

11/10/16

1130 - Water at surface, pump until air bubbles are flushed from the line.

1140 - ~~CB~~ Stop pumping cleanup.

1150 - while pulling water level meter it got stuck at ~140ft bTOC, likely on small bit of excess tubing. Retest pump to make sure no leaks in line from WL getting stuck.

1200 - No apparent leaks, pumping water to surface. Clean up site

1230 - all off site mob to warehouse.

1300 - at warehouse and prepare equipment for next week's groundwater sampling event.

1600 - CB mob to AECOM office.
End of Field day

[Handwritten signature]
11-10-16

11/14/16

0630 - CB, TV and DF at warehouse to mobilize equipment.

0705 - mob to site.

0730 - TQ at Red Hill Gate, RG on the way. Mob to Adit 3.

0745 - at Adit 3. CB conducts tailgate safety briefing. Waiting for NAVFAC personnel to access Red Hill Shaft well 225401.

Objective: collect Groundwater Samples from RHMW2254-01, RHMW01 and OWDFMWO1 for TQ+DF, RHMW06, 07 and 08 for CB, TV. RG will be support.

Personnel: R. Gannigan, T. Vernon, T. Quintel, D. Frerich, C. Byrd.

Weather: Mostly Sunny, Breezy High 70's.

-DF+TQ calibrate Multi-gas meters + Aniba. See Book 1 for specifics.

0820 - ~~BC~~ NAVFAC personnel has not arrived at Adit 3. TQ, DF and TV mob to RHMW2254-01 to see if NAVFAC has already gone to well.

0830 - CB mob to RHMW01.

0928 - Begin Furging. RG onsite.

0930 - Water at surface.

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0940 - set pumping rate to 250 ml/min.

115 psi, 30/30 recharge/discharge. See Sampling log for details.

1055 - Begin sampling RHMW06. See sample + QC log for details.

1150 - complete sample collection at RHMW06. Clean up. Mob to RHMW07.

1235 - collect water level at RHMW07.

1240 - Begin purge and set rate to 250 ml/min at 95 psi, 30/30 second recharge/discharge. See sample log for purge details.

1350 - Begin sampling RHMW07, ID = ERH121. See QC log for details.

1455 - complete clean up at RHMW07. Sampling complete at ¹⁴1445. Mob to RHMW04.

1530 - Begin purging RHMW04, see sample/purge log for details.

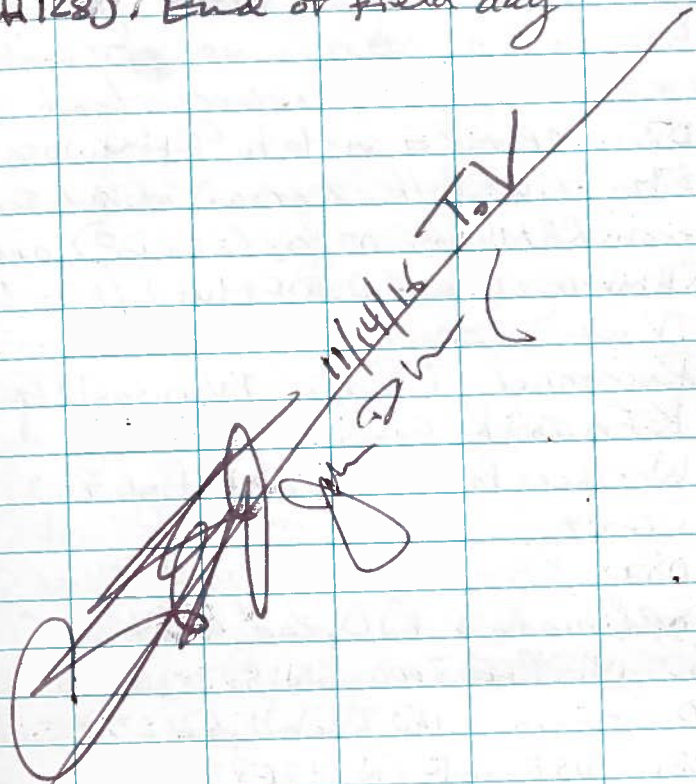
1730 - Begin sampling RHMW04 (ERH128) - see QC log for details.

1820 - complete sampling RHMW04. Clean up then mob to Adit 3 to help demob equipment.

11/14/16

1900 - mob offsite to warehouse.

1935 - offload equipment and samples from RHMW01 (ERH117); RHMW07 (ERH121) and RHMW04 (ERH128). End of field day.



11/15/16

0630-AB, TV, KE+DF at warehouse.

Load supplies.

0700- CB gives tailgate safety briefing to DF+KE. DF+KE then mob to

Adit 3 to sample RHMW05, 02+03.

0715-RG at Warehouse. TV mob to air gas to pick up nitrogen tanks.

0720-CB+RG mob to RHMW08.

