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"Rite in the Rain"®

ALL-WEATHER

JOURNAL

No. 391

Keizer Hg

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CONTENTS

PAGE	REFERENCE	DATE

8/12/16 Keizer Mercury

1511 START EN receives notification of mercury response in Keizer, OR @ Nyatt Apartments 581 ~~609~~ Manbrin Dr N Keizer, OR 97303 Sam OSC BW. OSC RF will be responding out of Portland.

1520 START EN contacts OSC RF OSC RF requests 2-3 START.

1530 START EN contacts START BM informs EN + EC will respond out of Seattle + 1 person from PDX.

1545 OSC JF contacts START EN + he will also be mobilizing Request vehicle from EPA warehouse to respond in.

~~EP~~ START RW will mobilize from Portland & meet OSC RF at the site

1700 START EC departs EPA warehouse.

1730 START EN departs EPA warehouse.

2023 START EN + EC arrive on site. Area where mercury has been spilled

8/12/16 Keizer Mercury

cat has been excluded with barrier tape. START EC + RW screening inside barrier with Lumex air monitor. OSC RF + JF meeting with local Fire Dept. & property manager. EPA ~~with~~ will screen apartments of tenants with parking spaces and garages within barrier and any tenant with children or requests screening with verbal consent.

2120 EPA + START depart site

8/13/16 Keizer Mercury
828 START arrives onsite with OSC Fowlow. Priorities to complete are Apartments, walkway, restorions, vehicles adjacent garages, subject garage, spill area, former resident, + storm drains (2 minimum).
0845 Property manager on site Representative from NRCES Discussing who will be heading up cleanup. NRCES + Property manager are not sure how the contract to complete the work will ~~work~~ an be sorted out.
902 (b) (6) [redacted] (b) (6) [redacted]
Toyota Tacoma from unit 607 allows vehicle to be unlocked for screening. Property manager informs START EN that unit 603 has white thunderbird that needs to be screened as well. NRC staff on scene Randy Legler + Robert "Bob" Ransdell.
920 START RW informs the RSD $ 3%

8/13/16 Keizer Mercury
for Lumex below the 25% threshhold.
925 Representative from city agrees to back NRC to initiate the mercury response.
Safety brief for START - limit cross contamination and back out if readings are above 10 000 ng/m3
950 START RW + EC screen Unit 607 Toyotatacoma with Lumex
1010 START RW has ~~clean~~ completed screening Toyota Tacoma and ~~[illegible]~~ readings observed inside and outside vehicle below 100ng/m3
1015 City has not agreed to back NRC fully but NRC has a crew ~~in~~ an enroute to assist in the removal of visible mercury
1115 (b) (6) [redacted] gives verbal permission to screen vehicle and her unit 603 (Ford Thunderbird)
1145 START EN coordinating with property manager (b) (6) [redacted] to screen 611

8/13/16 Keizer Mercury
1150 START EC + RW screening unit 611 that is currently vacant. Previous tenant moved out approximately 2 weeks ago and the garage unit associated with 611 is where the mercury spill occured.
12:05 (b) (6) [redacted]
from unit 615 His new car is in the garage unit. New car is a Ford Focus.
1215 NRC crew arrives on scene 4 additional personnel with a response box truck + support truck. Crew readying mercury vacuum and support equipment.
1245 NRC crew vacuuming visible mercury.
1330 NRC have completed vacuuming mercury + have applied mercury absorbent dust and have vacuumed the dust where it was spread around + on gell.

8/13/16 Keizer Mercury
NRC to dust unit 615 ~~office~~ garage with mercury absorbent dust sweep to the edge and vacuum.
1405 Tenant of 609 arrives to open garage unit to be screened.
1419 OSC JF informs NRC that bikes need to be put in sun to attempt to decontaminate from garage 609.
1445 NRC vacuuming garage unit 611 (G611). visible mercury beads observed by START.
1512 Got verbal permission to screen 605.
1555 NRC Randy Logler discussing logistics with OSC JF. NRC is near their limit without having a full contract in place
1635 START EC + RW screening bikes from garage 609. NRC breaking down their mercury vacuum and decon equipment. Previous ~~tenant~~ ~~owner~~ owner on phone with OSC JF and admitted to OSC JF he is

8/13/16 Kaizer Mercury

contract responsible for the spilled mercury. START will attempt to accompany EPA to screen his new residence with a Lumex.

