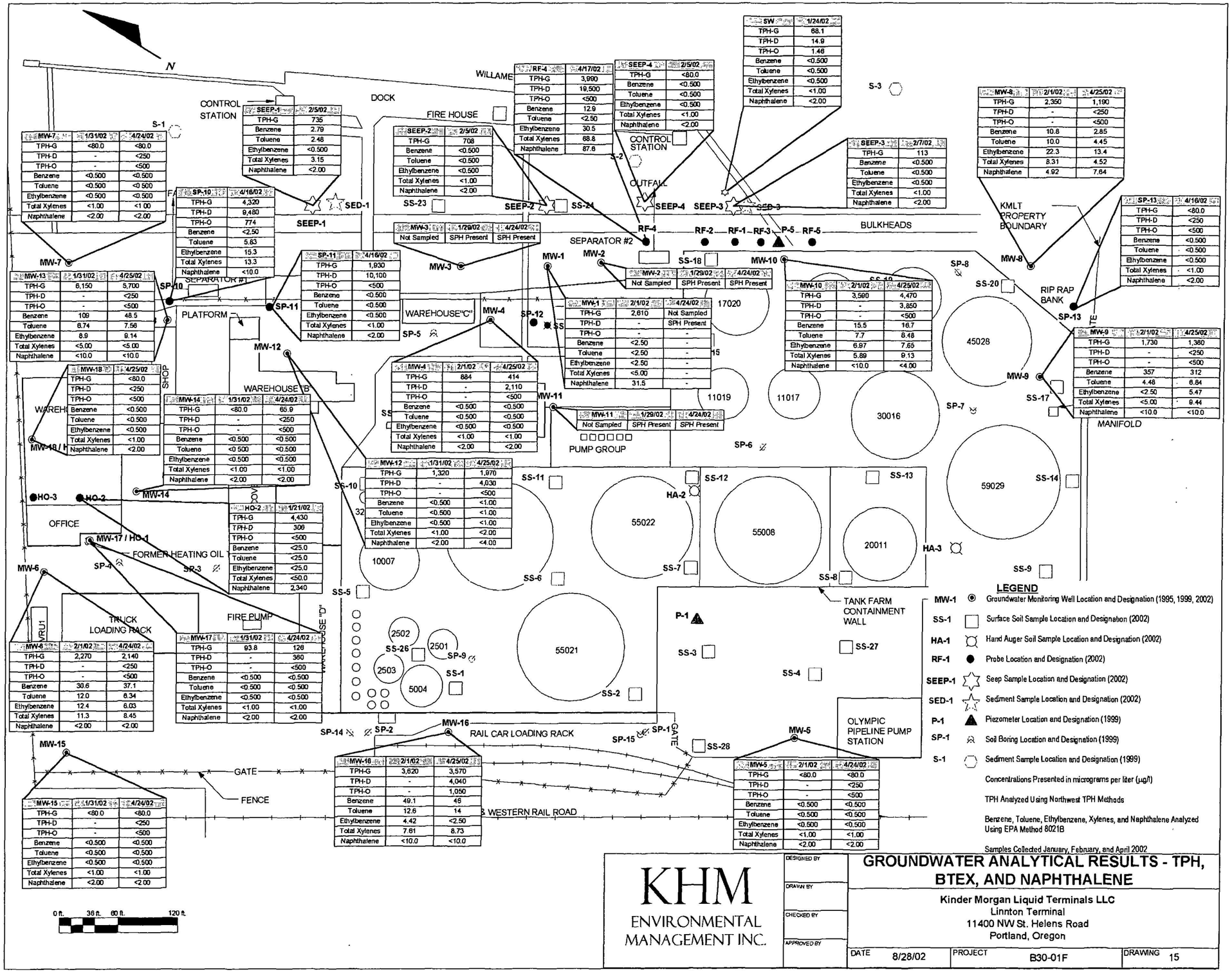
PORSF
11.3.18-1 v11

DRAFT



MW-7	1/31/02	4/24/02
TPH-G	<80.0	<80.0
TPH-D	-	<250
TPH-O	-	<500
Benzene	<0.500	<0.500
Toluene	<0.500	<0.500
Ethylbenzene	<0.500	<0.500
Total Xylenes	<1.00	<1.00
Naphthalene	<2.00	<2.00

SEEP-1	2/5/02
TPH-G	735
Benzene	2.79
Toluene	2.48
Ethylbenzene	<0.500
Total Xylenes	3.15
Naphthalene	<2.00

SEEP-2	2/5/02
TPH-G	708
Benzene	<0.500
Toluene	<0.500
Ethylbenzene	<0.500
Total Xylenes	<1.00
Naphthalene	<2.00

RF-4	4/17/02
TPH-G	3,990
TPH-D	19,500
TPH-O	<500
Benzene	12.9
Toluene	<2.50
Ethylbenzene	30.5
Total Xylenes	68.8
Naphthalene	87.6

SEEP-4	2/5/02
TPH-G	<80.0
Benzene	<0.500
Toluene	<0.500
Ethylbenzene	<0.500
Total Xylenes	<1.00
Naphthalene	<2.00

SW	1/24/02
TPH-G	68.1
TPH-D	14.9
TPH-O	1.46
Benzene	<0.500
Toluene	<0.500
Ethylbenzene	<0.500
Total Xylenes	<1.00
Naphthalene	<2.00

SEEP-3	2/7/02
TPH-G	113
Benzene	<0.500
Toluene	<0.500
Ethylbenzene	<0.500
Total Xylenes	<1.00
Naphthalene	<2.00

MW-8	2/1/02	4/25/02
TPH-G	2,350	1,190
TPH-D	-	<250
TPH-O	-	<500
Benzene	10.8	2.85
Toluene	10.0	4.45
Ethylbenzene	22.3	13.4
Total Xylenes	8.31	4.52
Naphthalene	4.92	7.64

SP-13	4/16/02
TPH-G	<80.0
TPH-D	<250
TPH-O	<500
Benzene	<0.500
Toluene	<0.500
Ethylbenzene	<0.500
Total Xylenes	<1.00
Naphthalene	<2.00

SP-10	4/16/02
TPH-G	4,320
TPH-D	9,480
TPH-O	774
Benzene	<2.50
Toluene	5.83
Ethylbenzene	15.3
Total Xylenes	13.3
Naphthalene	<10.0

MW-3	1/29/02	4/24/02
Not Sampled	SPH Present	SPH Present

SP-11	4/16/02
TPH-G	1,930
TPH-D	10,100
TPH-O	<500
Benzene	<0.500
Toluene	<0.500
Ethylbenzene	<0.500
Total Xylenes	<1.00
Naphthalene	<2.00

MW-2	1/29/02	4/24/02
Not Sampled	SPH Present	SPH Present

MW-1	2/1/02	4/24/02
TPH-G	2,610	Not Sampled
TPH-D	-	SPH Present
TPH-O	-	-
Benzene	<2.50	-
Toluene	<2.50	-
Ethylbenzene	<2.50	-
Total Xylenes	<5.00	-
Naphthalene	31.5	-

MW-10	2/1/02	4/25/02
TPH-G	3,590	4,470
TPH-D	-	3,850
TPH-O	-	<500
Benzene	15.5	16.7
Toluene	7.7	8.48
Ethylbenzene	6.97	7.65
Total Xylenes	5.89	9.13
Naphthalene	<10.0	<4.00

MW-9	2/1/02	4/25/02
TPH-G	1,730	1,360
TPH-D	-	<250
TPH-O	-	<500
Benzene	357	312
Toluene	4.48	6.84
Ethylbenzene	<2.50	5.47
Total Xylenes	<5.00	9.44
Naphthalene	<10.0	<10.0

MW-13	1/31/02	4/25/02
TPH-G	6,150	5,700
TPH-D	-	<250
TPH-O	-	<500
Benzene	109	48.5
Toluene	6.74	7.56
Ethylbenzene	8.9	9.14
Total Xylenes	<5.00	<5.00
Naphthalene	<10.0	<10.0

MW-18	4/25/02
TPH-G	<80.0
TPH-D	<250
TPH-O	<500
Benzene	<0.500
Toluene	<0.500
Ethylbenzene	<0.500
Total Xylenes	<1.00
Naphthalene	<2.00