Objectives Collect groundwater samples from RHMW05, 02, 03 (KE+DF), and RHMW08+09 and OWDF MW01 (RG+CB)

TV as support.

Personnel: C Beigel, T Vernon, D Frerich, K Ernst, R. Gannigan.

Weather: Partly Sunny, High 70's, Breezy.

0800- CB gives tailgate to TV+RG. calibrate's PID and Horiba.

PID: ~~MIRA~~ RAE 3000 SN: 592-600290

O.D = Zero 100 Isobutylene = 99.5 ppm.

HORIBA U53: Probe SN 877FYTCJ

Display SN: REY56JNB

cal'd to 4.04 pH (4.00), 4.52 μ S/cm (4.49) O.D
NTU (0.0) DO = 9.17 mg/L (103.5%)

11/15/16

0830-Begin purge at RHMW08.

0836-Water at surface. Purge. See Purge log for details. See Book 1 for Details of tunnel well sampling.

0940-Begin sampling RHMW08 (ERH122)

See QC log for details

1020 - complete sampling RHMW08.

Cleanup.

1045 - mob to RHMW09 (RG+CB). RHMW05 has been sampled by KE+DF.

1050 - set up at RHMW09. Begin purge at 1113. See Purge log for details.

1135 - Begin readings. DO was continuing to drop throughout. Readings were w/in 10% but dropping. Had to change NO₂ tank at 1300 - caused DO to drop significantly after return to pumping. All parameters stable after 10 gallons at 1335.

1340 - Begin sampling RHMW09 (ERH129) see QC log for details.

1425 - complete sampling RHMW09. Cleanup then mob to OWDF MW01. TV continues helping in tunnel.

1550 - Begin purging OWDF MW01. DF+KE have completed all tunnel wells. Mob to warehouse.

11/15/16.

1620 - Begin readings at ~~ERH~~ ^{OWDF MW01}

See Purge Log for details.

1715 - collect samples from OWDF MW01 (ERH 118) + ERH 119 (Dup), see Q Log.

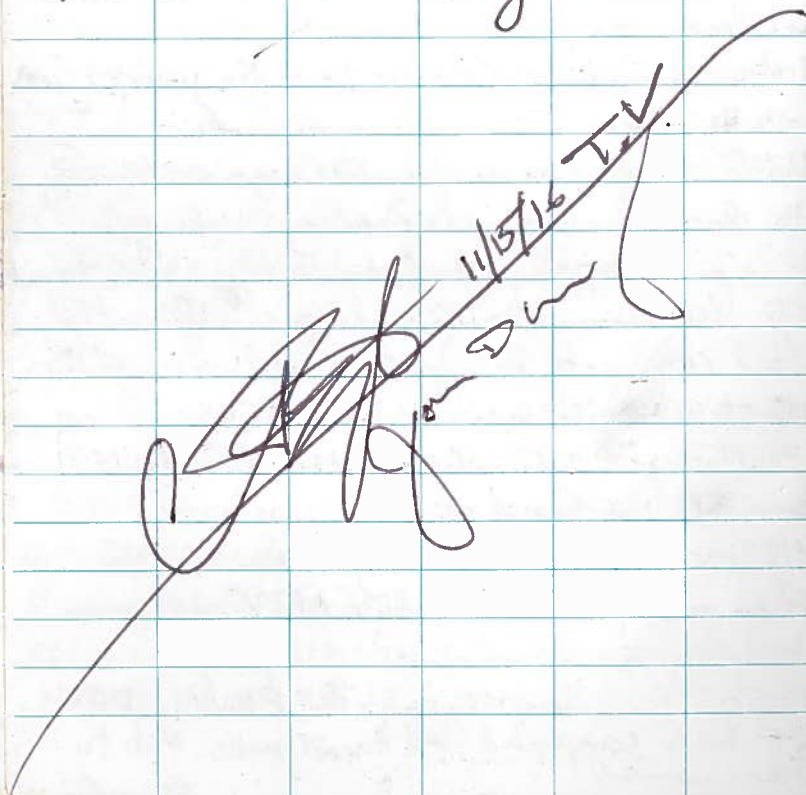
1820 - complete sampling OWDF MW01.

Clean up

1900 - CB + RG mob off site. Mob to warehouse

1940 - at warehouse. off load samples.

1955 - End of field day



11/16/16

0630 - TV, CB + DF at warehouse. Load supplies to sample HDMW2253-03.

0700 - Mob to parking lot at Halawa Prison.

0750 - all at parking lot.

Objective: Collect sample from HDMW2253-03.

Personnel: D. Frerich, T. Vernon, C. Bezel.

Weather: Mostly Sunny, High 70's, Breezy.

0755 - DLNR at Parking Lot. Mob to well.

0800 - at HDMW2253-03. CB gives tailgate safety. Set up to sample well.

0839 - Begin purge at HDMW2253-03.

See purge log for details

1150 - Sample MW2253-03 (ERH 127)

1220 - Complete sampling

1245 - Fill 3 vials for trip blank ERH 132

1250 - Collect equipment blank ERH 130

w/ DI over decon bladder pump

1310 - Collect field blank ERH 131

w/ DI

1340 - Depart for warehouse w/ supplies

1400 Collect LDW

1500 Soil ERH 113

1430 Depart

11-1

1430 - Plough Win LDW Staging Area

- Sunny, Snowy Mtn, 85° 11-17-16
- 0830 Arrive @ Red Hill Gate
Don French (DF) and Tim Gunn (TG)
- 0845 Conduct H's target meeting;
Discuss Planned work: pull
dedicated pumps out of 8 Mals
- 0900 DF & TG enter Adit 3 to meet
w/ Navy pump station personnel
@ Red Hill Shaft
- 0930 Pull tubing and pump ^{up} ^{JK}
well casing @ 2254-01; find
that it is not possible to remove
the pump out of the top of casing
due to inadequate space
between top of casing and bulk
head about 8" above.
- 0945 Run dedicated tubing and
pump back down into the
infiltration gallery (2254-01)
continue up lower access
tunnel and remove dedicate
pumps from RHMW05, RHMW02
and RHMW03
- 1130 Out of tunnel @ Adit 5 and
drive to RHMW09.
- 1200 Pull Dedicated pump @
RHMW09

- 1300 Pull dedicated pumps 11-17-16
@ RHMW08, Randy Gonzalez arrives
- 1345 Call Red Hill Gate security
to have gate near Adit 6
opened in order to access
RHMW04
- 1400 Pull dedicated pump @
RHMW06
- 1430 Pull dedicated pump
@ RHM04
- 1515 Pull dedicated pump @
RHMW07
- Note: all dedicated sample
tubing was reeled onto
wooden spools
- 1600 Depart Site

Jack Kronen

11-17-16
DF
TG

Clouds, At Rain, Windy 92° 11-21-16

1430^{JK}
~~1430~~
 1500^{JK}
 1530

Arrive @ Red Hill Gate
 Jack Krown (SK) and Eric Wadgsten
 (EW) meet w/ Junior of PLS.
 Conduct tailgate H₂S analysis
 planned site recon into
 proposed location for access road
 to RAMWIS drill pad.

1515 Walk into proposed area
 which is vegetated w/ dense
 haaha koa and tall grass.
 Inspect proposed route and PLS
 finds it will be possible to
 perform w/ clearing without any
 subsurface excavation/earth
 moving required prior to conducting
 the geophysical survey.

1530 At location of proposed drill
 pad for RAMWIS0 and PLS
 determines that drill pad
 will be buildable

1540 Walk back to van

1600 Junior w/ PLS departs; SK & EW
 perform site inspections @
 Adit 1, RAMWIS04, RAMWIS04
 Adit 3 / OWDF
 Depart Site 11-21-16

1700

0645 Jacket meeting: slips, trips, heat
 & Keeping Clean Temp:
 Sunny & Hot 86° 12-6-16

0700 collect gear at AECOM whrs

0940 Discharge Rain water on top of
 Plastic tarp

1133 Finish discharge water

1140 Begin sampling from Roll off
 Bin using 4" PVC Pipe 1/4" Pipe
 to collect sample. Pounded 1" PVC Pipe
 with hammer see print below ↓

Sample taken at 1:00, ERH154

8x4	20	20	20	20
32 samples	50	50	20	20
into	50	50	50	50
garbage bag	50	50	50	50
lined	50	50	50	50
5 gallon	0	0	0	0
bucket	0	0	0	0
	20	0	0	0
-2 gallon	00	0	0	0
ziploc	00	0	0	0
bags	00	0	0	0
	20	0	0	0

Distance from top of roll off to top of line

Plot in the Rain

- 1240 See Photo For Rolloff tent
 1350 Clean up at RHMW-08
 • See Photo of RHMW
 of Tarp & Tall grass
 1420 off site Red Hill
 14:34 Back at AECOM whrs
 • unload gear
 Trip Blank = ERH153

11/16 Dec 6, 2016 GMH

GW Sampling - Tunnel

12/12/16

- 0600 Meet at warehouse
 0630 leave warehouse for site
 0700 Arrive at Adit 3. Begin unloading
 and calibration
 0708 Calibrate Horika using Autocal
 solution - all OK
 0730 Calibrate ppb Rae s/n: 594905015
 10 ppm Isobutylene lot # 0127FA14
 exp 1/27/18; zero cal - OK; span cal - OK
 0745 Calibrate Lantec 2000t s/n 45853
 CO 50ppm, H₂S 25ppm CH₄ 2.5%
 Lot # CAP-412-4 exp 7/15/16
 CO₂ - 35%, CH₄ 50% No balance
 Lot # JAO-399-2 exp 9/26/2018
 0750 Check Air packs
 s/n 12083223 - 3000 OK
 s/n 12050018 - 3000 OK
 Calibrate 4-gas meter, MO2A003772
 H₂S 25ppm, CO 50ppm, Methane 50%, O₂ 19%
 0800 Trip blank ERH134 collected
 0810 DPH and Navy arrive. Contact
 to access Red Hill shaft has
 not showed up. Pete LaPlaca (Navy)
 (Navy) call S.NAVFAC. Someone

Dec GW Sampling - Tunnel 12/12/16

else is being sent out since person is sick

Give tailgate Safety briefing (to Tunnel team begins mob to RHMW2254-01. Outside team proceeds to first well.

0915 Navfac shows up to provide pump room access.

0930 Arrive at pump room well. Barometric press: 29.84

No CH₄ detected. See sample log.

1020 Collect sample ERH 135 (primary + MS/MSD) and ERH 137 (dup)

Note: changed bottles with MW-05 136 due to collection of VOAs marked ERH 137.

Accidentally collected extra samples for MNA parameters (MS/MSD/Dup)

1240 Sampling at RHMW2254-01 complete. Total sample time 2hr 20min

1305 Begin mob to RHMW05. Portable 1" bladder pump decon'd in warehouse prior to sample event. in accordance w/SOP I-F. Initial problem with pump. Pump

Dec GW Sampling - Tunnel 12/12/16

pulled and new bladder installed.

1405 Pump installed. Barometric pressure = 29.73. No CH₄ detected. Ambient PID greater than headspace. See sample log.

1520 1445. Collect sample ERH 136, primary at RHMW05

1520 Sampling complete. Total time 35min.

1540 Begin mobilizing equipment to RHMW01 for next day; not enough time to complete another sample

1635 Exit tunnel, demob equipment.

1655 Prop off IDW w/JK and proceed to warehouse.

1730 Demob equipment and samples.

1800 Receive call from Navy (PL) requesting assessment of warehouse by DOTT

1803 Call JK re: DOTT warehouse visit. Agree to receive DOTT at warehouse.

1825 DOTT arrives.

1900 All leave warehouse

 12/12/16

Dec GW Sampling - Tunnel 12/13/16

0600 Meet at warehouse

0615 Leave warehouse and meet onsite.

0650 Begin calibrations: (see 12/12 details)

0700 Horiba Antocal: OK

0705 ppb Rae: zero cal. OK; Span - OK

0712 Lamtec: zero cal + O₂ - OK; each parameter - OK

0721 Calibrate 4 gas meter: zero cal. OK; all parameters OK

0740 Check airpaks #223 & #018 - OK

0800 Receive call from Navy (PL) indicating an arrival time of 0800.

0800 TR gives safety brief for tunnel team: KE and RG (AECOM); PL (Navy); and Richard Takaba and Shawn (?) Fu (DOH)

Note: DOH does not have airpaks, lights and proper PPE

Weather - partly cloudy

Team begins mob to RHMW01.

0920 Arrive at RHMW01. Contractor in process of chipping/drilling wall and ceiling in vicinity of well. They indicate that it will be 10-15 minutes until

12/13/16

Dec GW Sampling 12/13/16

(cont) They are done at that location. DOH expresses concern about the dust. No CH₄.

0930 Begin prep around well

1000 Contractor completes work and is asked to delay additional drilling until sampling is complete. Barometric Press: 29.87

1040 Collect Sample ERH143 from RHMW01 (primary)

1220 Complete sample. Total time: 1hr. 40min

Begin mob to RHMW02.

1310 Arrive at RHMW02. CH₄ = not detected

Headspace = 0.0ppb ambient = 0.155ppb

Water has slight yellow tint

1435 Collect sample ERH144 from RHMW02 (primary)

1518 Complete sample. Total time: 43 min.

1530 Mobilize equipment to RHMW03 for tomorrow's sampling. Welding in area appears to be complete. Proceed to exit through Adit 3.

1645. Exit tunnel and demob from site.

1738 Arrive at warehouse.

1822 Leave warehouse.

12/13/16

Kit in the Rain

Dec GW Sampling Tunnel. 12/14/16

- 0600 Meet at warehouse.
- 0615 Leave warehouse for site
- 0645 Arrive at Adit 6 and begin calibrations (KE & TQ).
- 0650 Calibrate Horiba w/Autocal - OK
- 0656 Calibrate ppb RAE: zero-OK, span-OK
- 0704 Calibrate Lantec: zero-OK, span-OK
- 0717 Calibrate 4 gas meter: zero-OK, span-OK
- 0730 Check and confirm airpaks OK (#3223 and 0018)
- 0740 Navy (PL) calls to indicate they are running late, but will meet at Adit 6.
- 0810 Navy (PL) and DOH (Rich Takaba) arrive onsite. TW provides safety brief.
- Weather: Sunny, partly cloudy. ~74°.
- 0820 Proceed into tunnel. Tunnel entrance phone rings and PL answers. Security has concerns w/DOH entrant w/ paper pass and no badge for tracking purposes.

Dec GW Sampling Tunnel 12/14/16

- 0900 Arrive at RHMW03 and begin set up.
- 0920 Headspace = 0.096 ppb, ambient = 0.061 ppb; CH₄ = 0.0%; barometric pressure = 29.80" Hg
- 0940 PL and DOH leave to meet additional Navy and DOH members at Adit 6.
- 0955 Having issue with drawdown and reduce flow rate from 225 to 150 mL/min.
- 1015 Navy RPM (Tracy Sageibo), PL, and other DOH observers arrive. Navfac also comes by to inquire about sampling. They are planning to x-ray the tanks. They request that the samplers leave the area for 10 minutes. This is brought to the attention of the Navy RPM. Navfac is told to wait until after sampling is complete to begin any radiation work.
- 1035 Collect sample ERH 152 from RHMW03.

11/21/16

0800 - at warehouse. Pack up supplies to place pumps in RHMW02, 03, 05 and 09.

0845 - mob to site.

0915 - through Red Hill Gate to Adit 3. OB gives final site safety briefing.

Objective: Place pump in RHMW02, RHMW03, RHMW05, and RHMW09. Remove core boxes from RHMW08 and RHMW09.

Personnel: T. Vernon, R. Grannigan, Ci Beigel.

Weather: ^{Light} showers, breezy, High 70's.

1015 - mob into Adit 3.

1040 - place RHMW05 pump. Needed to repair tubing connection to pump.

1100 - place RHMW02 pump. Need to replace one of the screen bolts on the base of the pump - does not impact pump function.

1120 - place RHMW03 pump then mob out of tunnel.

1145 - out of tunnel. Cleanup then mob to RHMW09.

1210 - at RHMW09. Need to repair tubing.

1300 - complete placement of RHMW09 pump. Removed approx 18 inches of excess tubing from the well to prevent punching within well which has previously hung up the water level probe during previous events.

- Demobilize core boxes from RHMW08 + RHMW09.

1450 - Last set of core boxes offsite + mobilize to warehouse.

1530 - All core boxes have been offloaded at the warehouse. End of field day.

~~11/21/16~~

Dark, wind 10-15 NE, 70°, 80% humidity

12/12/16 (85)

Police #: (800) 473-0886
471-3393

0500 -

Started loading vehicles

0615 - left warehouse for site.

0645 - Onsite at Red Hill

0740 - Delay due to construction near RHMW-04 and 06

815 - Meet team for safety meeting

845 - Calibrate equipment PID and set up at RHMW-08.

Calibrate HTR-10: Nutritional Solution Lot # CG54130

PH: 3.95, 4.49 nS/cm, 0.00 NTU, 8.80 mg/L DO

0904 - WCU PID 1.3 ppm 15 min, wind sample NE, 78°, 80% humidity
methane 0.0%

0930 - Started pumping up water
see sample sheet

1050 - Started collecting samples

1130 - Finished sampling at RHMW-08

1140 - Demobilized from RHMW-08

1200 - Mobilize at MW-06
PID: 0.0 ppm methane: 0%

See sample log for details
1530 sample ERM 139

1409 finish sampling, demobe

1445 Set up @ MW-9, sunny, wind sample NE, 85°, 80% humidity

see sample sheet for details

note: Anticlockwise water discharge line

1655 sample ERM 146

1745 end sampling, demobe

1810 leave site

1830 @ user house

1900 leave warehouse, end of day

N
12-12-16

86 12.13.16 Dark, wind W-15 NE, 70°, 80% humidity

- 0545 AM meet KE, TV, TAE warehouse
- 0730 @ site, cal
- 0800 meet regulators @ site, tail gate
- 0820 @ HDMW 2293-03, sunny, no wind, 85°, 80% humidity
- 1050 sample ERM 149
- 1135 finish samples, demobe, to ADIT 3 to drop off eq.
- 1225 meet more regulators, to ADIT 3
- 1250 to MW-4
- 1300 @ MW-4
- 1430 sample ERM 138
- 1510 end sampling, demobe
- 1545 @ MW-7, sunny, wind S-NW, 85°, 80% humidity
- 1700 sample ERM 140
- 1805 end sampling, demobe
- 1820 leave site
- 1840 @ warehouse
- 1900 end of day

12.13.16

87 12.14.16 Vack, wind W-15 NE, 100°, 80% humidity

- 0550 AM @ warehouse
- 0620 leave warehouse
- 0655 on site @ DWDF, make, sunny, wind 10-15 NE, 85°, 80% humidity
- 0730 meet TV on site
- 0805 meet regulators on site
- 0915 more regulators on site
- 0930 start samples ERM 147 & 148
- 1105 end sampling, demobe
- 1150 sample EB, ERM 149
- 1200 sample FB, ERM 150
- 1230 to drop off IDW
- 1245 leave site
- 1315 @ warehouse, pack samples
- 1345 mt/kg leave for FedEx
- demobe
- 1400 end of day

12.14.16

Dec GW Sampling - Tunnel 12/14/16

1125 Sample complete. Decon water level w/ Alconox, alcohol and DI water. Begin to demob equipment.

1150 Exit tunnel via Adit 6. Call Team 2 to check status.

1200 Drop IDW off with Team and proceed to warehouse.

1240 Arrive at warehouse with samples. Help team prepare samples for shipping. Demob equipment and supplies.

1600 Leave warehouse, end of day.

~~12/14/16~~

~~[Signature]~~

Jan GW Sampling - Tunnel 1/9/17

0525 Calibrate YSI - pass (see calib. log)

0606 Calibrate miniRAE PID - pass

0630 Calibrate multi-RAE 4-gas - pass

0640 Calibrate GEM 2005 - pass

0730 Calibrate Data RAM -

0720 TR talks to Hensel Phelps (HP) regarding GW Sampling

Schedule. HP indicates they will be drilling and doing load testing around MWO1 today and tomorrow. TR told them we need to sample there on Wednesday. He relayed this information to staff working in the tunnel.

0745 Check air breathe-packs:

#12083223 - 3000 OK

16100358 - 3000 OK

12071665 - 3000 OK

JK-minis @ 0900

0805 Tony from Naufac arrives to let us into the shaft. He noted that the shaft manhole cover was not completely closed.

338-6023 cell for 474-4229 call when work done.

Jan GW Sampling - Tunnel 1/9/17
0815 PL (Navy) calls. They have badges and are on their way.

8040 DOTH and Navy ^{and MH} arrive. Conduct targets H₂S meeting. Present are:

Pete La Place - NAVFAC

Randy Hen - HDOT

Diamond Teachers - UH

0920 Discussion in field blanks w/ Randy Hen (RH) and when and where one should be collected. RH thinks it would be a good idea to collect one while sampling in RH Shaft 2254-01. Pete La Place to discuss w/ Tracy S.

Tracy states that PID readings are collected periodically during sampling. Also, on split sampling, RH wants to have bottles numbered.

0925 Discuss w/ Teresa collection of Nitrate and Ferric Iron. No ship today (?). Issue is not in order according to SOP

Jan GW Sampling - Tunnel 1/9/17
1000 Collected Trip blank ERH196

1030 Parameters stable. Begin collecting Sample ERH 161 (primary, MS/MSD, ~~and duplicate~~ + full split) and ERH 162 (duplicate + split)

1035 First VOAs collected through flow cell. Samples discarded and re-collected.

1130 Finished collecting VOAs with available vials and waiting for more vials before proceeding. Paused pump while waiting. Note: for split samples alternating samples collected are being put into each cooler.

1200 Send KE to tunnel entrance to determine status of vials.

1210 Pumps turn on in pump house

1220 Resume VOA sampling

1230 Change flow rate from 100 mL back to 290 mL/min for remaining samples.

1415 Pumps turn off.

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GW Sampling Tunnel 1/09/17

1540 Complete sampling at RHMW2254-02. Diamond (ult) Collects samples for ult.

1545 Collect sample ERT197 - ambient field blank using DI water (lab grade) from J unpreserved trip blanks and transferred to VOA vials preserved with HCl

1620 TR and JJJ demob from tunnel. KE & JK mob equipment to RHMW05.

1730 KE and JK exit tunnel and demob.

1800 Arrive at warehouse and drop off samples

1830 leave warehouse - end of day.

~~1/9/17~~

~~[Signature]~~

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Jan GW Sampling - Tunnel 1/10/17

0455 Calibrate Landtec Gem 2000 s/n 6M08010/05 using CO₂ - 35%, CH₄, 50% N₂ balance lot # EAP-399-4 exp 4/15/19 No H₂, CO, and H₂S sensors.

