.041	0.007	0.022	< 0.0033	0.03	0.015	0.01	0.083 JL	0.042 JL	0.35	0.21 JL	0.036	0.053
Fluorene	4948	< 0.0022	< 0.0017	< 0.0025	< 0.0033	< 0.0037	< 0.0019	<0.0016	< 0.004 JL	< 0.0028 JL	< 0.0036	0.019 JL	<0.0016	< 0.0029
Indeno(1,2,3-cd)pyrene	16	0.026	0.0035 J	0.011	0.003 J	0.018	0.043	0.0043 J	0.042 JL	0.031 JL	0.18	0.084 JL	0.041	0.0085 J
Naphthalene	2474	< 0.0012	0.0014 J	< 0.0014	< 0.0018	< 0.002	< 0.001	0.009	< 0.0022 JL	0.0092 JL	< 0.002	< 0.002 JL	<0.0009	< 0.0016
Phenanthrene	3711	0.02	0.0064	< 0.0034	< 0.0044	< 0.0051	0.008	0.0052	0.025 JL	0.035 JL	0.041	0.12 JL	0.0089	0.028
Pyrene	3711	0.057	0.0071	0.027	< 0.0018	0.023	0.019	0.014	0.3 JL	0.28 JL	0.3	0.23 JL	0.043	0.059

Table 2
Vince Bayou Sediment Data Compared to Human Health Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	$^{Tot}Sed_{Comb}$	Sample ID and Date									
		VBSD-23-A 0-0.5 7/12/2018	VBSD-23-B 0-0.5 02/11/2019	VBSD-24-A 0-0.5 7/13/2018	VBSD-24-B 0-0.5 02/11/2019	VBSD-24-C 0-0.5 02/11/2019	VBSD-24-C 0.5-1 02/11/2019	VBSD-25-A 0-0.5 7/13/2018	VBSD-26-A 0-0.5 02/11/2019	VBSD-27-A 0-0.5 7/13/2018	VBSD-27-B 0-0.5 02/11/2019
SEMI-VOLATILE ORGANIC COMPOUND											
1,4-Dioxane	4954	<0.0036	< 0.0047 JL	<0.0042	< 0.0047 JL	< 0.052	< 0.0051	<0.003	< 0.05	<0.004	< 0.0044 JL
1-Methylnaphthalene	8660	<0.0024	< 0.0032	0.0037 J	< 0.0032	0.037 JL	<0.0034 JL	0.056	< 0.034 JL	<0.0027	< 0.003
2-Methylnaphthalene	495	<0.0008	< 0.0011	0.0052 J	< 0.0011	0.072 JL	0.0055 JL	0.076	< 0.011 JL	<0.0009	0.0036 J
Acenaphthene	7423	<0.0008	< 0.0011	<0.001	< 0.0011	< 0.012 JL	0.015 JL	<0.0007	< 0.011 JL	<0.0009	0.0023 J
Acenaphthylene	7423	<0.0016	< 0.0021	<0.0019	< 0.0022	< 0.024 JL	<0.0023 JL	<0.0013	< 0.023 JL	<0.0018	0.0026 J
Anthracene	37113	<0.0008	< 0.0011	0.0026 J	< 0.0011	0.02 JL	0.045 JL	<0.0007	< 0.011 JL	0.0053 J	0.0051 J
Benz(a)anthracene	16	0.017	< 0.0034	0.017	< 0.0034	0.26 JL	0.15 JL	0.0036 J	< 0.036 JL	0.028	0.014
Benzo(a)pyrene	1.6	0.02	< 0.0021	0.022	0.0035 J	0.31 JL	0.11 JL	0.0048	0.026 JL	0.025	0.016
Benzo(b)fluoranthene	16	0.029	< 0.0025	0.036	0.0071	0.5 JL	0.23 JL	0.007	0.04 JL	0.039	0.024
Benzo(g,h,i)perylene	3711	0.016	< 0.0015	0.019	0.0047 J	0.28 JL	0.1 JL	0.0042 J	0.023 JL	0.018	0.013
Benzo(k)fluoranthene	159	0.011	< 0.0019	0.014	0.0023 J	0.2 JL	0.085 JL	0.0035 J	< 0.02 JL	0.016	0.0088
Bis(2-ethylhexyl)phthalate	244	0.046	< 0.0036 JL	0.07	0.0061 JL	< 0.04	0.8	0.02	< 0.039	0.075	0.072 JL
Butyl benzyl phthalate	30618	<0.0021	< 0.0028 JL	0.0042 J	< 0.0028 JL	< 0.031	< 0.003	<0.0017	< 0.029	<0.0023	< 0.0026 JL
Carbazole	710	<0.0019	< 0.0025 JL	<0.0023	< 0.0026 JL	< 0.029	0.031	<0.0016	< 0.027	0.003 J	0.0038 JL
Chrysene	1592	0.022	< 0.0017	0.03	0.0047 J	0.41 JL	0.17 JL	0.0056	0.035 JL	0.036	0.017
Dibenz(a,h)anthracene	1.6	0.0049 J	< 0.0034	0.0049 J	< 0.0034	0.064 JL	0.029 JL	<0.0021	< 0.036 JL	0.0051 J	0.0048 J
Fluoranthene	4948	0.027	< 0.0023	0.038	0.0058 J	0.79 JL	0.27 JL	0.0065	0.043 JL	0.052	0.029
Fluorene	4948	<0.0018	< 0.0023	<0.0021	< 0.0024	< 0.026 JL	0.012 JL	0.0025 J	< 0.025 JL	<0.002	0.0024 J
Indeno(1,2,3-cd)pyrene	16	0.02	< 0.0017	0.022	0.0042 J	0.29 JL	0.12 JL	0.0048	0.021 JL	0.024	0.013
Naphthalene	2474	<0.001	< 0.0013	<0.0012	< 0.0013	0.018 JL	<0.0014 JL	0.0025 J	< 0.014 JL	<0.0011	0.0025 J
Phenanthrene	3711	0.0052 J	< 0.0032	0.011	< 0.0032	0.25 JL	0.15 JL	0.0043 J	< 0.034 JL	0.018	0.014
Pyrene	3711	0.022	< 0.0013	0.031	0.0053 J	0.59 JL	0.29 JL	0.005	0.037 JL	0.045	0.021

