17 Feb. 2022 thurs.

Activity: Spill Response Soil Vapor Monitoring
Team: DA, KO
Location: RHBFSF
Weather: Sunny w/ trades
PPE: Level D
Ref: EZ WP/HSP Navy PPM EM 385-1-1
0910 Onsite Calib. PID, Safety briefing
0920: Enter ADIT 6
0925: Arrive @ Cart
0930: Arrive @ Tank 2
0947 Arrive @ Tank 3
1003 Arrive @ Tank 4
1015 Arrive @ Tank 5
1032 Arrive @ Tank 6
1042 Arrive @ Tank 7
1057 Arrive @ Tank 8
1115 Arrive @ Tank 9
1129 Arrive @ Tank 10
11:42 Arrive @ Tank 11
11:51 Arrive @ SUMP 12
12:09 Arrive @ SUMP 13
12:21 Arrive @ SUMP 14
12:42 Cal check - passed
12:45 Lunch
13:20 arrive @ SUMP 15

13:38 Arrive @ SMVP-16
13:54 Arrive @ SMVP 17
14:23 Arrive @ SMVP-18
14:41 Arrive @ SMVP-20 + Cal check
15:15 Arrive at Cart
- Pack up
15:20 Exit adit 6
and depart site

Rite in the Rain

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Project Title: Long-Term Monitoring, Red Hill Bulk Fuel Storage Facility (RHBFSF)
E2 Job No.: 210045

DAILY INSTRUMENT CALIBRATION LOG

Date: 2/17/22 **E2 Team:** DA, KO

Instrument Type, Model/Serial No.: PID, ppbRAE 3000 (PGM-7340) / 594-906662

INITIAL CALIBRATION: ** All calibration is conducted with moisture filter attached.*

Zero Calibration			Notes
Zeroing Tube *(Make/P /N /Batch No.)* or **Zeroing Gas** *(Manufacturer/Lot No./Exp.)*	**Calibration Reading (ppbv)**	**Pass?** *(Y/N)*	
Gasco exp. 8/6/25 lot 304-4021773 16-1	0	Y	
Span Calibration			
Calibration Gas – 10 ppm, Isobutylene *(Manufacturer/Lot No./Exp.)*	**Calibration Reading (ppbv)**	**Pass?** *(Y/N)*	
Gasco exp 8/6/25 lot 304-4021198 64-1	9996	Y	
Calibration Pass Criteria*: (1) Zero calibration = ± 100 ppb, (2) Span Calibration= ± 3% (300 ppb)			

Temperature (°F) *(measured from PID):* 77

Background Reading (ppbv) *(moisture filter attached):* 0

CALIBRATION CHECK: **Calibration checks are conducted with moisture filter on. At minimum, one check at midpoint and one check at the end of monitoring. Additional checks conducted, as needed, to verify initial consecutive zero readings or suspected drift in PID readings.*

Time	Calibration Gas – *Concentration as indicated on initial span calibration (specify if other)*			Notes *(e.g., Location)*
	Manufacturer/Lot No./Exp.	**Calibration Reading (ppbv)**	**Pass?** *(Y/N)*	
12:42	Gasco exp. 8/6/25 lot 304-4021198 64-1	9562	Y	
15:10	Gasco exp. 8/6/25 lot 304-4021198 64-1	9507	Y	
Calibration Check Pass Criteria*: Span Calibration Gas= ± 10% (1,000 ppb)				

Date: 2/17/22

**Note: If any parameter fails to meet the acceptable range, perform maintenance as needed and re-calibrate PID.*

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Soil Vapor Probe Sampling Log

Location/Project Name: Long-Term Monitoring, Red Hill Bulk Fuel Storage Facility Project Number: 180025

Date: 2/17/22 Samplers: DA, KG

SVMP No: 15S Sample ID: DA ~~SMVP-15S~~ ~~SUMP-15S~~ SVMP-15S

Sample canister no: C10843 Flow Controller number: A10001

Canister size: 1.4L Rate (mL/min): 150ccm *as specified on flow controller

Notes:

1. *Sample collected after SVMP purged at 1L/min for 2 min*
2. *Shut-in test performed prior to sample collection*

Sample Start Time: 13:25 Sample Start Vacuum: 29

Sample End Time: 13:33 Sample End Vacuum: 5

Comments:

SVMP No: 15D Sample ID: DA ~~SMVP-15D~~ SVMP-15D

Sample canister no: C10555 Flow Controller number: A10266

Canister size: 1.4L Rate (mL/min): 150ccm *as specified on flow controller

Notes:

1. *Sample collected after SVMP purged at 1L/min for 2 min*
2. *Shut-in test performed prior to sample collection*

