

Table 6
Soil Screening Evaluation - Non-Industrial Direct Contact
H. C. Drew Estate vs Neumin Production Company and Stokes & Spiehler, Inc.
North Choupique Field
Calcasieu Parish, Louisiana

Constituents (a)	Soilssni (b)	Soilssgw (c)	Limiting SS (d)	Maximum Concentrations by Area (e)		
				Tank Battery	Production	Wellhead
Metals (mg/kg-wet)						
Arsenic	12	100	12	3.74	3.04	8.29 (f)
Barium	550	2000	550	126	32.8	385
Cadmium	3.9	20	3.9	<0.274	<0.274	0.956
Chromium	12000	100	100	8.14	9.87	9.7
Lead	400	100	100	4.77	8.31	7.26
Mercury	2.3	4	2.3	0.712	0.182	<0.107
Selenium	39	20	20	<2.2	<2.19	<2.22
Silver	39	100	39	<0.274	<0.274	<0.278
Zinc	2300	2800	2300	16.9	32.7	45.8
TPH Fractions (mg/kg-wet) (g)						
Aliphatic C6-C8	1200	10000	1200	-	-	<29.9
Aliphatic >C8-C10	120	5300	120	-	-	<29.9
Aliphatic >C10-C12	230	10000	230	-	-	59.7
Aliphatic >C12-C16	370	10000	370	-	-	51.2
Aliphatic >C16-C35	7100	10000	7100	-	-	200
Aromatic >C8-C10	65	65	65	-	-	<29.9
Aromatic >C10-C12	120	100	100	-	-	<6
Aromatic >C12-C16	180	200	180	-	-	<6
Aromatic >C16-C21	150	2100	150	-	-	<6
Aromatic >C21-C35	180	10000	180	-	-	17.1
PAHs (mg/kg-wet)						
1-Methylnaphthalene (h)	16	3.1	3.1	-	-	0.715
2-Methylnaphthalene	22	1.7	1.7	-	-	1.1
Acenaphthene	370	220	220	-	-	<0.0326
Acenaphthylene	350	88	88	-	-	<0.0326
Anthracene	2200	120	120	-	-	<0.0326
Benzo(a)anthracene	0.62	330	0.62	-	-	<0.0326
Benzo(a)pyrene	0.33	23	0.33	-	-	<0.0326
Benzo(b)fluoranthene	0.62	220	0.62	-	-	<0.0326 [0.00356]
Benzo(g,h,i)perylene (h)	230	61	61	-	-	<0.0326 [0.00669]
Benzo(k)fluoranthene	6.2	120	6.2	-	-	<0.0326 [0.0068]
Chrysene	62	76	62	-	-	<0.0326 [0.00582]
Dibenz(a,h)anthracene	0.33	540	0.33	-	-	<0.0326 [0.00797]
Fluoranthene	220	1200	220	-	-	<0.0326
Fluorene	280	230	230	-	-	0.04
Indeno(1,2,3-cd)pyrene	0.62	9.2	0.62	-	-	<0.0326 [0.00866]
Naphthalene	6.2	1.5	1.5	-	-	1.57 / SPLP (i)
Phenanthrene	2100	660	660	-	-	0.0507
Pyrene	230	1100	230	-	-	<0.0326
SPLP (mg/L)						
SPLP Naphthalene	NA	0.2	0.2	-	-	0.0106 H (j)

Notes:

Concentrations reported for soil as received (mg/kg wet weight). Metals reported in dry weight were converted to wet weight.

- not analyzed in the respective area.

< - Not detected at or above the reporting limit shown.

<# [#] - Reporting limit exceeded maximum concentration. Maximum reported concentration shown in brackets.

TPH - Total Petroleum Hydrocarbons

PAH - Polycyclic Aromatic Hydrocarbons

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SPLP - Synthetic Precipitation Leaching Procedure (SPLP) SW-846 Method 1312

SS - Screening Standard

NA - not applicable

H - Qualifier indicates analysis outside of holding time guidance

- (a) Constituents analyzed in soil samples collected from the site by Acadian, Southland, and ERM. All sample depths were included in the screening evaluation, including two samples collected from the 15-18 foot interval, which lies just below the surface soil interval defined by LDEQ (0-15 feet).
- (b) Soilssni is the RECAP Screening Option Standard from Table 1 of RECAP 2003 for soil protective of non-industrial land use.
- (c) Soilssgw is the RECAP Screening Option Standard from Table 1 of RECAP 2003 for soil protective of groundwater.
- (d) The limiting RECAP Screening Option Standard is the lower of the Soilssni and Soilssgw.
- (e) The maximum reported concentration in soil samples collected from each area of the site, including Acadian, Southland, and ERM samples.
- (f) Arsenic was reported above the state-specific background concentration identified by LDEQ (12 mg/kg) in a single sample collected by Acadian in 2018 (B29-S5, 10-12.5' at 13.6 mg/kg). The resample collected by ERM and split by Southland in 2021 at B-29 from the same interval did not confirm a concentration above 12 mg/kg (ERM, 2.73 mg/kg and Southland, 8.55 mg/kg). Per RECAP (2003), the arithmetic mean concentration is used for comparison to a RECAP standard based on background concentrations, and the average arsenic concentration was calculated using the initial 2018 sample result and the resample split results.
- (g) Appendix D of RECAP identifies: "If TPH fractionation data and TPH mixture data have both been collected at an AOI and the two data sets yield different conclusions about management of the AOI, then management decisions shall be based on the fractionation data since the fractionation method yields more specific information regarding the TPH constituents present and thus more accurately characterizes site conditions." TPH fraction data are available for sample locations and intervals with TPH mixture data, and are used in the RECAP evaluation.
- (h) Soilssni not provided in RECAP; the risk-based value was calculated in accordance with Appendix H of RECAP 2003.
- (i) SPLP analysis for naphthalene was performed for the sample with naphthalene above the Soilssgw (SE-SB09R, 4-6'). The naphthalene SPLP result (0.0106 mg/L) is below the leachate screening standard for naphthalene: 0.2 mg/L, equal to GW1 (0.01 mg/L) x 20, per RECAP Appendix H.
- (j) MO-1 evaluation is provided as an additional line of evidence for soil to groundwater protection.