Table 2
Vince Bayou Sediment Data Compared to Human Health Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	$^{Tot}Sed_{Comb}$	Sample ID and Date							
		VBSD-27-B 0.5-0.7 02/11/2019	VBSD-28-A 0-0.5 02/12/2019	VBSD-28-A 0.5-1 02/12/2019	VBSD-28-B 0-0.5 02/12/2019	VBSD-29-A 0-0.5 2/12/2019	VBSD-29-A 0.5-1 2/12/2019	VBSD-29-B 0-0.5 2/12/2019	VBSD-29-B 0.5-1 2/12/2019
SEMI-VOLATILE ORGANIC COMPOUNDS									
1,4-Dioxane	4954	< 0.0032 JL	< 0.064 JL	< 0.0045 JL	< 0.047 JL	< 0.0088	< 0.0043 JL	< 0.0073 JL	< 0.0077 JL
1-Methylnaphthalene	8660	< 0.0022	< 0.044	< 0.0031	< 0.032	< 0.006 JL	< 0.0029	0.016	0.018
2-Methylnaphthalene	495	0.0038 J	< 0.015	0.0066 J	< 0.011	< 0.002 JL	0.006 J	0.015	0.018
Acenaphthene	7423	< 0.00073	< 0.015	0.0076	< 0.011	< 0.002 JL	< 0.00098	0.048	0.058
Acenaphthylene	7423	< 0.0015	< 0.029	< 0.0021	< 0.022	< 0.004 JL	0.0028 J	< 0.0033	0.013
Anthracene	37113	0.0059	0.13	0.026	0.044 J	0.021 JL	0.0065	0.055	0.089
Benz(a)anthracene	16	0.019	0.65	0.085	0.2 J	0.26 JL	0.018	0.14	0.2
Benzo(a)pyrene	1.6	0.02	0.62	0.1	0.21 J	0.4 JL	0.018	0.15	0.12
Benzo(b)fluoranthene	16	0.036	0.87	0.17	0.42 J	0.74 JL	0.026	0.26	0.19
Benzo(g,h,i)perylene	3711	0.019	0.37	0.086	0.23 J	0.37 JL	0.023	0.16	0.11
Benzo(k)fluoranthene	159	0.015	0.37	0.074	0.15 J	0.22	0.0074	0.11	0.1
Bis(2-ethylhexyl)phthalate	244	0.023	< 0.049 JL	0.022	5 JL	0.25	0.0095 J	7.9	6.8
Butyl benzyl phthalate	30618	< 0.0019	< 0.038 JL	< 0.0027	< 0.028 JL	0.028	< 0.0025	< 0.0043	< 0.0045
Carbazole	710	0.007 J	0.036 JL	0.018	0.038 JL	0.028 JL	< 0.0023	0.019 J	0.02 J
Chrysene	1592	0.024	0.85	0.11	0.34 J	0.46 JL	0.021	0.24	0.23
Dibenz(a,h)anthracene	1.6	0.0058	0.092 J	0.025	< 0.034	0.086 JL	0.0075	0.026	0.02
Fluoranthene	4948	0.033	1.4	0.13	0.58 J	0.46 JL	0.029	0.38	0.43
Fluorene	4948	< 0.0016	< 0.032	< 0.0023	< 0.024	< 0.0044 JL	< 0.0022	0.071	0.089
Indeno(1,2,3-cd)pyrene	16	0.019	0.34	0.091	0.2 J	0.4 JL	0.023	0.13	0.081
Naphthalene	2474	< 0.00087	< 0.017	< 0.0012	< 0.013	< 0.0024 JL	0.0027 J	< 0.002	0.0089 J
Phenanthrene	3711	0.015	0.65	0.071	0.13 J	0.097 JL	0.015	0.19	0.37
Pyrene	3711	0.038	1.6	0.15	0.43 J	0.57 JL	0.028	0.39	0.35