MW-14	1/31/02	4/24/02
TPH-G	<80.0	65.9
TPH-D	-	<250
TPH-O	-	<500
Benzene	<0.500	<0.500
Toluene	<0.500	<0.500
Ethylbenzene	<0.500	<0.500
Total Xylenes	<1.00	<1.00
Naphthalene	<2.00	<2.00

MW-4	2/1/02	4/25/02
TPH-G	884	414
TPH-D	-	2,110
TPH-O	-	<500
Benzene	<0.500	<0.500
Toluene	<0.500	<0.500
Ethylbenzene	<0.500	<0.500
Total Xylenes	<1.00	<1.00
Naphthalene	<2.00	<2.00

MW-11	1/29/02	4/24/02
Not Sampled	SPH Present	SPH Present

MW-12	1/31/02	4/25/02
TPH-G	1,320	1,970
TPH-D	-	4,030
TPH-O	-	<500
Benzene	<0.500	<1.00
Toluene	<0.500	<1.00
Ethylbenzene	<0.500	<1.00
Total Xylenes	<1.00	<2.00
Naphthalene	<2.00	<4.00

HO-2	1/21/02
TPH-G	4,430
TPH-D	309
TPH-O	<500
Benzene	<25.0
Toluene	<25.0
Ethylbenzene	<25.0
Total Xylenes	<50.0
Naphthalene	2,340

MW-6	2/1/02	4/24/02
TPH-G	2,270	2,140
TPH-D	-	<250
TPH-O	-	<500
Benzene	30.6	37.1
Toluene	12.0	6.34
Ethylbenzene	12.4	6.03
Total Xylenes	11.3	8.45
Naphthalene	<2.00	<2.00

MW-17	1/31/02	4/24/02
TPH-G	93.8	126
TPH-D	-	360
TPH-O	-	<500
Benzene	<0.500	<0.500
Toluene	<0.500	<0.500
Ethylbenzene	<0.500	<0.500
Total Xylenes	<1.00	<1.00
Naphthalene	<2.00	<2.00

MW-15	1/31/02	4/24/02
TPH-G	<80.0	<80.0
TPH-D	-	<250
TPH-O	-	<500
Benzene	<0.500	<0.500
Toluene	<0.500	<0.500
Ethylbenzene	<0.500	<0.500
Total Xylenes	<1.00	<1.00
Naphthalene	<2.00	<2.00

MW-16	2/1/02	4/25/02
TPH-G	3,620	3,570
TPH-D	-	4,040
TPH-O	-	1,050
Benzene	49.1	46
Toluene	12.6	14
Ethylbenzene	4.42	<2.50
Total Xylenes	7.61	8.73
Naphthalene	<10.0	<10.0

MW-5	2/1/02	4/24/02
TPH-G	<80.0	<80.0
TPH-D	-	<250
TPH-O	-	<500
Benzene	<0.500	<0.500
Toluene	<0.500	<0.500
Ethylbenzene	<0.500	<0.500
Total Xylenes	<1.00	<1.00
Naphthalene	<2.00	<2.00

LEGEND

- MW-1 — Groundwater Monitoring Well Location and Designation (1995, 1999, 2002)
- SS-1 — Surface Soil Sample Location and Designation (2002)
- HA-1 — Hand Auger Soil Sample Location and Designation (2002)
- RF-1 — Probe Location and Designation (2002)
- SEEP-1 — Seep Sample Location and Designation (2002)
- SED-1 — Sediment Sample Location and Designation (2002)
- P-1 — Piezometer Location and Designation (1999)
- SP-1 — Soil Boring Location and Designation (1999)
- S-1 — Sediment Sample Location and Designation (1999)

Concentrations Presented in micrograms per liter (µg/l)

TPH Analyzed Using Northwest TPH Methods

Benzene, Toluene, Ethylbenzene, Xylenes, and Naphthalene Analyzed Using EPA Method 8021B

Samples Collected January, February, and April 2002

KHM ENVIRONMENTAL MANAGEMENT INC.

DESIGNED BY
DRAWN BY
CHECKED BY
APPROVED BY

GROUNDWATER ANALYTICAL RESULTS - TPH, BTEX, AND NAPHTHALENE

Kinder Morgan Liquid Terminals LLC
Linnton Terminal
11400 NW St. Helens Road
Portland, Oregon

DATE 8/28/02 | PROJECT B30-01F | DRAWING 15

USEPA SF
1288858