O₂ span changed from 0.1 to 20.9 Zero - OK, Span OK

0510 Calibrate MultiRAE PGM6228 s/n 32pb

Zero Air w/ charcoal filter H₂S - 25ppm, CO - 50ppm, CH₄ - 50%, O₂ 19% lot # 984551 Exp Oct 2017

Span Cal - OK 100% Isobutylene - 100ppm lot # 987369 EX Jan 2019

0525 Calibrate MultiRAE Plus R11463 s/n 527439

Zero Air w/ charcoal filter CO - 50ppm, H₂S 25ppm CH₄ 25 lot # FAQ-412-4 exp 10/25/2018

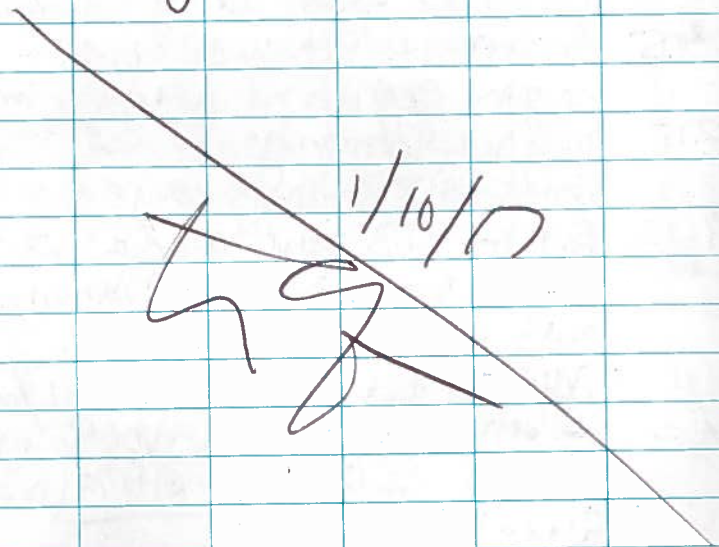
Span Cal - OK 100ppm Isobutylene lot # EAQ245 1002 VOC cal - OK

0515 Arrive at warehouse

- Jan GW Sampling 1/10/17
- 0530 Calibrate YSI #
See calibration log.
- 0630 Calibrate PID #
See Calibration log
- 0700 Leave warehouse for site
- 0705 TR arrives onsite
- 0725 TR Calibrates Data Ram #5804
Zero OK
- 0730 KE and MT arrive onsite
Weather: Partly cloudy ~ 69°F.
No breeze.
- 0830 Navy Reelyn and DoH (Richard Takaba) arrive onsite. TR gives safety briefing.
- 0850 Team Tunnel mobilizes to MW05
- 0930 Arrive at MW05 and set up.
- 0940 PID has low flow issue. Also use PID on 4 gas meters.
- 0945 Start pumping
- 0955 train comes by.
- 1000 Sample ERH163 collected for trip blank at MW05 in tunnel
- 1030 ~~Stew w/ HP advised in pipe~~
Stew w/ HP advised in pipe
Stew w/ HP advised in pipe
- 1045 Pauli Electrician invests more pipe with some back etc

- Jan GW Sampling 1/10/17
- 1030 Sample ERH164 collected from RHM05.
- 1155 Sampling complete. Begin demob.
- 1230 JK and KE take samples out.
- 1235 Prometheus - Drilling Contractor Govi Tilly 927-8521 Spawbos
Indicated drilling would occur on Wednesday upwind of MW01 TR told them sampling would occur ~0900-1500 and drilling cannot take place during sampling
- 1305 Arrive at RHMW02 and begin set up
- 1315 Begin purging
Note: PID readings range from 2.1 to 4.3 due to adjacent contractors working downwind ~25 feet away
- 1415 Adjusted flow from 250 mL/min to 100 mL/min for VOC sample collect sample ERH174 from RHMW02
- 1440 Adjusted flow back to 250 mL/min

- Jan GW Sampling - Tunnel 1/10/17
- 1540 End sample time and begin demob.
 - 1605 Leave MW02 for exit through Adit 3
 - 1645 Meet JK at Adit 3 and demob equipment
 - 1700 TR leaves site, KE leaves for warehouse
 - 1730 KE arrives at warehouse. Leave warehouse. End of day.



- Jan GW Sampling 1/11/17
- 0440 Begin gas calibrations. See 1/10/17 for calibration gas details
 - 0455 Begin cal for MultiPac #32pb Zero w/ charcoal-dk, Span-dk, VOC-ok
 - 0505 Begin cal for Lantec GM08090 Zero-ok, Span ok
 - 0515 Calibrate Data Ran #5804. Cal ok
 - 0640 Leave for warehouse.
 - 0710 Arrive at warehouse and pick up equipment.
 - 0720 Leave warehouse for site
 - 0740 Arrive at Adit 3. Meet Adam and Gwin to offload
 - 0800 TR gives safety brief to AM and JK
 - 0830 AM and JK got to Adit 6 to mob equipment from MW03 to MW02.
 - DOH and Navy arrive on site.
 - 0845 TR gives safety brief to PL (Navy) and Richard Takata (DOH)
 - 0855 TR, DOH, and Navy enter tunnel and mob to MW02.
- Weather: Partly cloudy ~71° F.

- 1/11/17 Jan GW Sampling Tunnel
- 0930 Arrive at MW01. Prometheus is drilling ~ 25 ft toward Adit 6 from MW01. Wet drilling methods are being used, dust is being monitored with DataRam.
- 0940 Peak dust = 0.401 mg/m^3
TWA = 0.111 mg/m^3
- 0945 Rustoleum Professional inverted marking paint (yellow) being sprayed up wind of sample location. Label notes contain xylene and toluene.
- 0950 Move upwind temporarily during drilling due to mist spray upwind.
- 0955 TO goes to MW02 to retrieve equipment.
- 1000 JK and AM meet. TO and AM bring equipment to MW01
- 1020 Begin set up at MW01.
Note: Water used for mist has hand soap added to it.
- 1032 Open well and get water level.

- Jan GW Sampling Tunnel 1/11/17
- 1100 Start pumping. See Sample log
- 1105 Drilling begins
Dust = 0.050 mg/m^3
TWA = 0.082 mg/m^3
- 1115 Thin layer of dust observed in sampling area
- 1121 Dust = 0.280 mg/m^3
TWA = 0.082 mg/m^3
- 1140 Drilling stops
Dust = 0.078 mg/m^3
TWA = 0.084 mg/m^3
- 1200 Trip blank ERH 171 collected for MW01 samples in tunnel
- 1205 Sample ERH 172 collected from MW01
- 1210 Prometheus stops work and leaves site. No work conducted at the adjacent site during sampling.
- 1310 Prometheus sweeps work site
Dust = 1.033 mg/m^3
TWA = 0.083 mg/m^3
1L Amber bottles being sampled.

- Jan GW Sampling Tunnel 1/11/17
- 1320 Swapped N₂ tank.
- 1330 Prometheus starts drilling again.
- 1340 Collect sample [ERH200] for MW01 ambient blank. Wet drilling with mist begins. Ambient blank collected using new 2-gallon bottle of Menchville DI water.
- 1415 Drilling at adjacent site stops. Still sampling amber bottles
- 1440 Hensel Phelps comes by to notify team that Adit 3 door is broken.
- 1520 JK arrives onsite. Adit 3 door still broken. JK and PC mob samples to Adit 6.
- 1535 DUST = 0.078 mg/m³
TWA = 0.100 mg/m³
Demob from MW01 to Adit 6.
- 1605 Exit Adit 5.
- 1635 TR leaves site.
- 1645 AM leaves site to go to MW09
- ~~1715 Arrive at~~
TR 1/11/17

- Jan GW sampling - Tunnel 1/11/17
- 1845 AM leaves MW09 to demob to warehouse
- 1915 AM arrives at warehouse to drop off samples and demob.
- 2015 AM leaves warehouse, end of day.

~~1/11/17~~

- Jan GW Sampling - Tunnel 1/12/16
- 0500 Calibrate Lantec # GM08090
Zero - OK, Span OK
- 0505 Calibrate DataRam 5804
OK
- 0515 Calibrate MultiRae # 32pb
Zero - OK, Span - OK, VOC - OK
- 0525 Calibrate Mini Rae # 592-905971
Zero - OK Note: previous span set to 43. Changed to 100,000 ppb. Span - OK
- 0535 Calibrations complete. Self
- 0545 Arrive at warehouse
- 0550 Calibrate YSI - See log.
- 0700 Depart for site.
- 0725 AM & TR arrive at Adit 5
- 0735 Airpacs checked:
#3223 - 3000, #1665 - 3000 - OK
- 0805 Talked to Hensel Phelps and Naufac Sup Operator regarding access to Adit 3. They anticipate it not getting fixed for 1-2 weeks.
- 0825 PL (Navy) calls to indicate Mel will be substituting

- Jan GW Sampling Tunnel 1/12/17
- for Reelynn and They are delayed due to no one at the gate and then a supervisor was called to confirm badges.
- 0830 Navy - Melvin Muraoka
DOH - Shaobin Li
UH - Danny Powell
Arrive on site. TR gives safety briefing - see log.
Weather: Partly cloudy ~ 72°F
- 0840 Begin mob into tunnel to MW03.
- 0905 Arrive at MW03 and begin setup.
- 0920 Begin purging.
- 0935 Reduced flow rate to 100 mL/min due to drawdown.
- 0945 Collected sample ERH180 trip blank for tunnel - MW03.
- 1015 Collect sample ERH181 from MW03
- 1115 Collect sample ERH203 ambient blank using 1 gallon of (cont.)

- Jan GW Sampling - Tunnel 1/12/17
- 1115 (cont.) DI water from Merckvren.
JK arrives on site
- 1240 Sampling complete, JK
mobi lizes samples out
of tunnel.
- 1300 Demob out of tunnel.
- 1330 Exit tunnel.
Dolt follows 12 + samples
(taken by MH in truck)
to warehouse.
- 1400 Arrive at warehouse to
demob
- 1600 Leave warehouse - end of
day.

~~1/12/17~~

~~JK~~