Table 2
Vince Bayou Sediment Data Compared to Human Health Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	$^{Tot}Sed_{Comb}$	Sample ID and Date												
		VBSD-19-A 0-0.5 2/11/2019	VBSD-19-A 0.5-1 2/11/2019	VBSD-19-B 0-0.5 2/11/2019	VBSD-20-A 0-0.5 02/11/2019	VBSD-20-B 0-0.5 02/11/2019	VBSD-20-B 0.5-1 02/11/2019	VBSD-21-A 0-0.5 7/12/2018	VBSD-21-B 0-0.5 02/11/2019	VBSD-21-B 0.5-1 02/11/2019	VBSD-21-C 0-0.5 02/11/2019	VBSD-21-C 0.5-1 02/11/2019	VBSD-22-A 0-0.5 7/12/2018	VBSD-22-B 0-0.5 02/11/2019
VOLATILE ORGANIC COMPOUNDS														
1,4-Dichlorobenzene	2271	--	--	--	--	--	--	<0.0016	--	--	--	--	<0.0015	--
Benzene	991	--	--	--	--	--	--	<0.0008	--	--	--	--	<0.0007	--
Chlorobenzene	14700	--	--	--	--	--	--	<0.0009	--	--	--	--	<0.0009	--
PETROLEUM HYDROCARBONS														
C6-C12	15309	--	--	--	--	--	--	<14	--	--	--	--	16 J	--
>C12-C28	15309	--	--	--	--	--	--	<14	--	--	--	--	<14	--
>C28-C35	NA	--	--	--	--	--	--	<11	--	--	--	--	<10	--
TPH	NA	--	--	--	--	--	--	<11	--	--	--	--	16 J	--

Notes:

All units milligrams per kilogram (mg/kg)

PSV - Preliminary Screening Value

Bolded and highlighted values are concentrations that exceed the PSV.

1. PSVs are the TCEQ Tier 1 Sediment PCLs ($^{Tot}Sed_{Comb}$), March 2006.

Table 2
Vince Bayou Sediment Data Compared to Human Health Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	$^{Tot}Sed_{Comb}$	Sample ID and Date									
		VBSD-23-A 0-0.5 7/12/2018	VBSD-23-B 0-0.5 02/11/2019	VBSD-24-A 0-0.5 7/13/2018	VBSD-24-B 0-0.5 02/11/2019	VBSD-24-C 0-0.5 02/11/2019	VBSD-24-C 0.5-1 02/11/2019	VBSD-25-A 0-0.5 7/13/2018	VBSD-26-A 0-0.5 02/11/2019	VBSD-27-A 0-0.5 7/13/2018	VBSD-27-B 0-0.5 02/11/2019
VOLATILE ORGANIC COMPOUNDS											
1,4-Dichlorobenzene	2271	<0.0018	--	<0.0013	--	--	--	<0.0019	--	<0.0016 JL	--
Benzene	991	<0.0009	--	<0.0007	--	--	--	<0.001	--	<0.0008	--
Chlorobenzene	14700	<0.0011	--	<0.0008	--	--	--	<0.0011	--	<0.001	--
PETROLEUM HYDROCARBONS											
C6-C12	15309	<13	--	<9	--	--	--	<13	--	<12	--
>C12-C28	15309	<17	--	<12	--	--	--	<17	--	<16	--
>C28-C35	NA	<17	--	<12	--	--	--	<17	--	<16	--
TPH	NA	<13	--	<9	--	--	--	<13	--	<12	--