1700 NRC + START securing site and packing up equipment for the day. Plan ~~tommor~~ tomorrow is to rescreen garages affected and asphalt in front of garages where spill occurred to determine if decon measures were effective.

1720 START departs site for the day.

8/14/16 Kaizer Mercury

0930 START arrives onsite and begins setting up equipment and has safety briefing

1000 START begins screening mercury contamination area.

1128 START EN + EC have completed survey and done some minor containment of free mercury found in 613 garage along wall from side shared with 611. OSC JP contacting NRC RL to inform him of START findings and clean up approach suggestions on how to move forward if contract with property insurance and NRC goes through.

1150 KJ News on scene

1320 START arrive with OSC at ~~[illegible]~~ 5960 4th Ave to screen new residence.

~~14~~ 1320 Completed screening Washer, Vacuum Cleaner, & garbage ~~[illegible]~~ can in garage above 15000 ng/m3. Home owner consents to garbage can and vacuum

8/14/16 Keizer Mercury
continued: being taken by EPA & to be added disposal items
1428 START EC + RW screening garage of 603. levels below 200 µg/m3. START EN collects soil screen samples from storm drain ~~near~~ in between the two garage buildings (603-607 & 609-615).
1532 START EN analyzes sample from storm drain between garages and observes reading of 45,000 ng/m3 START collects sample from storm drain down stream from ~~other~~ storm drain between garages. Sample screen readings at 120 ng/m3
1620 START securing site for the day.
1700 START depart site.
1830 START EN sends updated Polrep to ~~OSC~~ OSC JF.

8/15/2016 Keizer Hg.
0815 Eric Nuehlms (EN), Erin Cafferty (EC), Jeff Fowler (JF, OSC), and Rijan Whitchurch (RW) meet up at hotel and depart for the site.
0845 On site. UV is high 90°F today, no precip forecasted. work plan - will be defined when NRCES arrives. There is residual cleanup in garages #611, 613, 609 plus the asphalt pavement - vac, duct tape techniques likely. OSC Fowler & EN will depart for Seattle today. OSC Richard Franklin (RF) to replace OSC JF. Held site safety mtg conducted by EC. H&S Plan / Hosp Map posted outside PERT:
Rijan Whitchurch 8/05/16
[illegible] 8/15/16
E Cafferty 8/15/16
0858 Garage #615 - NFA per EN.
[illegible] 8/15/16

8/15/16 Keizer Hg.

0910 City of Keizer public works environmental rep (Elizabeth Sagmiller) on site to get an update from the OSC. She is ok with work being done, but requests periodic updates.

0[illegible] E[illegible] starts up Lumex A59656 - R% = 3. OK to use.

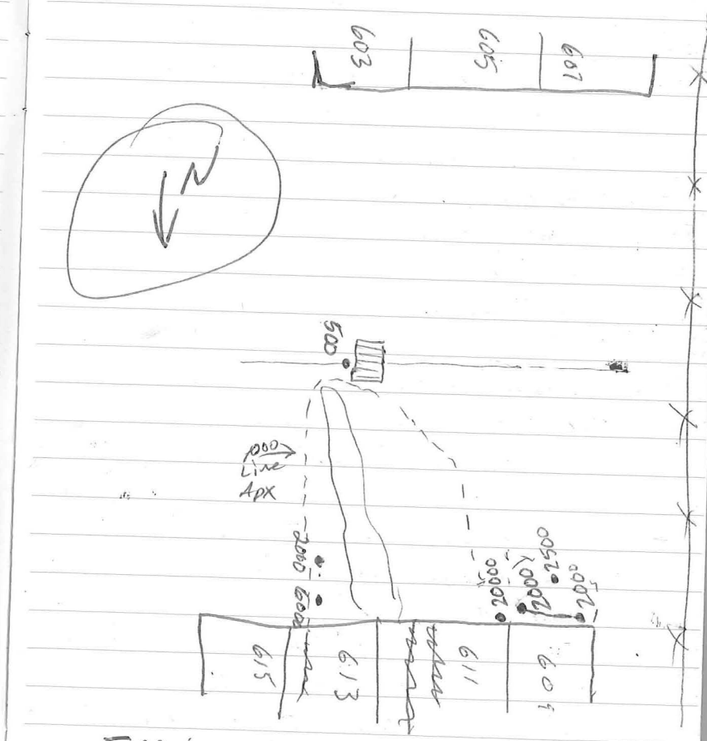
0945-1000 · Eric Nuchims scans asphalt w/ Lumex and tightens up "1000 ng/m³" boundary. Then we adjust hot zone tape accordingly.

1030 ~~EFO~~ NRCES begins cleaning out catchment basin between #611/#603 [illegible]

1050 ~~EFO~~ NRCES finishes cleaning catchment basin, START checks! RW + EN see bead potential) but unable to pick it up. Lumex ~1000 ng/m³ in vault. ~~EPRS~~ NRCES will clean some more, then let it ventilate today.

[signature] RDW 8/15/16

~~6/1~~ 8/15/16 Keizer Hg



E Nuchims Lumex Measurement 0945 · 1000

[signature] Whitchurch RDW 8/15/16

8/15/16 Keizer Hg

1130 - R. Whitchurch visually examined #611 Garage and found beads under OSB wall board (wall between 611/613) and beads in gap between asphalt & concrete of Garage #611.

1156 - Ambient air at entrance to EZone is 122 ng/m³ w/Lumex. NRCES is vacuuming threshold of Garage #611.

1200 Erin Cafferty recording treatment, removal & monitoring data in her logbook. We had a ~15-20 min lunchbreak at the site. OSC Franklin on site early afternoon, OSC Fowlow & EN offsite ~ 2-2:30pm. At about 16:30, RF and KW head over to (b) (6) house at 5960 14th Ave NE Keizer, OR - (b) (6) (b) (6) - to monitor the vehicle for Hg and to get make/model info for washer.

RDW 8/15/16

8/15/2016 Keizer Hg

1645 Lumex screening results of black pickup truck at (b) (6): (ng/m³)

Air inside truck = 70,000 to 80,000

Floor mats = 24,000 to 76,000

Air inside after 5 min = 4,000 to 7,000

1650 Removed floor mats to plastic bag - will take back to NRCES for disposal. Continue assessment w/o mats in truck:

Backseat bench = 50,000 to 76,000

Backseat floor carpet = 60,000 to 83,000

Front Seats = 2,000 to 3,000

Pedals = 1,400

Front Carpets = 2,000 to 4,000

1655 Beads observed in back floor passenger side carpet. Photographed them. OSC Franklin discusses with owner - he will bring vehicle to site tomorrow for more vacuuming & possible fabric removal.

1715 Got model info of washer.

1735 Returned to site. Shutdown RERT.

1830 At hotel, finish debrief w/ OSC Franklin.

RDW 8/15/16

8/16/2016 Keizer Hg

0745 START's Erin Cafferty (EC), Ryan Whitchurch (RW), and Rachel Locke (RL) meet at hotel to depart to the site.

0805 Arrive on site. NRCES not here yet. Park RERT and fire up generator and get equipment ready. H&S tailgate meeting. Wx = 90°F Hi, No precip.

Ryan Whitchurch 8/16/2016
EC 8/16/2016
Rachel Locke 8/16/2016

0945 NRCES crews still prepping for work. But vent fan has been deployed to circulate air into the storm water catchment basin. Monitor effluent air w/ Lumex and readings ~100 or less ng/m³. Vault is still damp (natural).

1028 NRCES concrete saw is ready. START is still completing survey of asphalt & Garage 611 w/ Lumex. NRCES working on getting MERC VAC OUT → CONT. RDW 8/16/16

8/16/16 Keizer Hg

1028 CONT → START medical monitoring station set up except Body wt. scale → it is dead despite fresh battery. Will emphasize hydration in lieu. START will suit up Level C w/ merc cartridges to monitor saw cut dust generation w/ Lumex. SD basin still being ventilated.

1130 NRCES is vacuuming asphalt in front of #611 garage. Microbeads found in asphalt. Concrete cutting postponed.

1148 EPA Judy Smith passes along request to monitor Apt 599 - (b) (6) [redacted] (b) (6) [redacted]

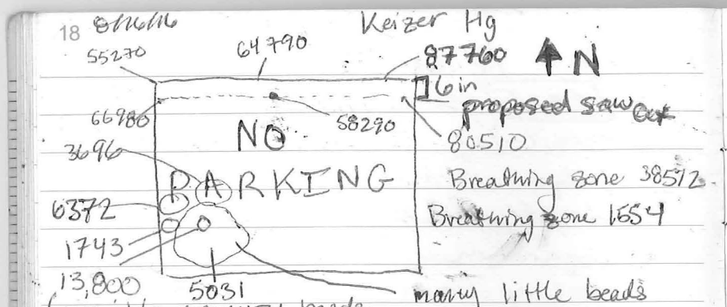
13:03 Ryan taking readings with Lumex after NRCES crew finished vacuuming site

inside vault (center)	464
floor vault	1706
top lip of vault	1161
Driveway on lower	6372
'Bead' 'P' reading	1743

(diagram on pg 18)

8/16/16

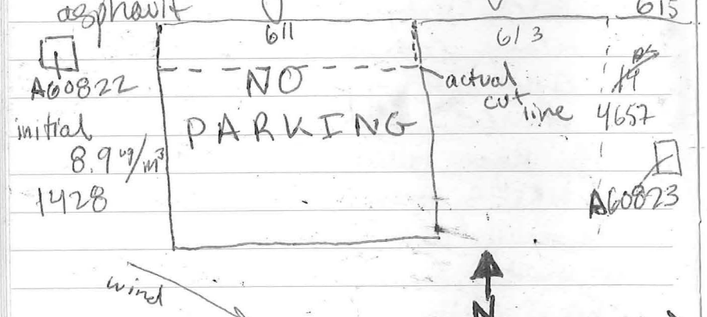
8/16/16 Keizer Hg



Crack between concrete lip of garage and asphalt top left 55270 middle 64790 top right 87760

Proposed cut line: top left 66980 middle 58290 right 80510

13:54 Deployed Data Rams for air monitoring while cutting out asphalt



Data Ram A60822 deployed upwind (8.9 ug/m3)
A60823 deployed downwind

Robert Zahn 8/16/16

8/16/16 Keizer Hg

1400 Lumex up wind reading 1428
Lumex downwind reading 4657
(Lumex) Worker breathing zone 1575
Pert breathing zone 287
Ambient air 181 with spikes upto 1075 after work finished.

1412 Lumex reading at ground level of cut was 3,820 after work stopped

1420 A60823 initial reading 9.9 ug/m3
A60822 initial reading 9.1 ug/m3
- readings prior to NRCES cuts asphalt up to structure of 611.

1429 After cutting Lumex readings
4407 breathing zone upwind
22390 @ ground level of cut
102 breathing zone upwind (SW corner of No Parking zone)
50 breathing zone downwind near PERT
467 breathing zone downwind near A60823

15:40 Pert breathing zone 122
Worker breathing zone 485
Worker low-level breathing zone 151170
Excavation (below asphalt) 68450
Breathing zone upwind (near A60822) 330

Robert Zahn 8/16/16

8/16/16 Keizer Hg

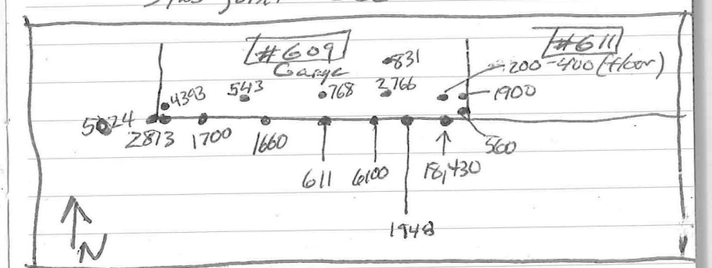
1545 Breathing zone downwind 161 (near #60823)
Storm drain 458
storm drain bottom 1019

1557 Monitor Garage #609
Outside ambient = 2,200
Inside ambient = 4047, peak ~5,000
Pink bike tire = 1265
Black "vertical" bike = 3970
Green trike = 1275
Black trike = 1583
~~Red trike = 1320~~
Red bike = 1320
Bike Seat = 1,100
Black bike rack = 699
"Bones" bike rack = 1688 - 1800
Ambient indoor + 14 = 684
Inside baby clothes bin = 2050 (purple lid)
Inside " " " = 1652 (gray lid)
" bin 1144
" " 1058
" " 958
" " 1062
" " 613
Luggage 880
Basket under luggage 767

8/16/16

8/16/16 Keizer Hg

1557 Garage #609 [CONT.]
Bike helmet = 867
SE Garge Corner = 5,606
Flow near that corner (~4-6" away) = 200-400
~6" wall base away from corner = 1,900
Toolbox inside = 924
Fan = 176
Slab joint = 586



Metal shelf feet = 1858

8/16/16

1655 Front of Apt 613
59 front step
55 ambient air
41 front mat

1705 Lumex reading garage 605
110 ambient air outside
53 ambient air inside
39 east corner (front)] crack between
53 middle (front)] garage & asphalt

8/16/16

8/16/16 Keizer Hg

69 west front crack between concrete & asphalt

35 east
41 middle
57 west
] inside concrete floor of garage

51 front red bike tire

54 front blue/wt bike tire

56 ambient air back of garage

17:09 Picture taken of inside of garage 605

17:11 297 Ambient air west (upwind) of garage 611

5 Ambient air near A60822

70,680 Excavation of asphalt

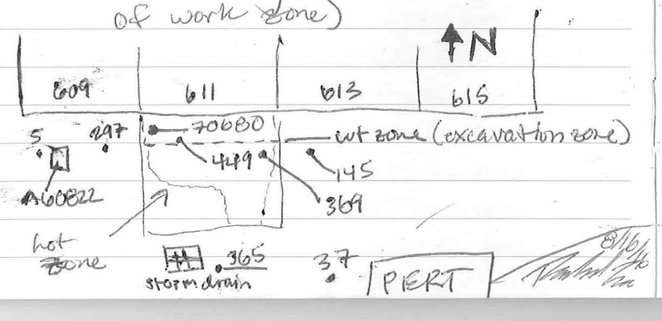
449 Inside work zone ambient air

365 Ambient air south (near storm drain)

145 Ambient air east of garage 611

369 Ambient air east of garage 611 (but within hot zone)

37 Breathing zone near PERT (SE of work zone)



8/16/16

8/16/16 Keizer Hg

1750 START, has PERT nearly packed up. OSC RF finishing up inside. RL & EC secured the "hot" (15,000ug/m³) trash bin with caution tape (acceptable per RF).

1810 START off site for dinner.

1930 Back on site. Retrieve PERT, secure site, back to hotel.

8/16/16

8/17/2016 Keizer Hg.

0740 Depart Hotel for site.

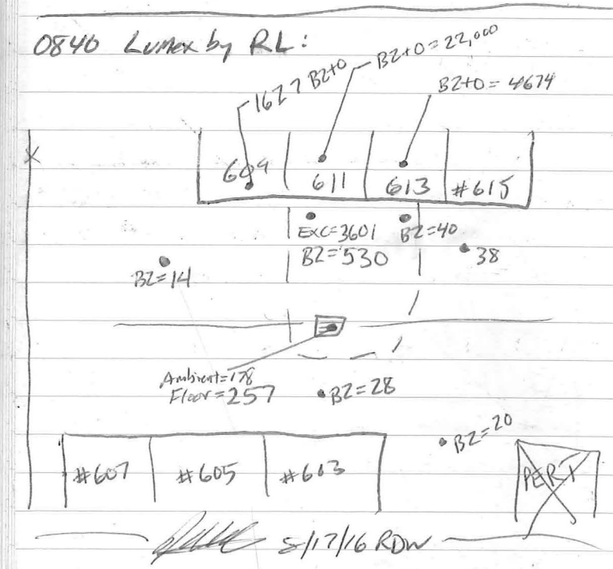
0830 PERT set up on site. H&S meeting by Erin Cafferty (verbal) HASP posted outside PERT. Wx= 86°F Hi, No Rain, 8 MPH wind. Work= Truck carpet removal, trash bin recon, exc. air monitoring.

[signature] RDW

[signature] EMC

[signature] RAL

0840 Lumex by RL:

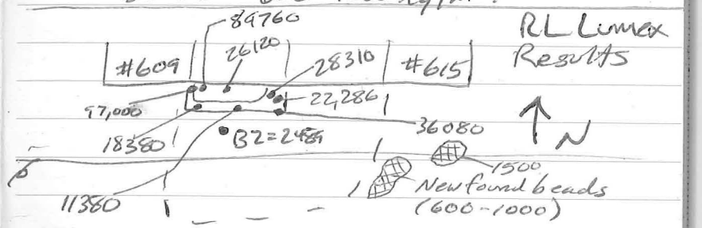


[signature] 8/17/16 RDW

8/17/2016 Keizer Hg

1025 Found beads outside taped off area on asphalt. NRCES targets micro-vac there. Lumex on these beads = 600-1000 ng/m³.

RL Lumex Results



1040 START looking for additional beads while NRCES finishes pulling asphalt out of cut area. EC offsite for supplies. Garbage Truck (Loren's Sanitation - 393-2262) arrives - talked to them so they didn't empty the 15,000 ng/m3 trash bin. (Note - RW spoke w/ E Lindeman this morning - confined space permit not necessary for this size trash bin - just a spotter outside. Also checked Galaxy Tote (NRCES's). It is UN rated container.

[signature] RDW 8/17/16

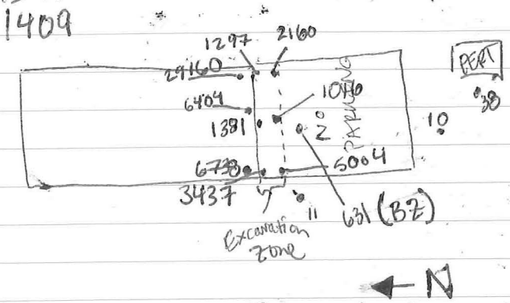
8/17/2016
~~8/16/2017~~ Keizer Hg

1300 OSC Franklin offsite, the lid set up an appt for us at 1630 at (b) (6) [redacted] house to remove mercury from the truck. Also, finished bead search around south and east perimeter of the hot zone. Found 14 more bead locations. NRCES will spot clean w/ micro tool on mercvac. NRCES also sprayed sulfur mercsurf in the excavation before lunch. They are back from lunch now and suiting up - will vac beads in Garage #611 (expansion joint, along wall plate) first.

1315 START lunch break.

1345 end start lunch break. R.Whitehead 8/16/16

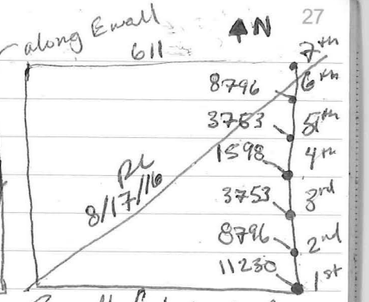
1409



R.Whitehead 8/23/16

8/17/2016
~~8/16/16~~ Keizer Hg

11230	1st stud along	along E wall 611
8796	2nd stud along	
3753	3rd stud along	
1598	4th stud	
1603	5th stud	
7209	6th stud	
9827	7th stud along E wall (at joint of concrete slabs)	
19620	center of concrete slab	
8056	west end along creek	
9163	6th stud	(West wall)
5013	5th stud	
1721	4th stud	
3722	3rd stud	
3616	2nd stud	
3577	1st stud	
4808	1st center cement	center of garage (moving south to north)
1482	2nd center cement	
	3rd skip	
2405	4th center cement	
1450	5th center cement	
7239	6th center cement	
1812	Ambient (inside garage)	



R.Whitehead 8/23/16