Sample Start Time: 13:35 Sample Start Vacuum: 29

Sample End Time: 13:43 Sample End Vacuum: 4

Comments:

SVMP No: 17S Sample ID: SVMP-17S

Sample canister no: C10531 Flow Controller number:

Canister size: 1.4L Rate (mL/min): 150ccm *as specified on flow controller

Notes:

1. *Sample collected after SVMP purged at 1L/min for 2 min*
2. *Shut-in test performed prior to sample collection*

Sample Start Time: 14:00 Sample Start Vacuum: 29

Sample End Time: ~~14:14~~ Sample End Vacuum: 5

Comments: 14:08

SVMP No: 17D Sample ID: DA ~~SMVP-17D~~ SVMP-17D

Sample canister no: C10566 Flow Controller number: A10243

Canister size: 1.4L Rate (mL/min): 150ccm *as specified on flow controller

Notes:

1. *Sample collected after SVMP purged at 1L/min for 2 min*
2. *Shut-in test performed prior to sample collection*

Sample Start Time: 14:12 Sample Start Vacuum: 28

Sample End Time: 14:20 Sample End Vacuum: 5

Comments:

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Soil Vapor Probe Sampling Log

Location/Project Name: Long-Term Monitoring, Red Hill Bulk Fuel Storage Facility Project Number: 180025

Date: 2/17/22 Samplers: DA, KO

SVMP No: 18S Sample ID: ~~SMVP-18S~~ SVMP-18S
Sample canister no: C10631 Flow Controller number: A10087
Canister size: 1.4L Rate (mL/min): 150 ccm *as specified on flow controller

Notes:

1. *Sample collected after SVMP purged at 1L/min for 2 min*
2. *Shut-in test performed prior to sample collection*

Sample Start Time: 14:30 Sample Start Vacuum: 30
Sample End Time: 14:39 Sample End Vacuum: 5
Comments:

SVMP No: 18D Sample ID: SVMP-18D
Sample canister no: C01725 Flow Controller number: A10218
Canister size: 1.4L Rate (mL/min): 150 ccm *as specified on flow controller

Notes:

1. *Sample collected after SVMP purged at 1L/min for 2 min*
2. *Shut-in test performed prior to sample collection*

Sample Start Time: 14:35 Sample Start Vacuum: 29
Sample End Time: 14:43 Sample End Vacuum: 5
Comments:

SVMP No: 20M Sample ID: SVMP-20M
Sample canister no: C10785 ~~[illegible]~~ Flow Controller number: A10035
Canister size: 1.4L Rate (mL/min): 150 ccm *as specified on flow controller

Notes:

1. *Sample collected after SVMP purged at 1L/min for 2 min*
2. *Shut-in test performed prior to sample collection*

Sample Start Time: 14:59 Sample Start Vacuum: 28
Sample End Time: 15:07 Sample End Vacuum: 5
Comments:

SVMP No: 20D Sample ID: SVMP-20D
Sample canister no: C10046 Flow Controller number: A10151
Canister size: 1.4L Rate (mL/min): 150 ccm *as specified on flow controller

Notes:

1. *Sample collected after SVMP purged at 1L/min for 2 min*
2. *Shut-in test performed prior to sample collection*

Sample Start Time: 15:02 Sample Start Vacuum: 28
Sample End Time: 15:10 Sample End Vacuum: 5
Comments:

Soil Vapor Monitoring Log

Contract No.: N62742-17-D-1802 CTO N6274221F0148 Date: 2/17/22
E2 Job No.: 210045
Project Title: Long-Term Monitoring, Red Hill Bulk Fuel Storage Facility (RHBFSF) Location: RHBFSF, JBPHH, Hawaii
Personnel: DA, KO
Instrument Model: ppbRAE 3000 (PGM-7340) Serial No.: 594-906662
Calibration: per SOP (see Instrument Calibration Log)