Notes:

All units milligrams per kilogram (mg/kg)

PSV - Preliminary Screening Value

Bolded and highlighted values are concentrations that excee

1. PSVs are the TCEQ Tier 1 Sediment PCLs ($^{Tot}Sed_{Comb}$). N

Table 2
Vince Bayou Sediment Data Compared to Human Health Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	$^{Tot}Sed_{Comb}$	Sample ID and Date							
		VBSD-27-B 0.5-0.7 02/11/2019	VBSD-28-A 0-0.5 02/12/2019	VBSD-28-A 0.5-1 02/12/2019	VBSD-28-B 0-0.5 02/12/2019	VBSD-29-A 0-0.5 2/12/2019	VBSD-29-A 0.5-1 2/12/2019	VBSD-29-B 0-0.5 2/12/2019	VBSD-29-B 0.5-1 2/12/2019
VOLATILE ORGANIC COMPOUNDS									
1,4-Dichlorobenzene	2271	--	--	--	--	--	--	--	--
Benzene	991	--	--	--	--	--	--	--	--
Chlorobenzene	14700	--	--	--	--	--	--	--	--
PETROLEUM HYDROCARBONS									
C6-C12	15309	--	--	--	--	--	--	--	--
>C12-C28	15309	--	--	--	--	--	--	--	--
>C28-C35	NA	--	--	--	--	--	--	--	--
TPH	NA	--	--	--	--	--	--	--	--

Notes:

All units milligrams per kilogram (mg/kg)

PSV - Preliminary Screening Value

Bolded and highlighted values are concentrations that excee

1. PSVs are the TCEQ Tier 1 Sediment PCLs ($^{Tot}Sed_{Comb}$). N

Table 4
Vince Bayou Surface Water Data Compared to Ecological Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	Saltwater Chronic Benchmark (PSV)	PSV Source	Sample ID and Date					
			VBSW-27-A 7/13/2018	VBSW-25-A 7/13/2018	VBSW-24-A 7/13/2018	VBSW-23-A 7/12/2018	VBSW-22-A 7/12/2018	VBSW-21-A 7/12/2018
METALS								
Antimony	0.73	1	0.000663 J	0.000525 J	0.00057 J	0.000484 J	0.000475 J	0.000475 J
Arsenic (dissolved)	0.078	1	0.0018 J	0.00172 J	0.00174 J	0.002 J	0.00204	0.00238
Barium	25	1	0.0509	0.0502	0.0419	0.0631	0.0651	0.0602
Boron	1.2	2	0.174	0.183	0.113	0.302	0.304	0.275
Chromium (dissolved)	0.0274	2	<0.000535	0.000435 J	0.000781 J	<0.0004	0.00124 J	<0.0004
Cobalt	0.001	2	<0.000424	0.000388 J	0.000328 J	0.000381 J	0.000367 J	0.000354 J
Manganese (manganese)	0.1	2	0.0422	0.0415	0.0302	0.0648	0.0671	0.0659
Mercury	0.0011	1	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Selenium	0.136	1	0.011	<0.0011	<0.0011	<0.0011	<0.0011 J	<0.0011 J
Thallium	2.1	1	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
PESTICIDES AND HERBICIDES								
2,4-D	0.0002	3	<0.00006	<0.00006	<0.00006	<0.00006	<0.000061	<0.00006
2,4-DB	0.0004	3	<0.00008	<0.00008	<0.00008	<0.00008	<0.000081	<0.00008
4,4´-DDD	0.000025	1	<0.000003	0.0000052 JL	0.0000072 J	0.0000089 J	0.0000091 J	0.000012 J
4,4´-DDE	0.000025	1	<0.000003	<0.000003 JL	0.0000052 J	0.000004 J	<0.000003	<0.000003
4,4´-DDT	0.000001	1	<0.000003	<0.000003 JL	**0.0000071 J**	**0.0000082 J**	<0.000003	**0.000007**
Aldrin	0.00013	1	<0.000001	<0.000001 JL	<0.000001	<0.000001	<0.000001	<0.000001
alpha-BHC	0.025	1	0.0000024	<0.000001 JL	0.0000059	0.0000048	0.000004 J	0.000003 J
alpha-Chlordane	0.000004	1	<0.000003	<0.000003 JL	<0.000003	**0.000007 J**	<0.000003	0.000004
beta-BHC	0.025	1	<0.000001 JL	<0.000001 JL	0.000004 J	<0.000001	<0.000001	<0.000001
Dalapon	0.0002	3	<0.00007 JL	<0.00007 JL	<0.00007 JL	<0.00007 JL	<0.000071 JL	<0.00007 JL
delta-BHC	0.025	1	<0.000001	<0.000001 JL	<0.000001	0.0000035	0.0000052	<0.000001
Dichlorprop	0.0004	3	<0.00008	<0.00008	<0.00005	<0.00008	<0.000081	<0.00008
Dieldrin	0.000002	1	<0.000003	<0.000003 JL	<0.000003	<0.000003	**0.000005 J**	**0.000005 J**
Dinoseb	0.0003	3	<0.00005	<0.00005	<0.00005	<0.00005	<0.000051	<0.00005
Endosulfan I	0.000009	1	0.000007 J	0.000007 J	0.000008 J	0.000008 J	0.000008 J	0.000007 J
Endosulfan II	0.000009	1	<0.000003	<0.000003 JL	<0.000003	<0.000003	<0.000003	0.0000049
Endosulfan sulfate	0.000009	1	<0.000003	<0.000003 JL	<0.000003	<0.000003 JL	<0.000003	<0.000003
Endrin	0.000002	1	<0.000003	**0.000003 J**	<0.000003	<0.000003	<0.000003	<0.000003
Endrin aldehyde	0.000002	1	<0.000003	<0.000003 JL	<0.000003	**0.000004 J**	<0.000003	<0.000003
Endrin ketone	0.000002	1	<0.000003	<0.000003 JL	<0.000003	<0.000003	<0.000003	<0.000003
gamma-BHC	0.000016	1	0.0000043	<0.000001 JL	0.000005	<0.000001	<0.000001	<0.000001
gamma-Chlordane	0.000004	1	0.0000032 JH	0.000003 J	0.0000037	**0.000004 J**	0.000003 J	**0.0000041**
Heptachlor	0.000004	1	<0.000001	<0.000001 JL	0.000004 J	<0.000001	<0.000001	<0.000001
Heptachlor epoxide	0.0000036	1	<0.000001	<0.000001 JL	0.000003 J	0.000003 J	<0.000001	<0.000001
MCPA	0.0042	2	<0.0082	<0.0081	<0.0081	<0.0081	<0.00818	<0.0081
MCPP	0.03	3	<0.007	<0.007	<0.007	<0.007	<0.00707	<0.007
Toxaphene	0.0000002	2	<0.000025	<0.000026 JL	<0.000025	<0.000025	<0.000025	<0.000026

Table 4
Vince Bayou Surface Water Data Compared to Ecological Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	Saltwater Chronic Benchmark (PSV)	PSV Source	Sample ID and Date					
			VBSW-27-A 7/13/2018	VBSW-25-A 7/13/2018	VBSW-24-A 7/13/2018	VBSW-23-A 7/12/2018	VBSW-22-A 7/12/2018	VBSW-21-A 7/12/2018
SEMI-VOLATILE ORGANIC COMPOUNDS								
1,4-Dioxane	0.01	3	<0.000058 JL	<0.000057 JL	<0.000057 JL	<0.000058	<0.000058 JL	<0.000058 JL
1-Methylnaphthalene	0.03	1	<0.00001 JL	<0.00001	<0.00001 JL	<0.00001	<0.00001 JL	<0.00001
2-Methylnaphthalene	0.03	1	<0.000019 JL	<0.000019	<0.000019 JL	<0.000019	<0.000019 JL	<0.000019
Acenaphthene	0.0404	1	<0.000027 JL	<0.000027	<0.000027 JL	<0.000027	<0.000028 JL	<0.000027
Acenaphthylene	0.0002	3	<0.000015 JL	<0.000015	<0.000015 JL	<0.000015	<0.000015 JL	<0.000015
Anthracene	0.00018	1	<0.000014 JL	<0.000014	<0.000014 JL	<0.000014	<0.000014 JL	<0.000014
Benz(a)anthracene	0.0002	3	<0.00005 JL	<0.00005	<0.00005 JL	<0.000051	<0.000051 JL	<0.000051
Benzo(a)pyrene	0.0002	3	<0.00002 JL	<0.00002	<0.00002 JL	<0.00002	<0.00002 JL	<0.00002
Benzo(b)fluoranthene	0.0002	3	0.00003 JL	<0.000023	0.000056 JL	<0.000023	<0.000023 JL	<0.000023
Benzo(g,h,i)perylene	0.0002	3	<0.000014 JL	<0.000014	0.000039 JL	<0.000014	<0.000014 JL	<0.000014
Benzo(k)fluoranthene	0.0002	3	<0.000019 JL	<0.000019	0.000027 JL	<0.000019	<0.000019 JL	<0.000019
Bis(2-ethylhexyl)phthalate	0.36	2	0.000068 JL	0.000058 J	0.000072 JL	<0.000037	0.000084 JL	0.00055
Butyl benzyl phthalate	0.0034	2	0.00003 JL	0.000053 J	0.000081 JL	<0.000019	0.000021 JL	0.000035 J
Carbazole	0.0002	3	0.000026 JL	<0.000025	<0.000025 JL	<0.000025	<0.000026 JL	<0.000025
Chrysene	0.0002	3	0.000035 JL	<0.000021	<0.000021 JL	<0.000021	<0.000021 JL	<0.000021
Dibenz(a,h)anthracene	0.0002	3	<0.000024 JL	<0.000024	<0.000024 JL	<0.000024	<0.000024 JL	<0.000024
Fluoranthene	0.003	1	0.000041 JL	0.000029 J	0.000054 JL	<0.00001	<0.00001 JL	<0.00001
Fluorene	0.05	1	<0.00003 JL	<0.00003	<0.00003 JL	<0.00003	<0.000031 JL	<0.00003
Indeno(1,2,3-cd)pyrene	0.0002	3	<0.000022 JL	<0.000022	<0.000022 JL	<0.000022	<0.000022 JL	<0.000022
Naphthalene	0.125	1	<0.00002 JL	<0.00002	<0.00002 JL	<0.00002	<0.00002 JL	<0.00002
Phenanthrene	0.0046	1	<0.000021 JL	<0.000021	<0.000021 JL	<0.000021	<0.000021 JL	<0.000021
Pyrene	0.00024	1	0.00004 JL	0.000031	0.000043 J	<0.000019	<0.000019 JL	<0.000019
VOLATILE ORGANIC COMPOUNDS								
1,4-Dichlorobenzene	0.099	1	<0.0004	0.00045 J	<0.0004	<0.0004	<0.0004	<0.0004
Benzene	1.09	1	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	1.0	1	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
PETROLEUM HYDROCARBONS								
C6-C12	2.5	3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
>C12-C28	2.5	3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
>C28-C35	2.5	3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TPH	2.5	3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Notes:
All units milligrams per liter (mg/L)
PSV - Preliminary Screening Value
Values in orange text are sample detection limits that exceed the PSV.
Bolded values are concentrations that exceed the PSV.
PSV sources are as follows:
1. Aquatic Life Risk-Based Exposure Limits. 2017. http://www.tceq.state.tx.us/remediation/trrp/trppcls.html
2. Screening Quick Reference Table for Organics in Water, NOAA 2008.
3. The Method Quantitation Limit for that compound.

Table 5
Vince Bayou Surface Water Data Compared to Human Health Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	$^{Tot}RW_{Comb}$ [1]	HH RBEL Fish Only	Sample ID and Date					
			VBSW-27-A 7/13/2018	VBSW-25-A 7/13/2018	VBSW-24-A 7/13/2018	VBSW-23-A 7/12/2018	VBSW-22-A 7/12/2018	VBSW-21-A 7/12/2018
METALS								
Antimony	0.20	1.07	0.000663 J	0.000525 J	0.00057 J	0.000484 J	0.000475 J	0.000475 J
Arsenic	0.03	0.01	0.0018 J	0.00172 J	0.00174 J	0.002 J	0.00204	0.00238
Barium	65	NA	0.0509	0.0502	0.0419	0.0631	0.0651	0.0602
Boron	74	NA	0.174	0.183	0.113	0.302	0.304	0.275
Chromium	126	NA	<0.000535	0.000435 J	0.000781 J	<0.0004	0.00124 J	<0.0004
Cobalt	53	NA	<0.000424	0.000388 J	0.000328 J	0.000381 J	0.000367 J	0.000354 J
Manganese	41	0.1	0.0422	0.0415	0.0302	0.0648	0.0671	0.0659
Mercury	4.6	0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Selenium	4.1	4.2	0.011	<0.0011	<0.0011	<0.0011	<0.0011 J	<0.0011 J
Thallium	0.07	0.00023	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
PESTICIDES AND HERBICIDES								
2,4-D	3.92	NA	<0.00006	<0.00006	<0.00006	<0.00006	<0.000061	<0.00006
2,4-DB	0.95	NA	<0.00008	<0.00008	<0.00008	<0.00008	<0.000081	<0.00008
4,4´-DDD	NA	0.000002	<0.000003	**0.0000052 JL**	**0.0000072 J**	**0.0000089 J**	**0.0000091 J**	**0.000012 J**
4,4´-DDE	NA	0.0000001	<0.000003	<0.000003 JL	**0.0000052 J**	**0.000004 J**	<0.000003	<0.000003
4,4´-DDT	NA	0.0000004	<0.000003	<0.000003 JL	**0.0000071 J**	**0.0000082 J**	<0.000003	0.000007
Aldrin	NA	0.00000001	<0.000001	<0.000001 JL	<0.000001	<0.000001	<0.000001	<0.000001
alpha-BHC	0.0004	0.0000084	0.0000024	<0.000001 JL	0.0000059	0.0000048	0.000004 J	0.000003 J
alpha-Chlordane	NA	0.0000025	<0.000003	<0.0000026 JL	<0.000003	**0.000007 J**	<0.000003	**0.000004**
beta-BHC	0.002	0.00026	<0.000001 JL	<0.000001 JL	0.000004 J	<0.000001	<0.000001	<0.000001
Dalapon	18	NA	<0.00007 JL	<0.00007 JL	<0.00007 JL	<0.00007 JL	<0.000071 JL	<0.00007 JL
delta-BHC	0.002	0.00004	<0.000001	<0.000001 JL	<0.000001	0.0000035	0.0000052	<0.000001
Dichlorprop	2.13	NA	<0.00008	<0.00008	<0.00005	<0.00008	<0.000081	<0.00008
Dieldrin	NA	0.00000002	<0.000003	<0.000003 JL	<0.000003	<0.000003	**0.000005 J**	**0.000005 J**
Dinoseb	0.13	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.000051	<0.00005
Endosulfan I	1.53	0.03	0.000007 J	0.000007 J	0.000008 J	0.000008 J	0.000008 J	0.000007 J
Endosulfan II	0.25	0.04	<0.000003	<0.000003 JL	<0.000003	<0.000003	<0.000003	0.0000049
Endosulfan sulfate	NA	0.04	<0.000003	<0.000003 JL	<0.000003	<0.000003 JL	<0.000003	<0.000003
Endrin	0.01	0.00002	<0.000003	0.000003 J	<0.000003	<0.000003	<0.000003	<0.000003
Endrin aldehyde	NA	0.001	<0.000003	<0.000003 JL	<0.000003	0.000004 J	<0.000003	<0.000003
Endrin ketone	0.01	NA	<0.000003	<0.000003 JL	<0.000003	<0.000003	<0.000003	<0.000003
gamma-BHC	0.002	0.0003	0.0000043	<0.000001 JL	0.000005	<0.000001	<0.000001	<0.000001
gamma-Chlordane	NA	0.0000025	**0.0000032 JH**	**0.000003 J**	**0.0000037**	**0.000004 J**	**0.000003 J**	**0.0000041**
Heptachlor	NA	0.0000001	<0.000001	<0.000001 JL	**0.000004 J**	<0.000001	<0.000001	<0.000001
Heptachlor epoxide	0.0002	0.0000003	<0.000001	<0.000001 JL	**0.000003 J**	**0.000003 J**	<0.000001	<0.000001
MCPA	0.08	NA	<0.0082	<0.0081	<0.0081	<0.0081	<0.00818	<0.0081
MCPP	0.23	NA	<0.007	<0.007	<0.007	<0.007	<0.00707	<0.007
Toxaphene	NA	0.00001	<0.000025	<0.000026 JL	<0.000025	<0.000025	<0.000025	<0.000026

Table 5
Vince Bayou Surface Water Data Compared to Human Health Preliminary Screening Values
US Oil Recovery Superfund Site
Pasadena, TX

COPC	$^{Tot}RW_{Comb}$ [1]	HH RBEL Fish Only	Sample ID and Date					
			VBSW-27-A 7/13/2018	VBSW-25-A 7/13/2018	VBSW-24-A 7/13/2018	VBSW-23-A 7/12/2018	VBSW-22-A 7/12/2018	VBSW-21-A 7/12/2018
SEMI-VOLATILE ORGANIC COMPOUNDS								
1,4-Dioxane	4.4	NA	<0.000058 JL	<0.000057 JL	<0.000057 JL	<0.000058	<0.000058 JL	<0.000058 JL
1-Methylnaphthalene	4.8	NA	<0.00001 JL	<0.00001	<0.00001 JL	<0.00001	<0.00001 JL	<0.00001
2-Methylnaphthalene	0.3	0.001	<0.000019 JL	<0.000019	<0.000019 JL	<0.000019	<0.000019 JL	<0.000019
Acenaphthene	2.4	0.09	<0.000027 JL	<0.000027	<0.000027 JL	<0.000027	<0.000028 JL	<0.000027
Acenaphthylene	3.3	NA	<0.000015 JL	<0.000015	<0.000015 JL	<0.000015	<0.000015 JL	<0.000015
Anthracene	11	1	<0.000014 JL	<0.000014	<0.000014 JL	<0.000014	<0.000014 JL	<0.000014
Benz(a)anthracene	NA	0.000025	<0.00005 JL	<0.00005	<0.00005 JL	<0.000051	<0.000051 JL	<0.000051
Benzo(a)pyrene	NA	0.0000025	<0.00002 JL	<0.00002	<0.00002 JL	<0.00002	<0.00002 JL	<0.00002
Benzo(b)fluoranthene	NA	0.000013	**0.00003 JL**	<0.000023	**0.000056 JL**	<0.000023	<0.000023 JL	<0.000023
Benzo(g,h,i)perylene	NA	NA	<0.000014 JL	<0.000014	0.000039 JL	<0.000014	<0.000014 JL	<0.000014
Benzo(k)fluoranthene	NA	0.00013	<0.000019 JL	<0.000019	**0.000027 JL**	<0.000019	<0.000019 JL	<0.000019
Bis(2-ethylhexyl)phthalate	NA	0.0076	0.000068 JL	0.000058 J	0.000072 JL	<0.000037	0.000084 JL	0.00055
Butyl benzyl phthalate	7.9	0.001	0.00003 JL	0.000053 J	0.000081 JL	<0.000019	0.000021 JL	0.000035 J
Carbazole	0.27	NA	0.000026 JL	<0.000025	<0.000025 JL	<0.000025	<0.000026 JL	<0.000025
Chrysene	NA	0.00252	0.000035 JL	<0.000021	<0.000021 JL	<0.000021	<0.000021 JL	<0.000021
Dibenz(a,h)anthracene	NA	0.0000013	<0.000024 JL	<0.000024	<0.000024 JL	<0.000024	<0.000024 JL	<0.000024
Fluoranthene	NA	0.02	0.000041 JL	0.000029 J	0.000054 JL	<0.00001	<0.00001 JL	<0.00001
Fluorene	2.1	0.07	<0.00003 JL	<0.00003	<0.00003 JL	<0.00003	<0.000031 JL	<0.00003
Indeno(1,2,3-cd)pyrene	NA	0.000013	<0.000022 JL	<0.000022	<0.000022 JL	<0.000022	<0.000022 JL	<0.000022
Naphthalene	2.6	NA	<0.00002 JL	<0.00002	<0.00002 JL	<0.00002	<0.00002 JL	<0.00002
Phenanthrene	1.1	NA	<0.000021 JL	<0.000021	<0.000021 JL	<0.000021	<0.000021 JL	<0.000021
Pyrene	NA	0.03	0.00004 JL	0.000031	0.000043 J	<0.000019	<0.000019 JL	<0.000019
VOLATILE ORGANIC COMPOUNDS								
1,4-Dichlorobenzene	0.19	0.9	<0.0004	0.00045 J	<0.0004	<0.0004	<0.0004	<0.0004
Benzene	0.24	0.58	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	1.6	2.7	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
PETROLEUM HYDROCARBONS								
C6-C12	NA	NA	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
>C12-C28	NA	NA	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
>C28-C35	NA	NA	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TPH	NA	NA	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Notes:

All units milligrams per liter (mg/L)

Values in orange text are sample detection limits that exceed the PSV.

Bolded values are concentrations that exceed the PSV.

PSV - Preliminary Screening Value

1. 1. PSVs are the lowest of the TCEQ Tier 1 Contact Recreation PCLs (TotRWComb), March 2006 and Human Health Surface Water RBEL Values, Fish Only.