SVMP No. (Material)	Purge Start Time	Sample Start Time	PID Reading[2] 1	2	3	Reading Time	Background PID Reading	Notes
SV02 S(C)	0933	0935	392	233	150	0936	6631	
SV02 M(C)	0936	0938	761	567	417	0940		
SV02 D(C)	0940	0942	348	237	182	0944		
SV03 S(S)	0948	0949	547	332	262	0951	8250	
SV03 M(S)	0951	0952	496	391	332	0955		
SV03 D(S)	0956	0957	716	468	397	0959		
SV04 S(S)	1004	1005	588	337	283	1005	8912	
SV04 M(S)	1006	1007	720	600	475	1007		
SV04 D(S)	1008	1009	550	351	289	1011		
SV05 S(S)	1016	1017	1123	801	648	1019	7336	
SV05 M(S)	1021	1022	1328	1119	1024	1025		
SV05 D(S)	1025	1026	1420	942	787	1030		
SV06 S(C)	1033	1035	6087	6380	6026	1036	7734	
SV06 M(C)	1037	1039	1160	925	688	1039		
SV07 S(S)	1045	1046	4701	4481	4326	1047	7324	
SV07 M(S)	1047	1048	928	789	644	1050		
SV07 D(S)	1050	1051	1365	1138	982	1055		
SV08 S(S)	1057	1058	564	457	388	1100	6618	
SV08 M(S)	1101	1102	859	593	443	1105		
SV08 D(S)	1106	1107	903	541	429	1111		
SV09 S(S)	1117	1118	711	507	419	1120	5681	
SV09 M(S)	1121	1122	597	413	352	1123		
SV09 D(S)	1123	1124	1136	827	588	1127		
SV10 S(C)	1129	1131	685	478	362	1133	6230	
SV10 M/D(C)	1133	1135	729	551	436	1137		

1. S - Shallow/Front (Yellow); M - Middle (Blue); M/D - Middle to Deep (Blue & White); D - Deep/Back (White); MD - Marine diesel (F-76); C - Copper tubing (O.D. ~1/4-in.); S - Stainless Steel Tubing (O.D. ~3/16 in.)
2. Readings are measured in part per billion by volume (ppbv) unless otherwise noted. Threshold for summa cannister sampling for both jet fuels (JP-5, F-24) and marine diesel (F-76) is 50,000 ppbv.

Comments:

Soil Vapor Monitoring Log

Date: 2/17/22

SVMP No.	Purge Start Time	Sample Start Time	PID Reading[2] 1	2	3	Reading Time	Background PID Reading	Notes
SV11 $S_{(C)}$	11:43	11:45	984	562	404	11:48	4817	
SV11 $M/D_{(C)}$	11:47	11:49	452	344	269	11:51		
SV12 $S_{(C)}$	11:52	11:54	965	550	413	11:56	9879	
SV12 $M_{(C)}$	11:56	11:58	901	523	398	11:59		
SV12 $D_{(C)}$	11:59	12:01	767	463	339	12:03		
SV13 $S_{(S)}$	12:10	12:11	441	283	215	12:13	4093	
SV13 $M_{(S)}$	12:14	12:15	404	289	220	12:17		
SV13 $D_{(S)}$	12:17	12:18	685	368	284	12:19		
SV14 $S_{(C)}$	12:23	12:25	1374	757	572	12:26	24.21 ppm	Active Work with Solvent MEK
SV14 $M_{(C)}$	12:26	12:28	710	451	325	12:30		
SV14 $D_{(C)}$	12:30	12:32	2827	2418	2215	12:33		
S $^{MD}SV15\ S_{(S)}$	1:21	1:22	200	147	129	1:22	533	
$^{MD}SV15\ M_{(S)}$	~~1:23~~	~~1:24~~	—					
S $^{MD}SV15\ D_{(S)}$	1:23	1:24	126	101	93	1:26		
$^{MD}SV16\ S_{(C)}$	13:40	13:42	1548	967	746	13:46	15.01 ppm	
$^{MD}SV16\ M_{(C)}$	13:44	13:46	820	581	473	13:48		
$^{MD}SV16\ D_{(C)}$	13:48	13:50	1602	1308	1204	13:52		
S SV17 $S_{(S)}$	14:00	14:01	3401	3376	3420	14:05	2819	
SV17 $M_{(S)}$	14:03	14:04	3117	3359	3487	14:06		
S SV17 $D_{(S)}$	14:06	14:07	2228	2193	2195	14:09		
S SV18 $S_{(S)}$	14:25	14:26	1527	1533	1561	14:28	3047	
S SV18 $D_{(S)}$	14:28	14:29	1277	1203	1199	14:31		
SV20 $S_{(S)}$	14:45	14:46	1195	1073	1030	14:50	2019	
S SV20 $M_{(S)}$	14:48	14:49	1255	1184	1152	14:52		
S SV20 $D_{(S)}$	14:52	14:53	1173	1175	1187	14:58		

1. S - Shallow/Front (Yellow); M - Middle (Blue); M/D - Middle to Deep (Blue & White); D - Deep/Back (White); MD - Marine diesel (F-76); C - Copper tubing (O.D. ~1/4-in.); S - Stainless Steel Tubing (O.D. ~3/16 in.)
2. Readings are measured in part per billion by volume (ppbv) unless otherwise noted. Threshold for summa cannister sampling for both jet fuels (JP-5, F-24) and marine diesel (F-76) is 50,000 ppbv.

Comments: