Armstrong, Kathy

From: Huyser, Matthew
Sent: Monday, August 12, 2019 5:53 PM
To: Scott Reynolds
Cc: Marshall, Frances (Fran)
Subject: RE: Able PM

I just checked the manual, it's a 15 min TWA

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Monday, August 12, 2019 5:34 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Cc: Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>
Subject: Re: Able PM

If I understand the question correctly , A one hour (or 24 hour)average of the instant readings or 1 and 24 Hour averages of the TWA..?

Correct to assume the TWA is already a (rolling) 8 Hour Average ?

If so , I'd go with the averages of the instant readings.

I suspect the 1 hour would be most useful as operational data and averages as short short as 8 hour to illustrate the variability throughout the day, as met conditions change(day/night/wind shifts) and as work at the site contributes to improvement.

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Monday, August 12, 2019 4:51:36 PM
To: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Cc: Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>
Subject: RE: Able PM

*** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***

Do you think using the PM2.5 Instant or PM2.5 TWA that the instrument provides to run the 1Hr and 24Hr?

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Monday, August 12, 2019 12:24 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Cc: Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>
Subject: Re: Able PM

Agree with sticking to 2.5 .

For the retrospective category I've just been using the 24hour average of all reported concentrations(major smoothing..) If we ,report short term info I lean towards something like 'Highest 8Hr(TWA) for the period' .

Certainly no less than 1Hr average. I think the uncertainty in the 2min is more useful to us than informative to the public.

Prefer nothing less than 8 for external

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Monday, August 12, 2019 10:33:27 AM
To: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Subject: RE: Able PM

*** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***

Scott,

Our Dusttrak outputs a PM2.5, PM10, RESP, Total direct reading and a TWA reading for each.
The database is running a 2min, 1hr and 24hr average on the PM2.5 but I don't know whether its from the direct reading or from the TWA

I'm trying to supply better data in the summary table report. Which do you think is best?
What source from these should we use for range and peaks? The direct reading or the instrument's TWA?
Likewise, what source should we calculate the 1hr and 24hr average from?

The PM2.5, PM10, RESP and Total are all nearly identical so I think it's fine to just stick with the PM2.5
However, there is some smoothing in the TWA where the direct reading is more sporadic

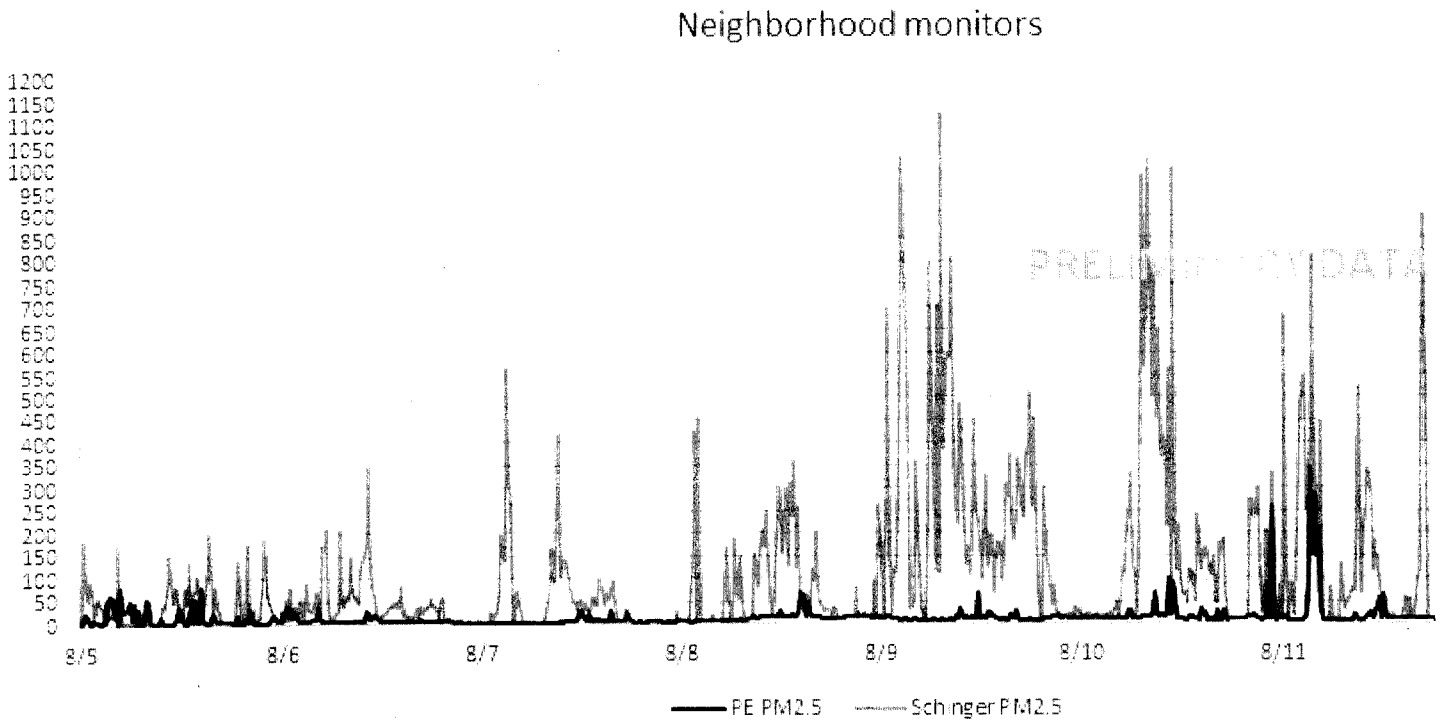
Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Monday, August 12, 2019 9:07 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; thompsrb@dhec.sc.gov; reecemc@dhec.sc.gov; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Frederick, Tim <Frederick.Tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; shealyrg@dhec.sc.gov; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Pinckney, Jennifer M. <pincknjm@dhec.sc.gov>
Subject: Able PM

Yesterday's 24 hour averages (Aug 11 Midnight to midnight)

Palmetto Exterminators 28 ug/M3 (Moderate)

Schinger 140 ug/M3 (Unhealthy)


Neighborhood monitors
1200
1150
1100
1050
1000
950
900
850
800
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
8/5
8/6
8/7
8/8
8/9
8/10
8/11
PE PM2.5
Schinger PM2.5

Armstrong, Kathy

From: Huyser, Matthew
Sent: Monday, August 12, 2019 5:13 PM
To: Franco, Benjamin
Subject: FW: Spot Forecast

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: National Weather Service <chs.skywarn@noaa.gov>
Sent: Monday, August 12, 2019 9:01 AM
Subject: Spot Forecast

```
FNUS72 KCHS 121300
FWSCHS

Spot Forecast for Able Contracting Fire...USEPA R4
National Weather Service Charleston SC
900 AM EDT Mon Aug 12 2019

Forecast is based on forecast start time of 0900 EDT on August 12.
If conditions become unrepresentative, contact the National Weather
Service.

.DISCUSSION...
A stationary front over southeast Georgia will dissipate through
tonight. Drier high pressure will briefly build from the north on
Tuesday, before a cold front drops into the area late Wednesday
and lingers into this weekend.

Fog potential for tonight: Low.

.REST OF TODAY...

Sky/weather.........Mostly sunny. Slight chance of showers and
                     thunderstorms early in the afternoon.
Chance of pcpn......20 percent.
Max temperature.....Around 92.
Min humidity........62 percent.
Max apparent temp...106.
Surface winds.......Light winds becoming east 7 to 9 mph in the
                     afternoon.
Mixing Height.......Max 4200 ft AGL.
Transport Winds.....East 6 to 10 mph.
Pcpn amount.........0.00 inches.
Inversion End.......0900.
```

TIME (EDT)	9AM	10A	11A	12P	1PM	2PM	3PM	4PM	5PM
Sky (%).....	38	42	45	47	49	49	48	46	43
Weather type....						RW	RW	RW	RW
Tstm cov.....						SCH	SCH	SCH	SCH
Chc of pcpn (%).	10	10	10	10	10	20	20	20	20
Temp.....	83	85	87	89	91	91	91	91	91
RH.....	82	77	72	68	62	62	62	62	62
Aparnt tmp (F)..	92	96	99	102	103	103	103	103	103
Surface wnd dir.	NE	NE	NE	E	E	E	E	E	E
Surface wnd spd.	4	4	4	7	7	8	9	9	9
Surface wnd gst.	6	6	6	12	12	14	14	14	14
Mix hgt (kft)...	1.7	2.2	2.8	3.2	3.7	4.2	4.1	4.1	3.5
Transp wind dir.	E	E	E	E	E	E	E	E	E
Transp wind spd.	6	6	6	8	8	8	10	10	10

.TONIGHT...

Sky/weather.....Partly cloudy.
Chance of pcpn.....10 percent.
Min temperature.....Around 75.
Max humidity.....100 percent.
Max apparent temp...102.
Surface winds.....Southeast winds 6 to 9 mph early in the evening becoming light.
Pcpn amount.....0.00 inches.
Inversion Begin.....2100.

TIME (EDT)	6 PM	8 PM	10 PM	MIDNGT	2 AM	4 AM
Sky (%).....	41	38	43	48	49	45
Weather type....	NONE	NONE	NONE	NONE	NONE	NONE
Tstm cov.....						
Chc of pcpn (%).	10	10	0	0	10	10
Temp.....	90	85	82	79	78	77
RH.....	64	75	85	94	97	97
Aparnt tmp (F)..	102	94	90	79	78	77
Surface wind....	E 9	SE 6	E 3	E 1	NE 0	N 0
Surface wnd gst.	14	8	6	4	2	2
Mix hgt (ft)....	2900	1800	2100	2500	2800	3200
Transport wind..	SE 10	SE 10	SE 8	SE 6	SE 6	SE 4

.TUESDAY...

Sky/weather.....Mostly sunny.
Chance of pcpn.....10 percent.
Max temperature.....Around 93.
Min humidity.....56 percent.
Max apparent temp...108.
Surface winds.....Light winds becoming southeast 6 to 8 mph in the afternoon.
Mixing Height.....Max 4900 ft AGL.
Transport Winds.....Light winds becoming southeast around 8 mph late in the afternoon.
Pcpn amount.....0.00 inches.
Inversion End.....0900.

TIME (EDT)	6 AM	9 AM	NOON	3 PM
Sky (%).....	43	42	41	41
Weather type....	NONE	NONE	NONE	NONE
Tstm cov.....				
Chc of pcpn (%).	0	0	10	10
Temp.....	76	82	90	93

RH.....100	82	64	56
Aparnt tmp (F)..76	89	102	105
Surface wind....N 0G2	NE 1G2	SE 4	SE 8G10
Mix hgt (ft)....3500	4100	4600	4800
Transport wind..E 2	E 2	SE 4	SE 8

.FORECAST DAYS 3 THROUGH 7...
.WEDNESDAY...
Partly cloudy. Chance of showers and thunderstorms. Lows in the upper 70s. Highs in the mid 90s. South winds around 5 mph.
.THURSDAY...
Mostly cloudy with showers and thunderstorms likely. Lows in the upper 70s. Highs around 90. Southwest winds around 6 mph.
.FRIDAY...
Showers and thunderstorms likely. Lows in the mid 70s. Highs in the upper 80s. Light winds.
.SATURDAY...
Showers and thunderstorms likely. Lows in the mid 70s. Highs in the upper 80s.
.SUNDAY...
Mostly cloudy with showers and thunderstorms likely. Lows in the mid 70s. Highs in the upper 80s.

$$
Forecaster...33
Requested by...Matthew Huyser
Type of request...HAZMAT
.TAG 1913692.0/CHS
.DELDT 08/12/19
.EMAIL huyser.matthew@epa.gov

Armstrong, Kathy

From: Huyser, Matthew
Sent: Monday, August 12, 2019 4:52 PM
To: Scott Reynolds
Cc: Marshall, Frances (Fran)
Subject: RE: Able PM

Do you think using the PM2.5 Instant or PM2.5 TWA that the instrument provides to run the 1Hr and 24Hr?

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Monday, August 12, 2019 12:24 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Cc: Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>
Subject: Re: Able PM

Agree with sticking to 2.5 .

For the retrospective category I've just been using the 24hour average of all reported concentrations(major smoothing..) If we ,report short term info I lean towards something like 'Highest 8Hr(TWA) for the period' .

Certainly no less than 1Hr average. I think the uncertainty in the 2min is more useful to us than informative to the public.

Prefer nothing less than 8 for external

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Monday, August 12, 2019 10:33:27 AM
To: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Subject: RE: Able PM

*** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***

Scott,

Our Dusttrak outputs a PM2.5, PM10, RESP, Total direct reading and a TWA reading for each.
The database is running a 2min, 1hr and 24hr average on the PM2.5 but I don't know whether its from the direct reading or from the TWA

I'm trying to supply better data in the summary table report. Which do you think is best?
What source from these should we use for range and peaks? The direct reading or the instrument's TWA?
Likewise, what source should we calculate the 1hr and 24hr average from?

The PM2.5, PM10, RESP and Total are all nearly identical so I think it's fine to just stick with the PM2.5
However, there is some smoothing in the TWA where the direct reading is more sporadic

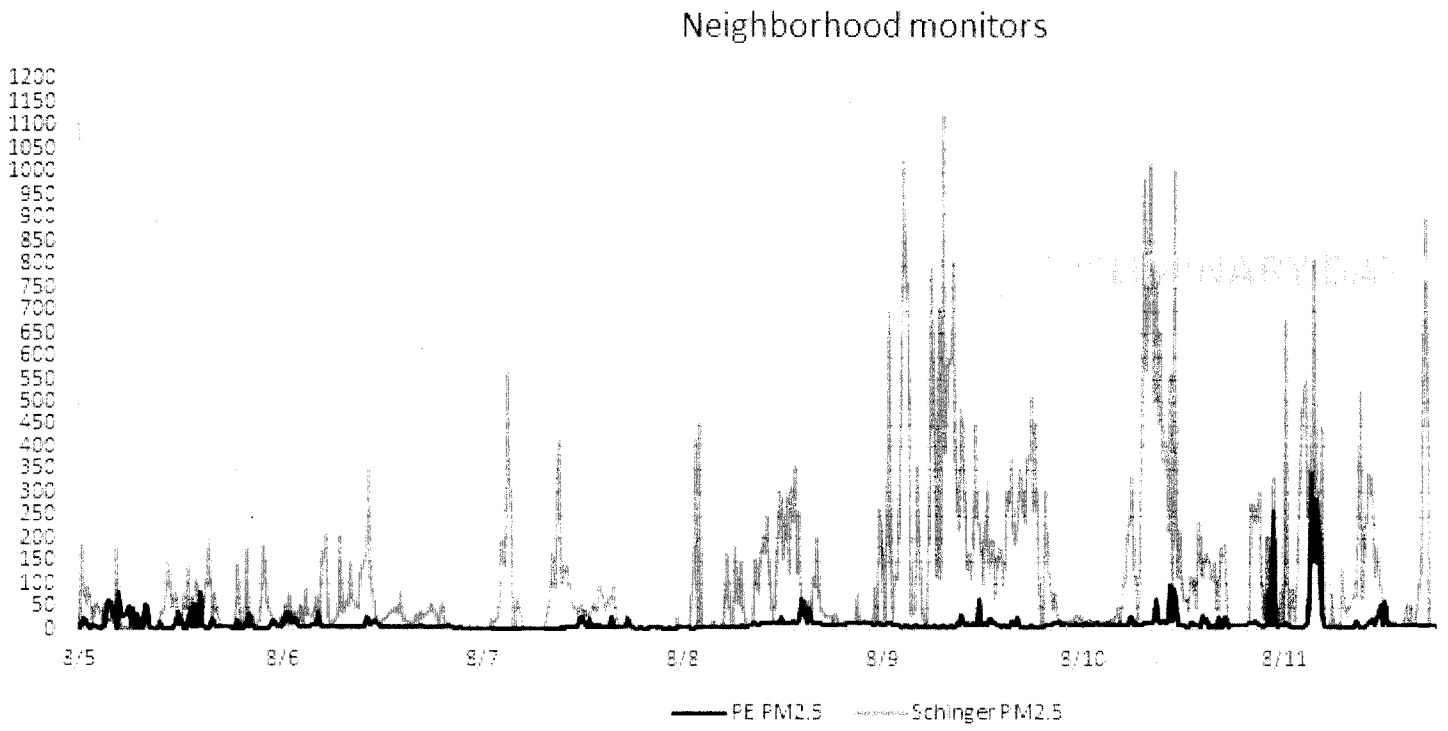
Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Monday, August 12, 2019 9:07 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; thompsrb@dhec.sc.gov; reecemc@dhec.sc.gov; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Frederick, Tim <Frederick.Tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; shealyrg@dhec.sc.gov; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Pinckney, Jennifer M. <pincknjm@dhec.sc.gov>
Subject: Able PM

Yesterday's 24 hour averages (Aug 11 Midnight to midnight)

Palmetto Exterminators 28 ug/M3 (Moderate)

Schinger 140 ug/M3 (Unhealthy)


Neighborhood monitors
1200
1150
1100
1050
1000
950
900
850
800
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
8/5
8/6
8/7
8/8
8/9
8/10
8/11
PE PM2.5
Schinger PM2.5

Armstrong, Kathy

From: Huyser, Matthew
Sent: Monday, August 12, 2019 4:41 PM
To: Pinkney, James; Tolliver, Ronald
Cc: Jenkins, Brandi
Subject: RE: ABLE CONTRACTING INC FIRE - FW: Here's a new Request to Create a Web Area in Drupal WebCMS

It would be best if the address could be changed to:

EPA.gov/able-contracting-fire

This would best mirror the dhec webpage which is SCDHEC.gov/able-contracting-fire

Matthew J. Huyser, PE - On-Scene Coordinator U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303 Emergency Response Removal and Prevention Branch (ERRPB)
office: 404-562-8934 | cell: 678-427-8829 | fax: 404-562-8699 epaosc.org

-----Original Message-----
From: Pinkney, James <Pinkney.James@epa.gov>
Sent: Monday, August 12, 2019 4:32 PM
To: Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: FW: ABLE CONTRACTING INC FIRE - FW: Here's a new Request to Create a Web Area in Drupal WebCMS

You may not have access because it hasn't been published.

-----Original Message-----
From: Edstrom, Cathy <Edstrom.Cathy@epa.gov>
Sent: Monday, August 12, 2019 12:50 PM
To: MacKinnon, Kathleen <MacKinnon.Kathleen@epa.gov>; Web CMS Support <Web_CMS_Support@epa.gov>
Cc: Maddox, Sherry <Maddox.Sherry@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>
Subject: RE: ABLE CONTRACTING INC FIRE - FW: Here's a new Request to Create a Web Area in Drupal WebCMS

This web area has been created and is at: https://wcms.epa.gov/able-contracting-inc-fire

Cathy Edstrom, IT Specialist
US EPA, Office of Mission Support,
Office of Information Management,
Web Content Services Division
Desk: 202-566-0581 | Cell: 240-274-3974

Office: WJC West 6416CC

-----Original Message-----
From: MacKinnon, Kathleen <MacKinnon.Kathleen@epa.gov>
Sent: Monday, August 12, 2019 12:00 PM
To: Web CMS Support <Web_CMS_Support@epa.gov>
Cc: Maddox, Sherry <Maddox.Sherry@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>
Subject: ABLE CONTRACTING INC FIRE - FW: Here's a new Request to Create a Web Area in Drupal WebCMS

Approved

Kathleen MacKinnon || Communications Director, One EPA Web || Office of Web Communications (OWC) / Office of Public Affairs (OPA) || U.S. Environmental Protection Agency || mackinnon.kathleen@epa.gov || 202-564-0454 - office || 202-503-7270 – cell || One EPA Web: https://www.epa.gov/web-policies-and-procedures/resources-web-policies-and-procedures#guidance ||

-----Original Message-----
From: drupal_admin@epa.gov <drupal_admin@epa.gov> On Behalf Of EPA
Sent: Monday, August 12, 2019 11:28 AM
To: MacKinnon, Kathleen <MacKinnon.Kathleen@epa.gov>
Subject: Here's a new Request to Create a Web Area in Drupal WebCMS

Submitted on 08/12/2019 11:27AM
Submitted values are:

Full Title: Able Contracting, Inc. Fire
==Requester Information==
Your name: James Pinkney
Email Address: pinkney.james@epa.gov
Phone number: 404-562-9183
Have you notified your Web Council member you are ready to submit this request? : Yes
Is this web area identified in your AAship's or Region's part of the Agency-wide Web Plan? Yes
How is your topic identified in the Web Plan? not yet there as this is new area situation
AAship or Region: Region 4
Editor-In-Chief for Web Area: James Pinkney
Web Council Member: Sherry Maddox

==Type of Site==
==List the top audiences and their tasks for this topic (3 max)==
==Audience 1 and Tasks==
Audience 1: – residents, parents, families, renters, homeowners; community organizations; small businesses
Audience 1 Top Task 1: Provide emergency response

information
in
reference to local debris fire and smoke.
Audience 1 Top Task 2: Provide air monitoring information
(3)
provide water monitoring information
Audience 1 Top Task 3:

==Audience 2 and Tasks==
Audience 2:
Audience 2 Top Task 1:
Audience 2 Top Task 2:
Audience 2 Top Task 3:

==Audience 3 and Tasks==
Audience 3:
Audience 3 Task 1:
Audience 3 Task 2:
Audience 3 Task 3:

Have you read "Should Your One EPA Web Content be a Resource Directory or a Microsite?" If not, please read it before continuing.: Yes
Resource Directory or Microsite: Microsite

==Web Area Details==
Short Name: Able Contracting, Inc. Fire
URL overwrite:

==Required Metadata==
Publisher: Region 4
Description: The site will be used to provide emergency response information to Jasper County residents, parents, families, renters, homeowners; community organizations and small businesses about air and water quality as is relates to the Able Contracting Inc. Fire.
Channel: Learn the Issues

==Roles==
Add as authors: bjohnso2, jpinkney

Add as editors:
Add as webmasters: smaddox
Add as approvers:

Armstrong, Kathy

From: Huyser, Matthew
Sent: Monday, August 12, 2019 4:39 PM
To: Threatt, Richard; Garrard, Jordan
Cc: Boswell, Wendy; Elizabeth Basil; John Snyder
Subject: RE: Water testing at Able

EPA collected groundwater sample from spigot at well house behind able contracting office near office parking area

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Threatt, Richard <threatrl@dhec.sc.gov>
Sent: Monday, August 12, 2019 1:18 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Cc: Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Elizabeth Basil <basilej@dhec.sc.gov>
Subject: Water testing at Able

Jordan or Matthew,

Could either of you shed some light on the attached results as to where you might have sampled to get the groundwater results?

Richard L. Threatt, Jr.
Office Manager

Lowcountry- Beaufort EA

S.C. Dept. of Health & Environmental Control
Office: (843) 846-1030

Cell: (843) 986-4426

Fax: (843) 846-0604
Connect: **www.scdhec.gov** **Facebook** **Twitter**

Armstrong, Kathy

From: Huyser, Matthew
Sent: Monday, August 12, 2019 4:21 PM
To: R4DutyOSC
Subject: Able fire - DHEC updates

Phone duty:

DHEC will be providing daily updates like this one on their webpage
The main webpage is SCDHEC.gov/Able-Contracting-Fire

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>
Sent: Monday, August 12, 2019 4:06 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>
Cc: reecemc@dhec.sc.gov; Porter, Henry <porterhj@dhec.sc.gov>; thompsrb@dhec.sc.gov; shealyrg@dhec.sc.gov; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Crosby, L. Tommy <crosbylt@dhec.sc.gov>; Childers, Elizabeth K. <childeek@dhec.sc.gov>; Moore, Cristi Y. <moorecy@dhec.sc.gov>; Renwick, Laura A. <renwicla@dhec.sc.gov>
Subject: August 12 Update Live

All, the August 12 update including a forecast for August 13 is live as is our 1-800 number. See:

https://www.scdhec.gov/environment/ongoing-projects-updates/able-contracting-fire/able-contracting-fire-updates

Fran W. Marshall, J.D., M.S.P.H., CIH(r)

Director of Applied Science and Community Engagement

SC DHEC Environmental Affairs

Office: 803.898.9956

Armstrong, Kathy

From: Huyser, Matthew
Sent: Monday, August 12, 2019 4:20 PM
To: Tolliver, Ronald
Subject: FW: August 12 Update Live

They already sent one out. Looks good. A little detailed but good.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>
Sent: Monday, August 12, 2019 4:06 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>
Cc: reecemc@dhec.sc.gov; Porter, Henry <porterhj@dhec.sc.gov>; thompsrb@dhec.sc.gov; shealyrg@dhec.sc.gov; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Crosby, L. Tommy <crosbylt@dhec.sc.gov>; Childers, Elizabeth K. <childeek@dhec.sc.gov>; Moore, Cristi Y. <moorecy@dhec.sc.gov>; Renwick, Laura A. <renwicla@dhec.sc.gov>
Subject: August 12 Update Live

All, the August 12 update including a forecast for August 13 is live as is our 1-800 number. See:

https://www.scdhec.gov/environment/ongoing-projects-updates/able-contracting-fire/able-contracting-fire-updates

Fran W. Marshall, J.D., M.S.P.H., CIH(r)

Director of Applied Science and Community Engagement

SC DHEC Environmental Affairs

Office: 803.898.9956

Armstrong, Kathy

From: Huyser, Matthew
Sent: Monday, August 12, 2019 2:37 PM
To: Tolliver, Ronald
Subject: Fwd: List of Businesses
Attachments: To.docx; ATT00001.htm; List.docx; ATT00002.htm

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax:**404-562-8699**
epaosc.org

Begin forwarded message:

> **From:** "Crooks, Carol" <Crookscl@DHEC.SC.GOV>
> **Date:** August 10, 2019 at 8:52:42 AM EDT
> **To:** "Huyser, Matthew" <huyser.matthew@epa.gov>
> **Cc:** "Stewart, R. Gary" <stewarrg@dhec.sc.gov>
> **Subject: List of Businesses**
>
> Matt,
>
> Attached is a memo and list of the businesses Gary and I visited yesterday. I'll send a map showing the general area we covered it a bit.
>
> *Carol*
>
> Carol L. Crooks
>
> Project Manager
>
> State Remediation Section
>
> Bureau of Land and Waste Management
>
> S.C. Dept. of Health & Environmental Control
> Office: (803) 898-0810
> Connect: www.scdhec.gov Facebook Twitter

To: Matthew Huyser, USEPA

From: Carol Crooks, SCDHEC

Date: August 10, 2019

RE: Able Materials-Notification to Business Owners of Activities

On August 9, 2019 between the approximate hours of 2:00 and 4:30 p.m., Gary Stewart (SCDHEC) and I visited a number of business owners, in close proximity, to the Able Materials Site to discuss activities scheduled for August 12, 2019.

A list of the business we were able to contact is attached. Additionally, a map with highlighted areas is also attached showing the general area we were able to cover before many businesses began to end operations for the day. There are also phone numbers for some businesses that requested notification should conditions change at the site that might impact their operations.

Schinger Road:

Nature's Calling

Mackenley Way:

Forrest Concrete- Please contact: Teresa Forrest (702) 664-3965, or Michael Forrest (702) 524-7815, or Jason Crenshaw (843) 247-9275, or Michael Forrest Jr. (843) 368-6684.

Palmetto Exterminating- (843) 645-9550

Southern Auto –No One in Office. #(843) 987-0928

GE Landscaping – (843) 524-0817

Mosteller Interiors

East Marine Construction and Stromer Plumbing (same location) (843) 547-1133

Browns Cove Road:

Dyess Air

Atlas Surveying (843) 645-9277

May River Electric

Riverwalk Animal Hospital

Horizon Surveying Assoc. (843) 757-2380 No One in Office

Heavenly Clean (843) 368-5179 No One in Office

Northpoint HVAC (843) 757-6247

River Dog Brewing

Armstrong, Kathy

From: Huyser, Matthew
Sent: Monday, August 12, 2019 1:08 PM
To: Scott Reynolds
Cc: Jenkins, Brandi; shealyrg@dhec.sc.gov; Marshall, Frances (Fran); ssmith@jaspercountysc.gov; Tolliver, Ronald; Boyce, Lawra
Subject: Re: Able Fire - Signs

One can do three lines and 8 characters the other can do 4 lines and 10 characters

They can rotate through several "pages" with different time allocations per page

The 4 lines and 10 character unit becomes illegible when the screen is full, so less is better.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: 404-562-8934 | cell: 678-427-8829 | fax:404-562-8699
epaosc.org

On Aug 12, 2019, at 12:55 PM, Reynolds, Scott <REYNOLDS@dhec.sc.gov> wrote:

> What is the capability of the signs?
> Lines X characters X (#-rotation of messages?)
>
> **From:** Huyser, Matthew <Huyser.Matthew@epa.gov>
> **Sent:** Saturday, August 10, 2019 4:32:00 PM
> **To:** Reynolds, Scott <REYNOLDS@dhec.sc.gov>; Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; Frank Edwards <fedwards@jaspercountysc.gov>; David Tedder <dtedder@jaspercountysc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Lisa Wagner <lwagner@jaspercountysc.gov>; ssmith@jaspercountysc.gov <ssmith@jaspercountysc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
> **Cc:** Clay Graves <cgraves@jaspercountysc.gov>; Reece, Myra <reecemc@dhec.sc.gov>
> **Subject:** Able Fire - Signs
>
> *** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***
> While we were having our conference call meeting, my ERRS contractor was busy being impossibly productive. Hats off to Rick Hollingsworth who tracked down two variable message boards after rental businesses had closed for the weekend - and mobilized both of them in this afternoon.
>
> One is located on Schinger Ave adjacent to the MCP. The other is located on Riverwalk Blvd.
>
> Both signs currently contain the same message:
> SMOKE INFORMATION GO TO

SCDHEC.GOV/ABLE-CONTRACTING-FIRE

Because the message boards are now up, I've foregone printing of the yard signs that I spoke about earlier

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Armstrong, Kathy

From: Huyser, Matthew
Sent: Monday, August 12, 2019 10:40 AM
To: Stewart, R. Gary; Crooks, Carol; Steven Hodskins; Chandler & Angela Lloyd; john.kinsey@envirosmart.us; bryon@envirosmart.us
Cc: Scott Reynolds; Huss, Eric; Redd, Courtney; Josiah Williams
Subject: Able - NWS Spot Forecast

I've requested a local spot forecast from NWS. See below.

Note wind direction from E all day today changing to SE tonight
Wind tomorrow E in the AM and SE in the PM

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: National Weather Service <chs.skywarn@noaa.gov>
Sent: Monday, August 12, 2019 9:01 AM
Subject: Spot Forecast

```
FNUS72 KCHS 121300
FWSCHS

Spot Forecast for Able Contracting Fire...USEPA R4
National Weather Service Charleston SC
900 AM EDT Mon Aug 12 2019

Forecast is based on forecast start time of 0900 EDT on August 12.
If conditions become unrepresentative, contact the National Weather
Service.

.DISCUSSION...
A stationary front over southeast Georgia will dissipate through
tonight. Drier high pressure will briefly build from the north on
Tuesday, before a cold front drops into the area late Wednesday
and lingers into this weekend.

Fog potential for tonight: Low.

.REST OF TODAY...

Sky/weather.........Mostly sunny. Slight chance of showers and
                     thunderstorms early in the afternoon.
Chance of pcpn......20 percent.
Max temperature.....Around 92.
Min humidity........62 percent.
Max apparent temp...106.
Surface winds.......Light winds becoming east 7 to 9 mph in the
                     afternoon.
```

Mixing Height.....Max 4200 ft AGL.
Transport Winds.....East 6 to 10 mph.
Pcpn amount.....0.00 inches.
Inversion End.....0900.

TIME (EDT)	9AM	10A	11A	12P	1PM	2PM	3PM	4PM	5PM
Sky (%).....	38	42	45	47	49	49	48	46	43
Weather type....						RW	RW	RW	RW
Tstm cov.....						SCH	SCH	SCH	SCH
Chc of pcpn (%).	10	10	10	10	10	20	20	20	20
Temp.....	83	85	87	89	91	91	91	91	91
RH.....	82	77	72	68	62	62	62	62	62
Aparnt tmp (F)..	92	96	99	102	103	103	103	103	103
Surface wnd dir.	NE	NE	NE	E	E	E	E	E	E
Surface wnd spd.	4	4	4	7	7	8	9	9	9
Surface wnd gst.	6	6	6	12	12	14	14	14	14
Mix hgt (kft)...	1.7	2.2	2.8	3.2	3.7	4.2	4.1	4.1	3.5
Transp wind dir.	E	E	E	E	E	E	E	E	E
Transp wind spd.	6	6	6	8	8	8	10	10	10

.TONIGHT...

Sky/weather.....Partly cloudy.
Chance of pcpn.....10 percent.
Min temperature.....Around 75.
Max humidity.....100 percent.
Max apparent temp...102.
Surface winds.....Southeast winds 6 to 9 mph early in the evening
becoming light.
Pcpn amount.....0.00 inches.
Inversion Begin.....2100.

TIME (EDT)	6 PM	8 PM	10 PM	MIDNGT	2 AM	4 AM
Sky (%).....	41	38	43	48	49	45
Weather type....	NONE	NONE	NONE	NONE	NONE	NONE
Tstm cov.....						
Chc of pcpn (%).	10	10	0	0	10	10
Temp.....	90	85	82	79	78	77
RH.....	64	75	85	94	97	97
Aparnt tmp (F)..	102	94	90	79	78	77
Surface wind....	E 9	SE 6	E 3	E 1	NE 0	N 0
Surface wnd gst.	14	8	6	4	2	2
Mix hgt (ft)....	2900	1800	2100	2500	2800	3200
Transport wind..	SE 10	SE 10	SE 8	SE 6	SE 6	SE 4

.TUESDAY...

Sky/weather.....Mostly sunny.
Chance of pcpn.....10 percent.
Max temperature.....Around 93.
Min humidity.....56 percent.
Max apparent temp...108.
Surface winds.....Light winds becoming southeast 6 to 8 mph in
the afternoon.
Mixing Height.....Max 4900 ft AGL.
Transport Winds.....Light winds becoming southeast around 8 mph
late in the afternoon.
Pcpn amount.....0.00 inches.
Inversion End.....0900.

TIME (EDT)	6 AM	9 AM	NOON	3 PM
Sky (%).....	43	42	41	41

Weather type....NONE	NONE	NONE	NONE
Tstm cov.....			
Chc of pcpn (%).0	0	10	10
Temp.....76	82	90	93
RH.....100	82	64	56
Aparnt tmp (F)..76	89	102	105
Surface wind....N 0G2	NE 1G2	SE 4	SE 8G10
Mix hgt (ft)....3500	4100	4600	4800
Transport wind..E 2	E 2	SE 4	SE 8

.FORECAST DAYS 3 THROUGH 7...
.WEDNESDAY...
Partly cloudy. Chance of showers and thunderstorms. Lows in the upper 70s. Highs in the mid 90s. South winds around 5 mph.
.THURSDAY...
Mostly cloudy with showers and thunderstorms likely. Lows in the upper 70s. Highs around 90. Southwest winds around 6 mph.
.FRIDAY...
Showers and thunderstorms likely. Lows in the mid 70s. Highs in the upper 80s. Light winds.
.SATURDAY...
Showers and thunderstorms likely. Lows in the mid 70s. Highs in the upper 80s.
.SUNDAY...
Mostly cloudy with showers and thunderstorms likely. Lows in the mid 70s. Highs in the upper 80s.

$$
Forecaster...33
Requested by...Matthew Huyser
Type of request...HAZMAT
.TAG 1913692.0/CHS
.DELDT 08/12/19
.EMAIL huyser.matthew@epa.gov

Armstrong, Kathy

From: Huyser, Matthew
Sent: Monday, August 12, 2019 10:33 AM
To: Scott Reynolds
Subject: RE: Able PM

Scott,

Our Dusttrak outputs a PM2.5, PM10, RESP, Total direct reading and a TWA reading for each.
The database is running a 2min, 1hr and 24hr average on the PM2.5 but I don't know whether its from the direct reading or from the TWA

I'm trying to supply better data in the summary table report. Which do you think is best?
What source from these should we use for range and peaks? The direct reading or the instrument's TWA?
Likewise, what source should we calculate the 1hr and 24hr average from?

The PM2.5, PM10, RESP and Total are all nearly identical so I think it's fine to just stick with the PM2.5
However, there is some smoothing in the TWA where the direct reading is more sporadic

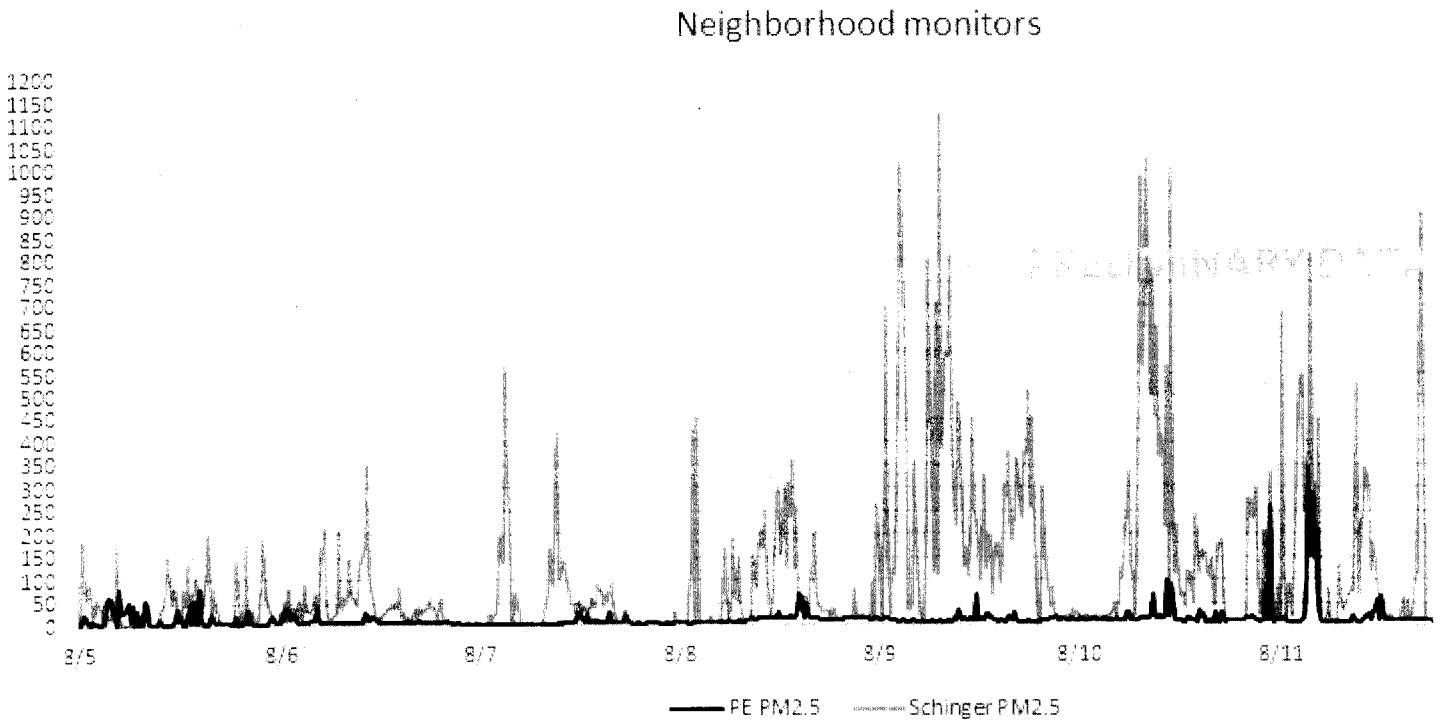
Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Monday, August 12, 2019 9:07 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; thompsrb@dhec.sc.gov; reecemc@dhec.sc.gov; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Frederick, Tim <Frederick.Tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; shealyrg@dhec.sc.gov; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Pinckney, Jennifer M. <pincknjm@dhec.sc.gov>
Subject: Able PM

Yesterday's 24 hour averages (Aug 11 Midnight to midnight)

Palmetto Exterminators 28 ug/M3 (Moderate)

Schinger 140 ug/M3 (Unhealthy)



Armstrong, Kathy

From: Huyser, Matthew
Sent: Monday, August 12, 2019 10:30 AM
To: ERT Support
Subject: Able fire - Deployment Manager averages

What numbers are the deployment monitor averages coming from? Are they from the direct readings or from the TWAs coming off from the instrument?

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Armstrong, Kathy

From:	Huyser, Matthew
Sent:	Monday, August 12, 2019 9:10 AM
To:	Steven Hodskins; Chandler & Angela Lloyd; john.kinsey@envirosmart.us; bryon@envirosmart.us
Subject:	Able - Summary Report NIGHT 8/11-8/12
Attachments:	Able_START_Viper Summary report_AR and DustTrack_20190811NIGHT.pdf

Attached is the EPA data summary report for Nightime 8/11 to 8/12/19

Smoke was observed at ground level yesterday evening to the east in Brooke Mill and Abberly Chase Apartments. This was anticipated with generic wind forecasting so Dusttrak 1 was relocated to Brooke Mill apartments at approximately 7pm.
Visible smoke on the morning of 8/12 was traveling South towards Palmetto Exterminators and Sun City

No noteworthy VOC or CO readings

Average PM2.5 readings at Brooke Mill, Sun City, and Command Post (east side) were near 30 ug/m3 which is Moderate for the 24-hour average. Notice in the trendline persistent peaks of over 100 ug/m3 at Brooke Mill in at around 9pm and over 100 ug/m3 in Sun City at 1am.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Able Contracting Fire

From: **8/11/19 19:00** ***To:*** **8/12/19 6:59**

SE Corner of Able Contracting

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	752	35	0 - 297 ppb	2.4 ppb	1,000 ppb
	CO	No	752	3	0 - 4 ppm	0 ppm	83 ppm
	H_2S	No	752	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	752	752	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	752	0	0 - 0%	0%	10%

Brooke Mill Apartments

DustTrak 1	PM-2.5	Moderate	2,090	2,087	0 - 148 µg/m³	27.1 µg/m³	See SOG #: T106

On Site, Immediately West of Pile

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	760	19	0 - 375 ppb	4.2 ppb	1,000 ppb
	CO	No	760	9	0 - 5 ppm	0 ppm	83 ppm
	H_2S	No	760	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	760	760	20.6 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	760	0	0 - 0 %	0%	10%

EPA Mobile Command Post

DustTrak 2	PM-2.5	Moderate	2,014	2,011	0 - 186 µg/m³	24.4 µg/m³	See SOG #: T106

Able Contracting Workshop, Northwest of Pile

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	754	2	0 - 37 ppb	0.1 ppb	1,000 ppb
	CO	No	754	2	0 - 3 ppm	0 ppm	83 ppm
	H_2S	No	754	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	754	754	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	754	0	0 - 0%	0%	10%

Sun City

DustTrak 3	PM-2.5	Moderate	2,224	2,164	0 - 190 µg/m³	31.4 µg/m³	See SOG #: T106

Palmetto Exterminators

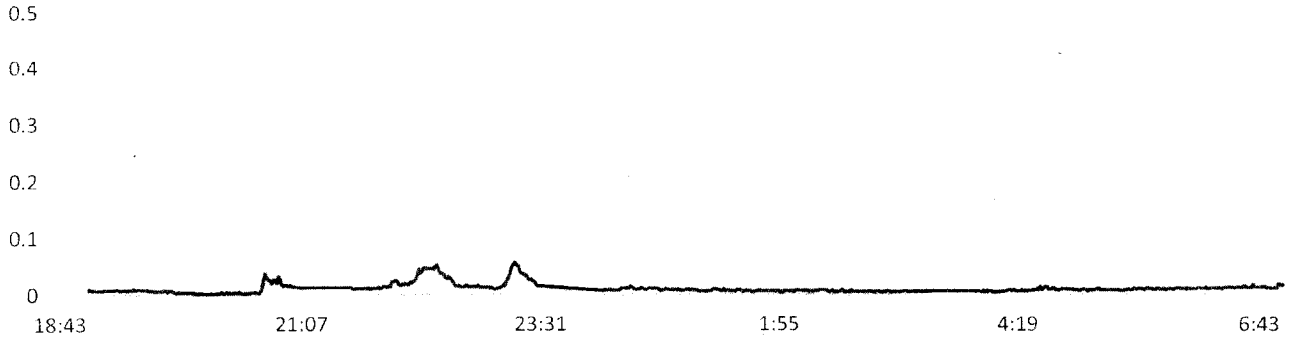
Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	755	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	755	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	755	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	755	755	20.9 - 21.5%	21%	<19.5 or >23%
	LEL	No	755	0	0 - 0%	0%	10%

Notes:

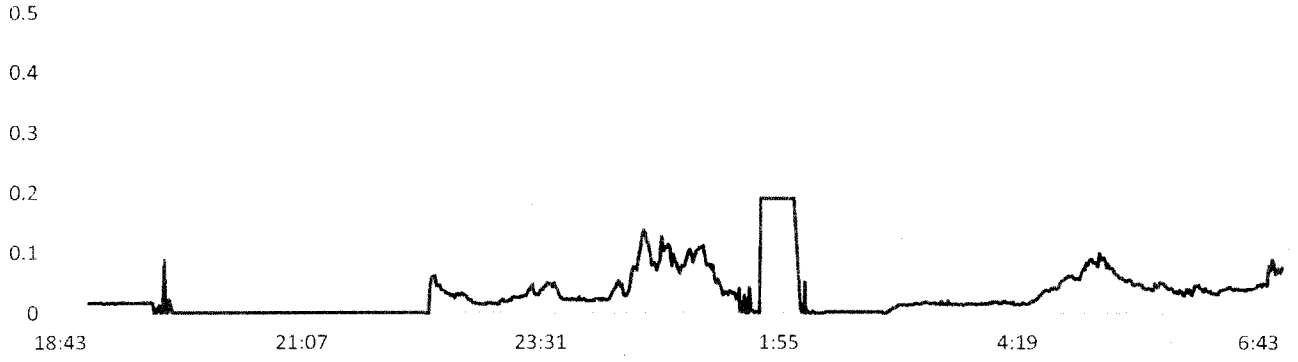
- % Percent
- < Less than
- > Greater than
- AEGL Acute Exposure Guideline levels for airborne chemicals
- CO Carbon monoxide
- H_2S Hydrogen Sulfide
- LEL Lower Explosive Level
- min Minute
- O_2 Oxygen
- PEL Permissible exposure limit
- ppb Parts per billion
- ppm Parts per million
- PM Particulate matter
- SOG Standard Operating Guidelines
- TLV Threshold limit value
- µg/m³ Micrograms per cubic meter
- VOC Volatile organic compoud

8/11/19 NIGHT Data for DustTrak 1 ($PM_{2.5}$) - Brooke Mill Apartments

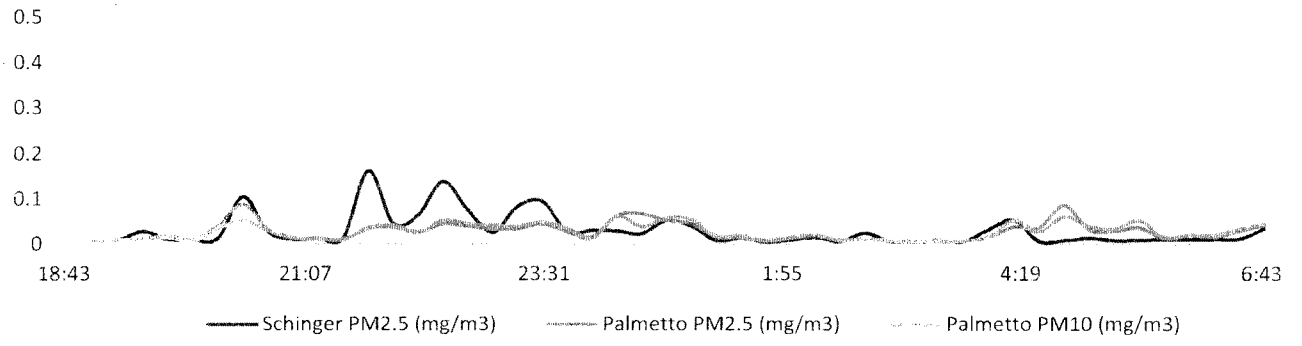
8/11/19 NIGHT Data for DustTrak 2 ($PM_{2.5}$) - MCP



8/11/19 NIGHT Data for DustTrak 3 ($PM_{2.5}$) - Sun City

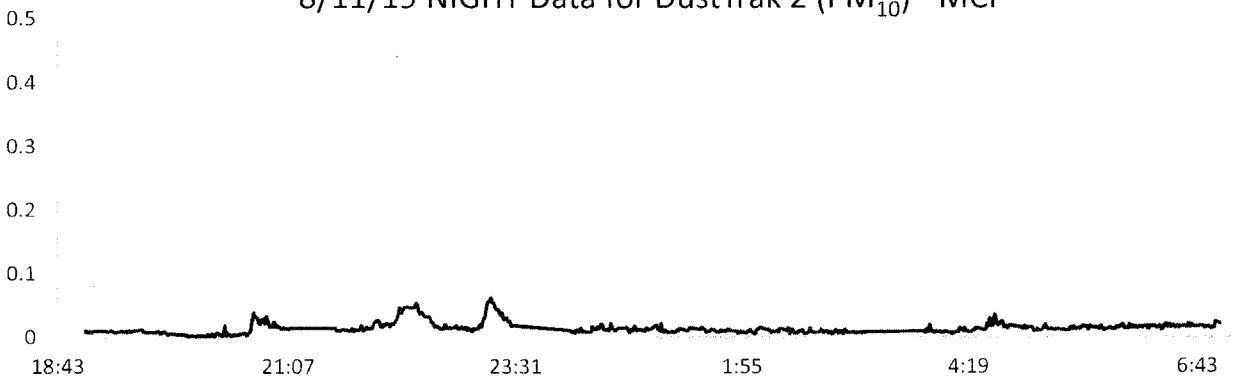


SCDHEC Particulate Data

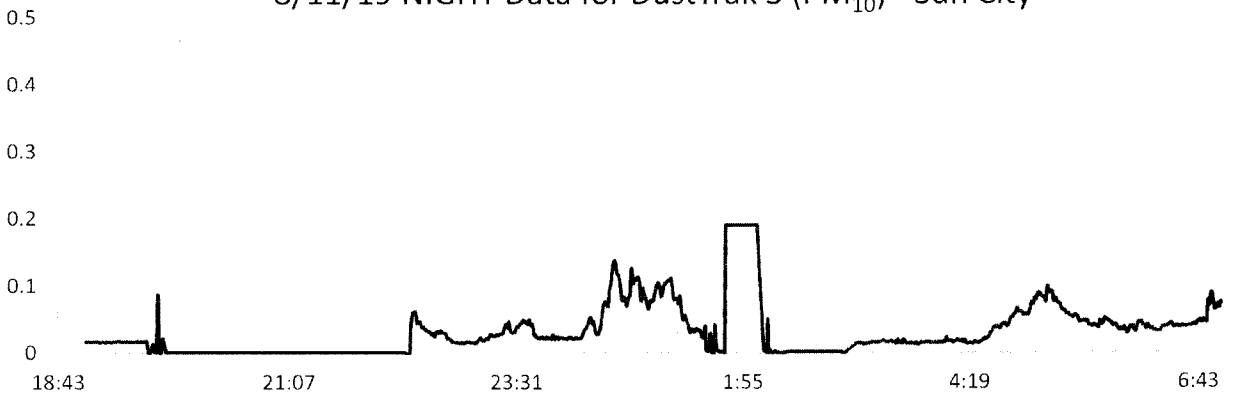


8/11/19 NIGHT Data for DustTrak 1 (PM_{10}) - Brooke Mill Apartments

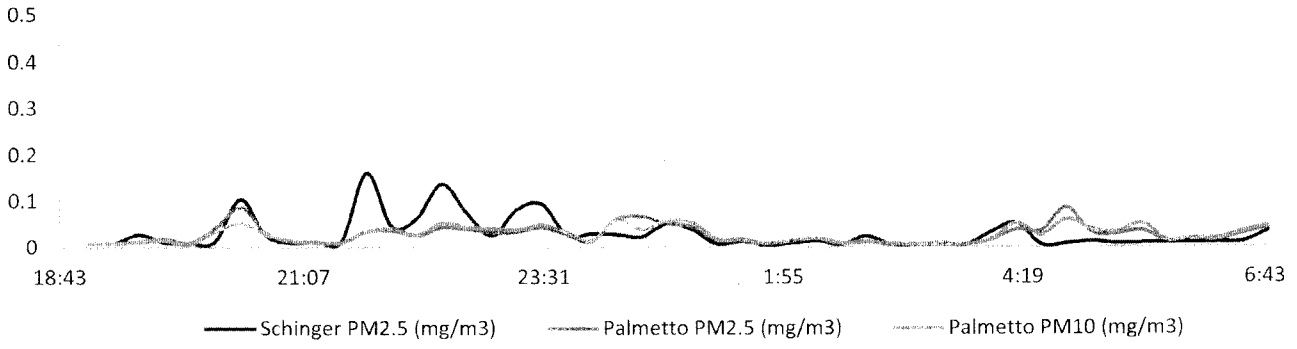
8/11/19 NIGHT Data for DustTrak 2 (PM_{10}) - MCP



8/11/19 NIGHT Data for DustTrak 3 (PM_{10}) - Sun City



SCDHEC Particulate Data



Armstrong, Kathy

From: Huyser, Matthew
Sent: Monday, August 12, 2019 8:54 AM
To: Franco, Benjamin
Subject: RE: Air Monitoring Link?

Yes, it is on their webpage

SCDHEC.gov/able-contracting-fire

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Franco, Benjamin <Franco.Benjamin@epa.gov>
Sent: Monday, August 12, 2019 7:48 AM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Air Monitoring Link?

Went on to SCDHEC Able Fire Site and they stated the following: "This sensor data provides citizens with near real time data so they can make informed decisions about outdoor activities." Is there an air monitoring link being shared with citizens?

Respectfully,

Benjamin Franco,
Federal On Scene Coordinator
Emergency Response, Removal and Prevention Branch
Superfund Division
USEPA R4
61 Forsyth St
Atlanta, GA 30303

404-562-8758 (w)
404-915-6952 (c)

Report Oil and Chemical Spills to the National Response Center 1-800-424-8802

Armstrong, Kathy

From: Huyser, Matthew
Sent: Monday, August 12, 2019 7:09 AM
To: Franco, Benjamin
Subject: Able Fire: ERNS 8/11/2019

EPA continues to maintain 24-hour air monitoring operations. On the morning of 8/11/2019 EPA observed visible smoke North of the Site at the intersection of Highway 170 and Argent Blvd and more than 1.5 miles away. An air monitor was relocated to the north in the morning. Weather forecasts projected an eastern wind by the afternoon which would blow smoke towards two apartment complexes on the West. OSC Huyser met with the leasing offices of both complexes, one was able to send an email blast to residents and the other will distribute flyers. An air monitor was relocated to the apartment complexes. OSC Huyser distributed flyers to several businesses and residents during the day which provided SCDHEC information on smoke an a site-specific webpage what will be updated with information about the response. In the evening, OSC Huyser, DHEC, and Jasper County representatives met with displaced residents at a local church to discuss the plans for response activities and hear concerns that the residents had about impacts to air, drinking water, and surface water. The contractor for DHEC applied water to hotspots on the pile for approximately 2.5 hours but ceased operations due to lightning. Water application and major response activities will resume in the morning of 8/12.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Armstrong, Kathy

From: Huyser, Matthew
Sent: Monday, August 12, 2019 6:42 AM
To: John Snyder; chris.jones@tetratech.com
Cc: Eric.Huss@tetratech.com; Josiah Williams; Courtney.Redd@tetratech.com; corey.peaslee@tetratech.com
Subject: Able Fire - summary reports

I was expecting to get the 8/11 summary report for the DAYTIME yesterday evening after the 7pm data dump. Eric and Courtney told me that Chris and or John would be working on it.

If the summary report is going to be done remotely then that has to be the most reliable method to to it. The risk, however is that the urgency is lost which it seems it was. It's now nearly 12 hours late and we may as well have had no data dump at 7pm.

If the summary report isn't going to get done by 8pm or even 9pm then there's no point of having the 7pm dump and we only need one summary report in the morning to cover the full 24 hours, not split it up.

This HAS to go faster

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax:**404-562-8699**
epaosc.org

Armstrong, Kathy

From: Huyser, Matthew
Sent: Sunday, August 11, 2019 5:30 PM
To: Steven Hodskins; Chandler & Angela Lloyd; john.kinsey@envirosmart.us; bryon@envirosmart.us
Subject: Able - EPA Data summary reports
Attachments: Able_START_Data_Viper Summary report_AR and DustTrack-with graphs_20190810DAY.pdf; Able_START_report_Viper Summary report_AR and DustTrack-with graphs_20190809NIGHT.pdf

Attached are the EPA data summary reports

Daytime on 8/10/2019

Note the peak concentration of 0.4 ppm VOCs at the SE and West sides of the pile with 0.25 ppm to the NE side of the pile
PM2.5 at Peacock Collision average 137 ug/m3 and AQI class Unhealthy
PM2.5 at Command post and Sun City average under 30 ug/m3 AQI class Moderate

Nighttime on 8/10/2019-8/11/2019

Note peak concentrations of 0ver 0.5 ppm for VOCs on all corners of the pile with detections of VOCs approximately 25% of the time in the southeast corner (209 detections out of 753 readings)
PM2.5 at Peacock Collision average 247 ug/m3 and AQI class Unhealthly
PM2.5 at Command post and Sun City average under 30 ug/m3 AQI class Moderate

EPA observed significant smoke NNE of the pile this morning at 0700 well beyond the intersection of Argent Blvd and Hwy 170 which is 1.5 miles from the Site.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Able Contracting Fire

From: 8/10/19 7:00 ***To:*** 8/10/19 19:00

SE Corner of Able Contracting							
Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	788	92	0 - 416 ppb	12.3 ppb	1,000 ppb
	CO	No	788	24	0 - 6 ppm	0.1 ppm	83 ppm
	H_2S	No	788	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	788	788	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	788	0	0 - 0%	0%	10%

Peacock Collision							
DustTrak 1	PM-2.5	Unhealthy	1,358	1,358	2 - 268 µg/m³	137 µg/m³	See SOG #: T106

On Site, Immediately West of Pile							
Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	787	6	0 - 420 ppb	1.8 ppb	1,000 ppb
	CO	No	787	14	0 - 6 ppm	0.1 ppm	83 ppm
	H_2S	No	787	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	787	787	20.4 - 20.9%	20.7%	<19.5 or >23%
	LEL	No	787	0	0 - 0 %	0%	10%

EPA Mobile Command Post							
DustTrak 2	PM-2.5	Moderate	1,769	1,769	7 - 139 µg/m³	26.1 µg/m³	See SOG #: T106

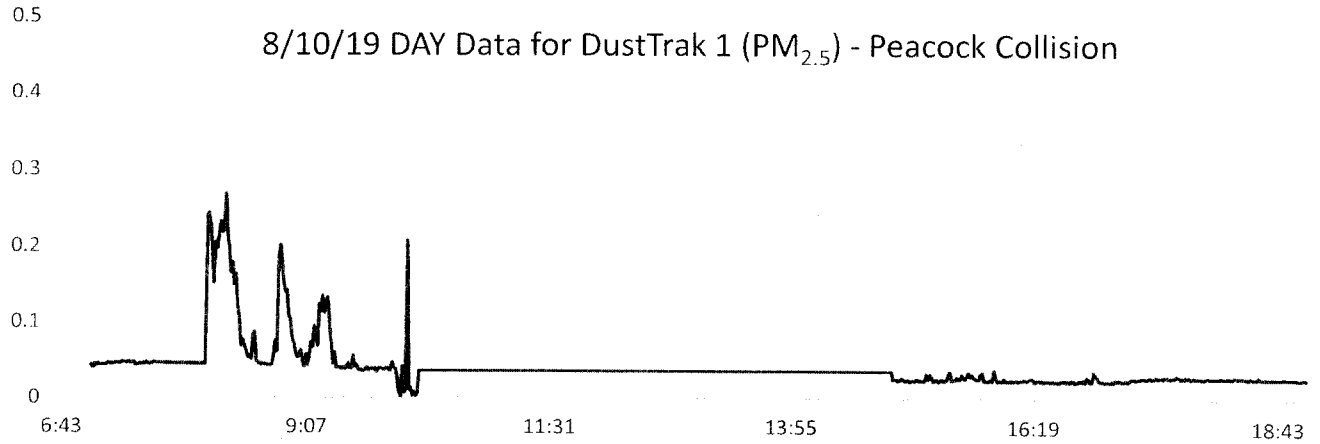
Able Contracting Workshop, Northeast of Pile							
Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	782	27	0 - 256 ppb	2.3 ppb	1,000 ppb
	CO	No	782	24	0 - 6 ppm	0.1 ppm	83 ppm
	H_2S	No	782	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	782	782	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	782	0	0 - 0%	0%	10%

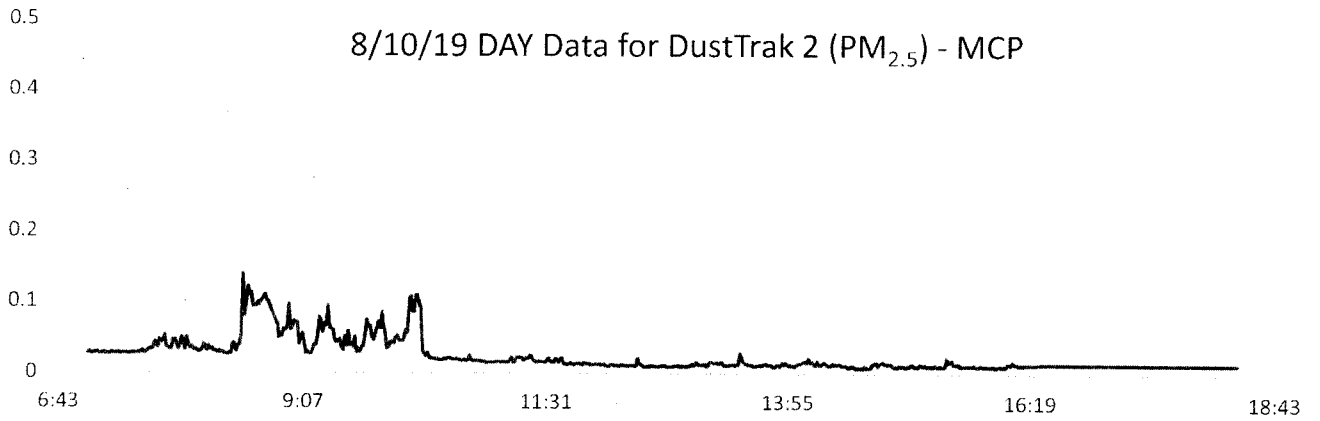
Sun City							
DustTrak 3	PM-2.5	Moderate	1,330	1,330	17 - 27 µg/m³	20.4 µg/m³	See SOG #: T106

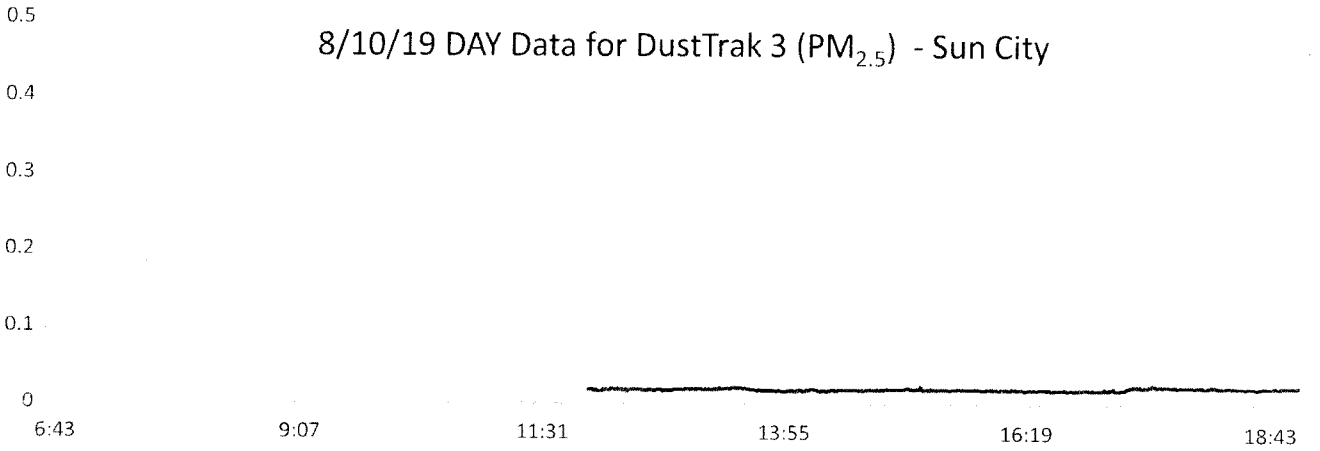
Palmetto Exterminators							
Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	783	212	0 - 117 ppb	14 ppb	1,000 ppb
	CO	No	783	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	783	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	783	783	20.7 - 21.9%	21.5%	<19.5 or >23%
	LEL	No	783	0	0 - 0%	0%	10%

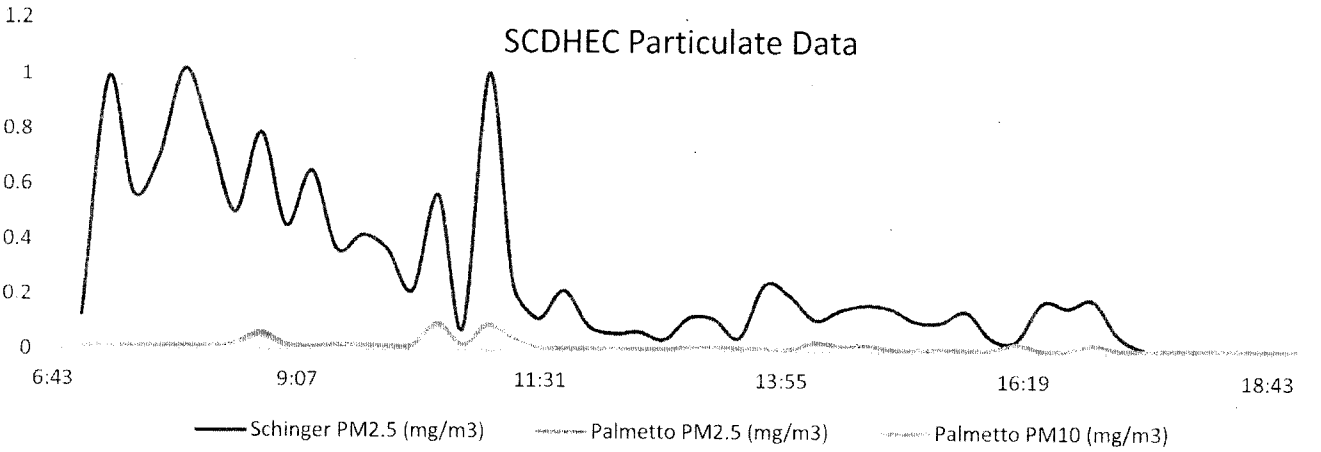
Notes:

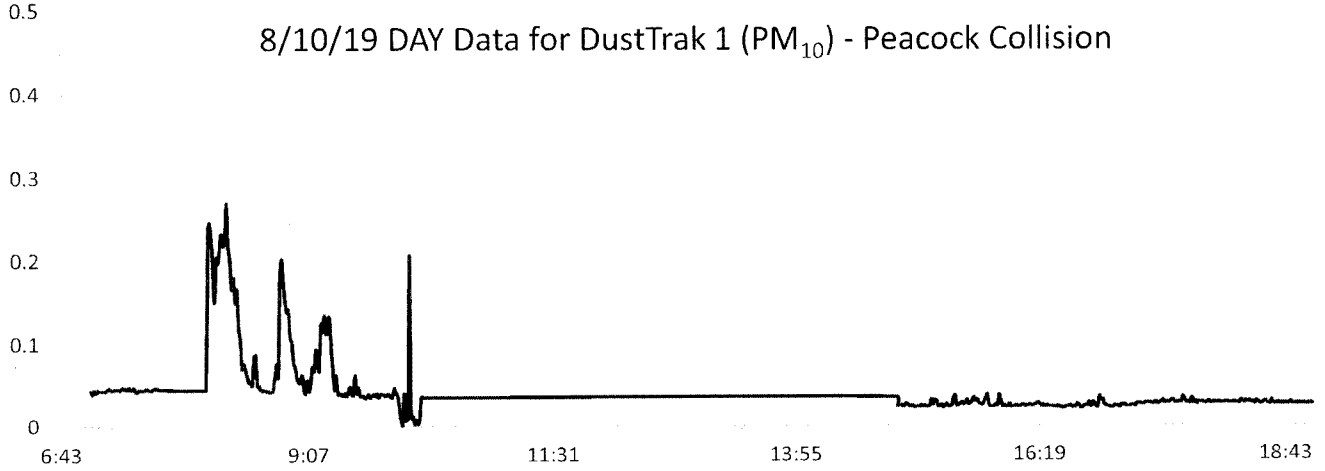
- % Percent
- < Less than
- > Greater than
- AEGL Acute Exposure Guideline levels for airborne chemicals
- CO Carbon monoxide
- H_2S Hydrogen Sulfide
- LEL Lower Explosive Level
- min Minute
- O_2 Oxygen
- PEL Permissible exposure limit
- ppb Parts per billion
- ppm Parts per million
- PM Particulate matter
- SOG Standard Operating Guidelines
- TLV Threshold limit value
- µg/m³ Micrograms per cubic meter
- VOC Volatile organic compoud

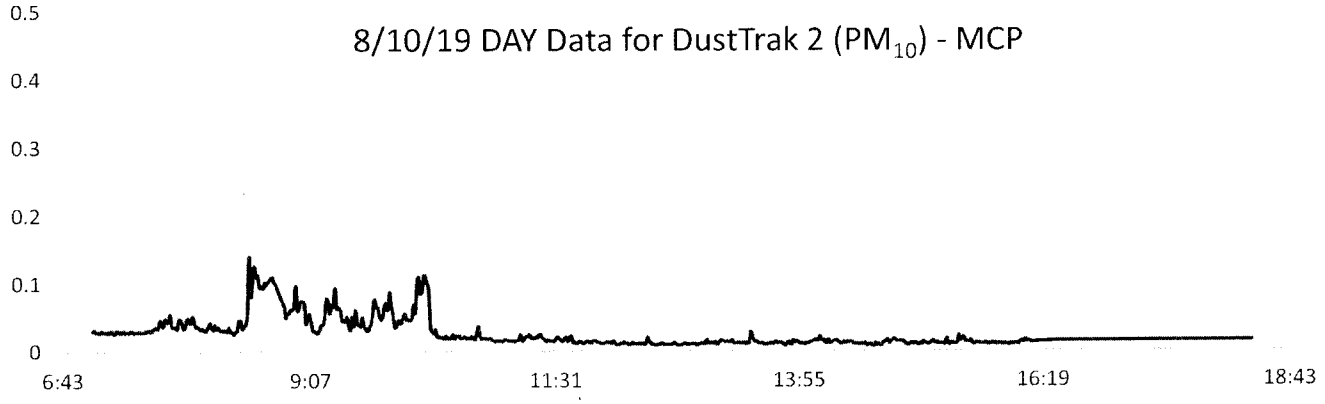

8/10/19 DAY Data for DustTrak 1 ($PM_{2.5}$) - Peacock Collision
0.5
0.4
0.3
0.2
0.1
0
6:43
9:07
11:31
13:55
16:19
18:43

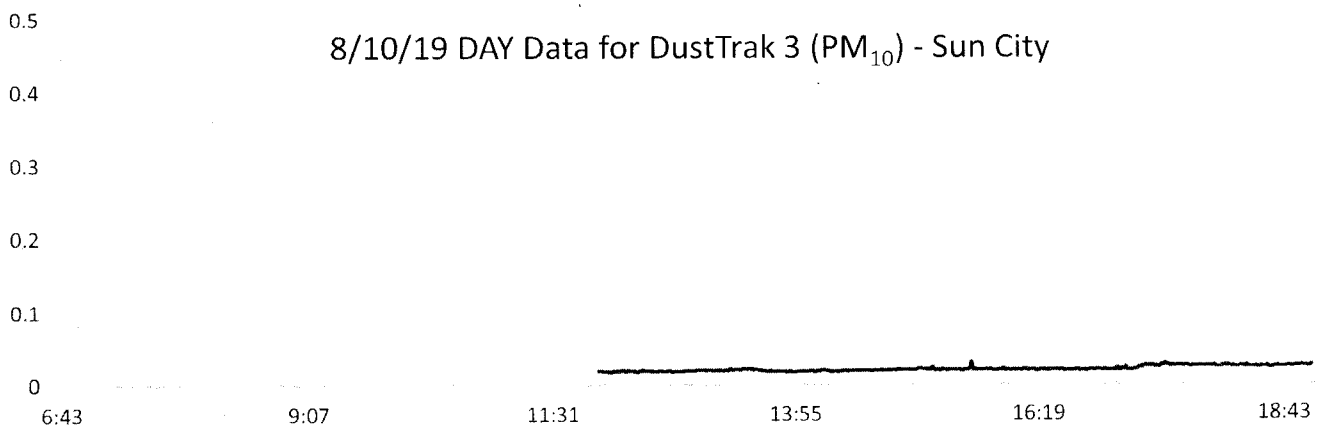

8/10/19 DAY Data for DustTrak 2 ($PM_{2.5}$) - MCP
0.5
0.4
0.3
0.2
0.1
0
6:43
9:07
11:31
13:55
16:19
18:43

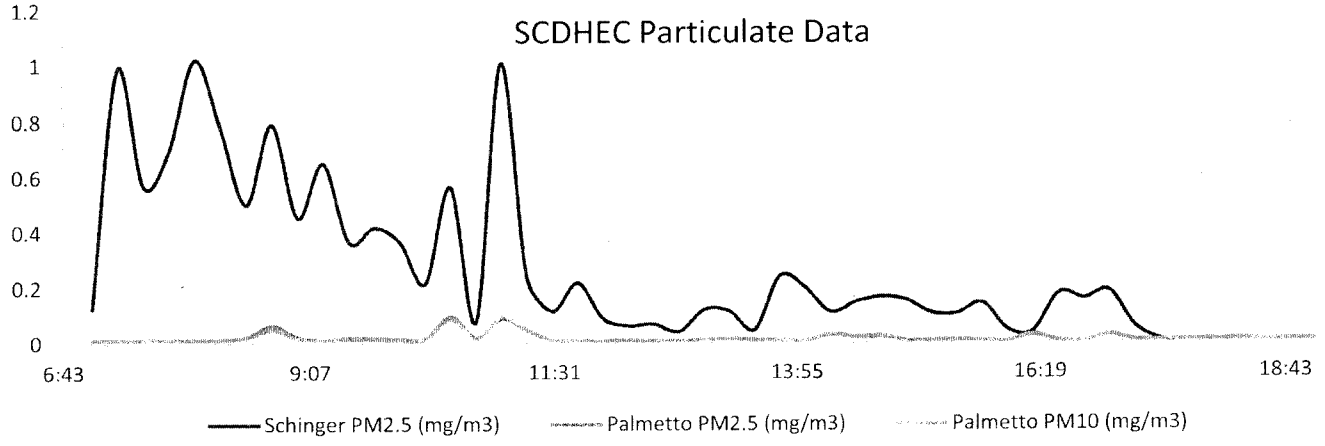

8/10/19 DAY Data for DustTrak 3 ($PM_{2.5}$) - Sun City
0.5
0.4
0.3
0.2
0.1
0
6:43
9:07
11:31
13:55
16:19
18:43


SCDHEC Particulate Data
1.2
1
0.8
0.6
0.4
0.2
0
6:43
9:07
11:31
13:55
16:19
18:43
Schinger PM2.5 (mg/m3)
Palmetto PM2.5 (mg/m3)
Palmetto PM10 (mg/m3)


8/10/19 DAY Data for DustTrak 1 (PM_{10}) - Peacock Collision
0.5
0.4
0.3
0.2
0.1
0
6:43
9:07
11:31
13:55
16:19
18:43


8/10/19 DAY Data for DustTrak 2 (PM_{10}) - MCP
0.5
0.4
0.3
0.2
0.1
0
6:43
9:07
11:31
13:55
16:19
18:43


8/10/19 DAY Data for DustTrak 3 (PM_{10}) - Sun City
0.5
0.4
0.3
0.2
0.1
0
6:43
9:07
11:31
13:55
16:19
18:43


SCDHEC Particulate Data
1.2
1
0.8
0.6
0.4
0.2
0
6:43
9:07
11:31
13:55
16:19
18:43
Schinger PM2.5 (mg/m3)
Palmetto PM2.5 (mg/m3)
Palmetto PM10 (mg/m3)

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Able Contracting Fire

From: **8/9/19 19:07** ***To:*** **8/10/19 9:25**

SE Corner of Able Contracting

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	2,276	86	0 - 322 ppb	3.9 ppb	1,000 ppb
	CO	No	2,276	18	0 - 6 ppm	0 ppm	83 ppm
	H_2S	No	2,276	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	2,276	2,276	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	2,276	0	0 - 0%	0%	10%

Traffic Circle North of Site

DustTrak 1	PM-2.5	Unhealthy	3,284	3,284	37 - 970 µg/m³	137 µg/m³	See SOG #: T106

On Site, Immediately West of Pile

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	1,120	0	0 - 0 ppm	0 ppm	1.0 ppm
	CO	No	1,120	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	1,120	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	1,120	494	20.6 - 20.9%	20.66%	<19.5 or >23%
	LEL	No	1,120	0	0 - 0 %	0%	10%

EPA Mobile Command Post

DustTrak 2	PM-2.5	Moderate	3,027	3,027	8 - 139 µg/m³	20.6 µg/m³	See SOG #: T106

Able Contracting Workshop, Northeast of Pile

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	1,148	3	0 - 256 ppb	0 ppm	1,000 ppb
	CO	No	1,148	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	1,148	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	1,148	1,148	20.9 - 20.9%	20.90%	<19.5 or >23%
	LEL	No	1,148	0	0 - 0%	0%	10%

Sun City

DustTrak 3	PM-2.5	Good	1,826	1,826	1 - 27 µg/m³	11.3 µg/m³	See SOG #: T106

Palmetto Exterminators

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	2,579	0	0 - 0 ppm	0 ppm	1,000 ppb
	CO	No	2,579	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	2,579	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	2,579	2,579	20.5 - 20.9%	20.90%	<19.5 or >23%
	LEL	No	2,579	0	0 - 0%	0%	10%

Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline levels for airborne chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

Armstrong, Kathy

From: Able Contracting Inc <ablecontracting29936@gmail.com>
Sent: Monday, August 19, 2019 12:17 PM
To: Huyser, Matthew
Subject: We just called Sheriff

The media is sitting in the middle of the road. Your trucks were honking their horn, but they weren't moving. So I called the Sheriff's Office to come down here.

Chandler

Armstrong, Kathy

From: Adams, Glenn
Sent: Monday, August 26, 2019 3:14 PM
To: Huyser, Matthew
Cc: Tolliver, Ronald; Frederick, Tim; Tanner, Terry; Spurlin, Steve; McCullough, Rachel; Miller, Angela; Garrard, Jordan
Subject: Re: questions re: Able fire and scientific testing

Matt, those are good answers in my opinion and should be enough to satisfy the questions to a large degrees. It is very important to add our purpose and reason of being there too, which I think is the desk statement that was being developed last week. I agree that a more detailed and specific answer would take manpower away from your focused response which is most important.
Thanks,
Glenn

Sent from my iPhone

On Aug 26, 2019, at 2:42 PM, Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:

> I'm looking back and can confirm that this email was sent to me but I've been inundated with emails so I have not had the time to sit down and deal with this one. Suffice to say that these are good questions but far too detailed for me to address with in the last few days because of the time that they require. These questions will require several hours to answer and we cannot devote the time to answer them unless an individual is devoted to this issue as part of the response.
>
> Initially, here are my answers:
>
> No, there was no site specific sampling plan when initial air samples were taken. A sampling plan is being put in place now. We use EPA SESD Field Branch Quality System and Technical Procedures SOPs for emergency response sampling while the site-specific Sampling and Analysis Plan (SAP) is being developed.
>
> Methods were not listed in the summary table. Methods and minimum detection limits can be provided but it will take time to amend the summary table to include those.
>
> Samples were collected from upwind and background locations as well as in smoke plumes and near residences. The requester must recognize that this is an emergency response and that rapid deployment for collection is a critical component of the project.
>
> Samples were analyzed for asbestos, formaldehyde, phosgene, VOCs, semi-volatile organic compounds (SVOCs), and target analyte list (TAL) metals. The requester must recognize that this is an emergency response and that rapid analysis and information is a critical component of the project.
>
> The EPA has reviewed all products being utilized on the response and are aware of the presences of fluorinated compounds within certain products. Documentation has been requested and received from the manufacturers to address this issue.
>
> The monitor on the school was deployed and maintained by SC DHEC and a direct line of communication is ongoing between the SC DHEC air program and the school district. Particulate monitors are deployed

and maintained by EPA and DHEC in within and up to a mile away in all directions to account for changing wind directions.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Sent: Monday, August 26, 2019 1:36 PM
To: Adams, Glenn <Adams.Glenn@epa.gov>; Frederick, Tim <Frederick.Tim@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>; Tanner, Terry <Tanner.Terry@epa.gov>; Spurlin, Steve <Spurlin.Steve@epa.gov>
Cc: McCullough, Rachel <McCullough.Rachel@epa.gov>; Miller, Angela <Miller.Angela@epa.gov>
Subject: RE: questions re: Able fire and scientific testing

O.K. Thanks. If anyone has any input that they would like to add before I respond to this person, please let me know.

From: Adams, Glenn <Adams.Glenn@epa.gov>
Sent: Monday, August 26, 2019 1:21 PM
To: Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Frederick, Tim <Frederick.Tim@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>; Tanner, Terry <Tanner.Terry@epa.gov>; Spurlin, Steve <Spurlin.Steve@epa.gov>
Cc: McCullough, Rachel <McCullough.Rachel@epa.gov>; Miller, Angela <Miller.Angela@epa.gov>
Subject: RE: questions re: Able fire and scientific testing

Ron,
Tim and I can't really answer these questions. We will be glad to look over the responses and provide input where we can, but this was all done in the field with the OSCs and START. I'm adding Matt, Terry, and Steve to this message because I'm not sure who has the lead this week.

Let us know if we need to be on a call to discuss these issues.
Glenn

From: Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Sent: Monday, August 26, 2019 1:11 PM
To: Adams, Glenn <Adams.Glenn@epa.gov>; Frederick, Tim <Frederick.Tim@epa.gov>
Cc: McCullough, Rachel <McCullough.Rachel@epa.gov>; Miller, Angela <Miller.Angela@epa.gov>
Subject: FW: questions re: Able fire and scientific testing

Glenn and Tim, do you guys have any input that I should use before I respond to this person about the Able Site?

From: Farhana Mather (b)(6) Personal Privacy
Sent: Monday, August 26, 2019 11:08 AM
To: Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Subject: questions re: Able fire and scientific testing

Dear Ron

I sent the below to Matt last week and did not get a reply so I am sending to you. Dear Mr. Huyser

I am a local Okatie resident (Oldfield) within proximity to the fire and with children at OES and I work very closely with environmental (air and water quality) scientists at Columbia University. In discussions with them about the Able Contracting fire and air quality, they have suggested that we ask EPA and DHEC the following questions so that we can better understand exactly what is being tested. They are willing to look at the answers and let us know if there is additional things that can or should be done or if this is sufficiient for the current situation. I appreciate that you all have a lot going on dealing with the dump debris removal, fires and the air quality. As concerned parents, understanding the below information is important for us to be aware of.

What methods are using for each of the non target compounds? Are they methods that can detect levels well below m(≥10 times below) the maximum contaminant level (state of federal regulation)?

Does the EPA have data that uses the proposed methods that:
1) shows their procedure has low method blanks'
2) that shows replicate measurements have good agreement (within 10% of each other)
3) a sampling plan which has control areas to sample from.
4) a sampling plan showing a control area (upwind, up flow, etc)

Is the EPA doing any untargeted analyses to look for a wider array of compounds rather than just what you are targeting the analyses towards; the type of fire of unknown debris warrants it;

What is being used to fight the fires with aside from water - normally PFAS and PFOA containing foams are used. Thus analyzing for those compounds and other flourinated compounds would make sense.

What data can be provided which validates that this is the approriate location for the air quality monitor on top of the school? That the readings are corroborated with multiple sensor sites within proximity?

I would appreciate any answers that you can provide to these questions.

Thank you,
(b)(6) Personal Privacy

Armstrong, Kathy

From: Adams, Glenn
Sent: Monday, August 26, 2019 1:21 PM
To: Tolliver, Ronald; Frederick, Tim; Huyser, Matthew; Tanner, Terry; Spurlin, Steve
Cc: McCullough, Rachel; Miller, Angela
Subject: RE: questions re: Able fire and scientific testing

Ron,
Tim and I can't really answer these questions. We will be glad to look over the responses and provide input where we can, but this was all done in the field with the OSCs and START. I'm adding Matt, Terry, and Steve to this message because I'm not sure who has the lead this week.

Let us know if we need to be on a call to discuss these issues.
Glenn

From: Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Sent: Monday, August 26, 2019 1:11 PM
To: Adams, Glenn <Adams.Glenn@epa.gov>; Frederick, Tim <Frederick.Tim@epa.gov>
Cc: McCullough, Rachel <McCullough.Rachel@epa.gov>; Miller, Angela <Miller.Angela@epa.gov>
Subject: FW: questions re: Able fire and scientific testing

Glenn and Tim, do you guys have any input that I should use before I respond to this person about the Able Site?

From: (b)(6) Personal Privacy
Sent: Monday, August 26, 2019 11:08 AM
To: Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Subject: questions re: Able fire and scientific testing

Dear Ron

I sent the below to Matt last week and did not get a reply so I am sending to you. Dear Mr. Huyser

I am a local Okatie resident (Oldfield) within proximity to the fire and with children at OES and I work very closely with environmental (air and water quality) scientists at Columbia University. In discussions with them about the Able Contracting fire and air quality, they have suggested that we ask EPA and DHEC the following questions so that we can better understand exactly what is being tested. They are willing to look at the answers and let us know if there is additional things that can or should be done or if this is sufficiient for the current situation. I appreciate that you all have a lot going on dealing with the dump debris removal, fires and the air quality. As concerned parents, understanding the below information is important for us to be aware of.

What methods are using for each of the non target compounds? Are they methods that can detect levels well below m(≥10 times below) the maximum contaminant level (state of federal regulation)?

Does the EPA have data that uses the proposed methods that:
1) shows their procedure has low method blanks'
2) that shows replicate measurements have good agreement (within 10% of each other)
3) a sampling plan which has control areas to sample from.
4) a sampling plan showing a control area (upwind, up flow, etc)

Is the EPA doing any untargeted analyses to look for a wider array of compounds rather than just what you are targeting the analyses towards; the type of fire of unknown debris warrants it;

What is being used to fight the fires with aside from water - normally PFAS and PFOA containing foams are used. Thus analyzing for those compounds and other flourinated compounds would make sense.

What data can be provided which validates that this is the approriate location for the air quality monitor on top of the school? That the readings are corroborated with multiple sensor sites within proximity?

I would appreciate any answers that you can provide to these questions.

Thank you,
(b)(6) Personal Privacy

Armstrong, Kathy

From: Adams, Glenn
Sent: Thursday, August 22, 2019 1:54 PM
To: Moore, Tony; Thomas, Brett; Frederick, Tim
Cc: Huyser, Matthew
Subject: RE: Beekeeper in SC

Tim is reaching out to the County Ag to see if he can get her a contact.
Thanks,
Glenn

From: Moore, Tony <moore.tony@epa.gov>
Sent: Thursday, August 22, 2019 1:47 PM
To: Thomas, Brett <Thomas.Brett@epa.gov>; Frederick, Tim <Frederick.Tim@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: RE: Beekeeper in SC

Send her to State Ag

From: Thomas, Brett <Thomas.Brett@epa.gov>
Sent: Thursday, August 22, 2019 12:17 PM
To: Frederick, Tim <Frederick.Tim@epa.gov>; Moore, Tony <moore.tony@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: RE: Beekeeper in SC

I talked with Michelle Garmon for a short bit. She has some concern for the safety of the bees, but her main concern right now is the 200 lbs of honey she harvested: can she safely sell that/give it to people or not? Also some concern about the amount of contamination in the wax in the honeycombs, and whether that all needs to be cleaned out so the bees can start fresh. There evidently is value in having lots of wax buildup; I guess it makes the honey darker and gives it more flavor. I said my guess would be there probably was not significant contamination buildup in the honey to pose a risk, but that was just a guess and the only way to have a better idea would be to have the honey (and wax?) analyzed to see what is in it. I said then a human health risk assessor would have some information to work with to get an idea of the safety of the honey.

I asked if she had contact info with the State of SC, and she said she does. She understands that EPA will likely only be around long enough to get the fire under control, and then the State again takes over. I told her I would try to find a contact from EPA, like our OSC or someone like that, who perhaps could advise her regarding the potential of having the honey analyzed and who could help her with that. I recommended that she follow up with her State contacts while I look into an EPA contact.

Who would be our best EPA contact for this? If it is our OSC working on this, who do we have over there?

Thanks.
Brett

From: Frederick, Tim <Frederick.Tim@epa.gov>
Sent: Thursday, August 22, 2019 9:49 AM
To: Thomas, Brett <Thomas.Brett@epa.gov>

Cc: Adams, Glenn <Adams.Glenn@epa.gov>
Subject: RE: Beekeeper

We haven't analyzed the PM. Nearer the site we have had some volatile organics, hydrogen cyanide, acrolein, and (maybe) phosgene.

From: Thomas, Brett
Sent: Thursday, August 22, 2019 9:47 AM
To: Frederick, Tim <Frederick.Tim@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>
Subject: RE: Beekeeper

I am looking stuff up. Off the top of my head, my response is ????????

As far as her honey, I have not seen mention of ill effects from people ingesting PM 2.5, obviously depending on what the particles are made of or have associated with them. I suppose if the particles are high in PAHs, that could cause concern though I would imagine if the honey had that much PM 2.5 in it, it would taste bad or look "off". So the organoleptic effects might keep people away from it. Obvious just a SWAG, since we don't know concentrations. Has anyone analyzed the PM to see what it is or has in it?

I am looking at a few papers that looked at particulate matter and bees. Once I see what the general conclusions of those papers are, maybe I/we can call her.

Brett

From: Frederick, Tim <Frederick.Tim@epa.gov>
Sent: Thursday, August 22, 2019 9:23 AM
To: Thomas, Brett <Thomas.Brett@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>
Subject: Beekeeper

Brett –

Glenn and I just returned from a public meeting at the Able Contracting Fire site in SC. After the meeting, I talked with a beekeeper who is concerned about what the air pollution means for her hives. She's less than a mile from the site, and they main contaminant of concern at the hives would be PM2.5. She mentioned that the bees themselves would forage over a much bigger area that could include areas nearer to the site. She wants to know if she needs to get rid of the honey she's harvested and/or if her honeycombs may be contaminated as well. I told her that we would try to get someone to get back with her and talk about her concerns. Can you help out? Or point us to someone who can? Her name is Michelle Garmon and her phone number is (b)(6) Personal

Thanks,

Tim

Armstrong, Kathy

Subject: FW: RRT 4 Activation: Able Contracting Fire
Location: (b)(6) Personal Privacy

Start: Mon 8/19/2019 1:00 PM
End: Mon 8/19/2019 2:00 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Andrew, Gary

-----Original Appointment-----
From: Andrew, Gary <Andrew.Gary@epa.gov>
Sent: Friday, August 16, 2019 4:06 PM
To: Andrew, Gary; forest.a.willis@uscg.mil; Webster, James; Moore, Tony; Richard Lavigne; adam.davis@noaa.gov; Airrion Moore ; Artie Buff ; kizer.billie@dol.gov; brad.Benggio@noaa.gov; cblair@cdc.gov; Charles Weir; Cheryl Louck; christina.edwards@nnsa.srs.gov; Colonel Robert Ashe; D_L_Anderson@nps.gov; David Fields; Eric K. Conklin ; Frank Bernhard; frank.csulak@noaa.gov; Gwen Keenan; Jack Fowler (jafowler2@tva.gov); Jeanne Eckes-Roper ; Jermaine Brown ; Joaquin Cardenas; Joel Coito; John Baxter ; John M. Pelchat ; jwheeler1@cdc.gov; Joyce_Stanley@ios.doi.gov; kbing@cdc.gov; lindy_nelson@ios.doi.gov; Lora Goza (Lora.Goza@fema.dhs.gov); miguel.l.bella@uscg.mil; Paul Gellerstedt; rrmajiros@tva.gov; scasteel@cdc.gov; Terry Brown; Thomas Bowman ; Van Reidhead; Wallace Dillon; Wayne M. Kee (wayne.m.kee@nasa.gov); Andrew McMillin ; Anuradha Nair-Gimmi; Barry.Brawley@tn.gov; Cody Fisher; deborah.gore@ncdenr.gov; Ed Westbrook; GSpringer@adem.state.al.us; Jesse McWilliams; JR Campbell; Michael.rinehart@tn.gov; nick.roff@dep.state.fl.us; Pam Cook; leepd@dhec.sc.gov; Rob Dietrich; robert.francis@ky.gov; Anthony Seqouyah; April Sells ; BlueCloud, Keith; cwhite@pci-nsn.gov; Darin.Steen@catawbaindian.net; David Dees; Gene Duncan; jerry.cain@choctaw.org; kevind@miccosukeetribe.com; michlavo@nc-cherokee.com; kweatherford@pci-nsn.gov; Negron, Jose; Huyser, Matthew; Jardine, Rick; Hodoh, Ofia; Chaplainforest@comcast.net; Randall L. Hecht
Cc: aov2@cdc.gov; gspringer@adem.alabama.gov; Campbell, Jerry; Cody Fisher; STANLEY, Derrick; Stewart, R. Gary; Elizabeth Basil; Walter Hopwood
Subject: RRT 4 Activation: Able Contracting Fire
When: Monday, August 19, 2019 1:00 PM-2:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: (b)(6) Personal Privacy

Good Afternoon,

The EPA Chair of RRT 4, James Webster, has requested an activation of the RRT on Monday August 19, 2019. The call will allow RRT members to be briefed on current activities at the site and to coordinate any needed support for the FOSC.

Call Date: Monday August 19, 2019
Call Time: 1pm Eastern
Call in: 202-991-0477
PIN: (b)(6) Personal

NRC# 1253131 – Able Contracting Fire, Ridgeland, Jasper County, SC

The South Carolina Department of Health and Environmental Control (SCDHEC) requested that the EPA respond to an ongoing fire at the Able Contracting recycled materials process facility. The facility is approximately two acres in size and contains a large pile of shredded debris. Frequent fires have been reported resulting in fire department responses to extinguish flames, however a persistent plume of smoke has been observed in the area . Since July 25, EPA has mobilized several times to provide air monitoring and sampling support. On August 9, EPA Phone Duty Officer mobilized OSC Huyser to the Able Contracting Fire to continue to assist with air monitoring and sampling activities. EPA and SCDHEC maintained 24-hour air monitoring operations. EPA relocated air monitors based on weather forecasts, visible smoke plume observations and affected population receptors. Contact OSC Rick Jardine for additional information.

Update: The EPA Community Involvement Coordinator conducted interviews with residents who have been relocated on August 14. EPA will be assuming responsibility of providing for relocation of the residents on Friday, August 16. A webpage has been launched that will provide information on EPA activities and documentation at www.epa.gov/superfund/able-contracting-fire. EPA has visited the Oak Hill landfill to verify capacity and operations are capable of receiving materials from the Site. Smoke observations overnight reported minimal smoke traveling East and North throughout the night. Accumulations of smoke are occuring near the east and northeast corner of the Site throughout the day. Downwind particulate monitor at Peacock Collision has remained in Good to Moderate condition throughout the day.

On the afternoon of August 15, detections of HCN were reported near the northeast corner of the stack. An employee of Able Contracting was exposed and treated for related symptoms. Detections of HCN were confirmed with handheld monitors by contractors for DHEC with a peak readings of 3.0 ppm and lower readings of approximately 1 ppm downrange. EPA air monitors in the area reported detections of HCN at 0.9 ppm. The NIOSH Recommended Exposure Limit (REL) for worker health and safety for HCN is 4.7 ppm and all HCN sensors at the Site have been set to alarm at 2.35 ppm which is half of the NIOSH REL. Based on detections of HCN at the contractor trailer and working areas, the decision was made to egress from the Site to the EPA Mobile Command Post. Contractors deployed with supplied air and portable chemical detection meters to businesses in the immediate area and notify them of the event. Several businesses evacuated their employees and contact information was collected to provide notification of progress at the Site

Respectfully,

Gary A. Andrew, CHMM
Federal On Scene Coordinator
EPA RRT IV Coordinator
678-733-1621

Armstrong, Kathy

From: Barnett, Felicia
Sent: Thursday, August 22, 2019 12:21 PM
To: Huyser, Matthew
Subject: RE: Able Fire - immediate consultation on product needed

Hi Matt:

Have people looking at it and we found this on line:

http://novacoolfire.com/wp-content/uploads/2016/07/SDS_UEFrev1.1.pdf

Section 3 gives composition information – but it is not very specific.

"Blend of organic surfactants being anionic, nonionic and amphoteric surfactants" doesn't tell us much. That was also what was in their write up. To really give you some idea if there are fed flags, ORD needs know the basic chemical composition of those surfactants.

As noted, many AFFF type products are shifting to the C6 versions (PFHxA and PFHxS) are not PFOA/PFOS but are similar to Gen-X

Felicia Barnett, Director
ORD Site Characterization and Monitoring Technical Support Center (SCMTSC)
Superfund and Technology Liaison, Region 4
USEPA
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8659

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Thursday, August 22, 2019 11:22 AM
To: Barnett, Felicia <Barnett.Felicia@epa.gov>
Subject: Able Fire - immediate consultation on product needed

Felicia,

Per our phone call, I'm looking for someone who can review some product information and to see if they find any "red flags"
We are looking at using this product on an active fire – review is requested immediately
It does not have to be a full review, report or approval; all we need is someone to look at it and see if there's anything that stands out as potentially problematic

The product is a firefighting agent. The company says there is no PFOA/PFOS in the product but we want to be sure there's no issue from the agency side

Novacool UEF
http://novacoolfire.com/
http://novacoolfire.com/wp-content/uploads/2016/06/Baums_UEF_Description-2.pdf
http://novacoolfire.com/wp-content/uploads/2016/07/EPA_0001.pdf
http://novacoolfire.com/wp-content/uploads/2016/06/Aquatic_Toxicity_UEF.pdf
http://novacoolfire.com/wp-content/uploads/2016/06/UEF_BOD_COD.pdf
http://novacoolfire.com/wp-content/uploads/2016/06/Novacool_UEFrev19.MSD_.pdf

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Armstrong, Kathy

From: Barnett, Felicia
Sent: Thursday, August 22, 2019 12:04 PM
To: Huyser, Matthew
Subject: RE: Able Fire - immediate consultation on product needed

Importance: High

Matt: do they have any Safety Data Sheets for these products? (old MSDSs)?

ORD noted that saying they have no PFOA/PFOS is not reassuring. Many AFFF type products are shifting to the C6 versions (PFHxA and PFHxS).

Let me know if you can get anything.

Felicia Barnett, Director
ORD Site Characterization and Monitoring Technical Support Center (SCMTSC)
Superfund and Technology Liaison, Region 4
USEPA
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8659

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Thursday, August 22, 2019 11:22 AM
To: Barnett, Felicia <Barnett.Felicia@epa.gov>
Subject: Able Fire - immediate consultation on product needed

Felicia,

Per our phone call, I'm looking for someone who can review some product information and to see if they find any "red flags"
We are looking at using this product on an active fire – review is requested immediately
It does not have to be a full review, report, or approval; all we need is someone to look at it and see if there's anything that stands out as potentially problematic.

The product is a firefighting agent. The company says there is no PFOA/PFOS in the product but we want to be sure there's no issue from the agency side

Novacool UEF
http://novacoolfire.com/
http://novacoolfire.com/wp-content/uploads/2016/06/Baums_UEF_Description-2.pdf
http://novacoolfire.com/wp-content/uploads/2016/07/EPA_0001.pdf
http://novacoolfire.com/wp-content/uploads/2016/06/Aquatic_Toxicity_UEF.pdf
http://novacoolfire.com/wp-content/uploads/2016/06/UEF_BOD_COD.pdf

http://novacoolfire.com/wp-content/uploads/2016/06/Novacool_UEFrev19.MSD_.pdf

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Armstrong, Kathy

From: Barnett, Felicia
Sent: Thursday, August 22, 2019 11:23 AM
To: Huyser, Matthew
Subject: RE: Able Fire - immediate consultation on product needed

Working on it. I'll let you know a contact when I get it.

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Thursday, August 22, 2019 11:22 AM
To: Barnett, Felicia <Barnett.Felicia@epa.gov>
Subject: Able Fire - immediate consultation on product needed

Felicia,

Per our phone call, I'm looking for someone who can review some product information and to see if they find any "red flags"
We are looking at using this product on an active fire – review is requested immediately
It does not have to be a full review, report, or approval; all we need is someone to look at it and see if there's anything that stands out as potentially problematic.

The product is a firefighting agent. The company says there is no PFOA/PFOS in the product but we want to be sure there's no issue from the agency side

Novacool UEF
http://novacoolfire.com/
http://novacoolfire.com/wp-content/uploads/2016/06/Baums_UEF_Description-2.pdf
http://novacoolfire.com/wp-content/uploads/2016/07/EPA_0001.pdf
http://novacoolfire.com/wp-content/uploads/2016/06/Aquatic_Toxicity_UEF.pdf
http://novacoolfire.com/wp-content/uploads/2016/06/UEF_BOD_COD.pdf
http://novacoolfire.com/wp-content/uploads/2016/06/Novacool_UEFrev19.MSD_.pdf

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Armstrong, Kathy

From: Bucci, Anthony
Sent: Monday, August 19, 2019 4:52 PM
To: Tolliver, Ronald; Huyser, Matthew
Subject: RE: [Time Sensitive] Public Inquiry - Able Contracting Site Fire Meeting Information

Thank you!
--
Sincerely,

Anthony Bucci III
Environmental Protection Specialist (Presidential Management Fellow)
Office of Superfund Remediation and Technology Innovation
U.S. Environmental Protection Agency
Office: 1 (703) 603.7138 | S-5834
Twitter @EPALand | https://www.epa.gov/superfund

"Be the change you want to see in the world." – Mahatma Gandhi

From: Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Sent: Monday, August 19, 2019 4:52 PM
To: Bucci, Anthony <bucci.anthony@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: RE: [Time Sensitive] Public Inquiry - Able Contracting Site Fire Meeting Information

We have responded

From: Bucci, Anthony <bucci.anthony@epa.gov>
Sent: Monday, August 19, 2019 4:46 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Subject: [Time Sensitive] Public Inquiry - Able Contracting Site Fire Meeting Information

Dear Matthew and Ronald,

The below public inquiry was sent in through the Superfund website. Would you mind responding? This seems time sensitive.

--
Sincerely,

Anthony Bucci III
Environmental Protection Specialist (Presidential Management Fellow)
Office of Superfund Remediation and Technology Innovation
U.S. Environmental Protection Agency
Office: 1 (703) 603.7138 | S-5834
Twitter @EPALand | https://www.epa.gov/superfund

"Be the change you want to see in the world." – Mahatma Gandhi

Submitted on 08/19/2019 1:24PM
Submitted values are:

Name: Michelle Garmon
Email: (b)(6) Personal Privacy
Comments:
A gentleman came out to my home (b)(6) Personal Privacy yesterday, regarding the Able ContractingSite Fire and I believe I gave him my incorrect email address. There is to be a meeting tomorrow night at the Okatie Elementary School and he was going to email me the information. My correct email address is: (b)(6) Personal Privacy
Thank you Kindly,

Michelle Garmon (b)(6) Personal
Are you human? fifteen

Armstrong, Kathy

From: Bucci, Anthony
Sent: Monday, August 19, 2019 4:46 PM
To: Huyser, Matthew; Tolliver, Ronald
Subject: [Time Sensitive] Public Inquiry - Able Contracting Site Fire Meeting Information

Dear Matthew and Ronald,

The below public inquiry was sent in through the Superfund website. Would you mind responding? This seems time sensitive.

--
Sincerely,

Anthony Bucci III
Environmental Protection Specialist (Presidential Management Fellow)
Office of Superfund Remediation and Technology Innovation
U.S. Environmental Protection Agency
Office: 1 (703) 603.7138 | S-5834
Twitter @EPALand | https://www.epa.gov/superfund

"Be the change you want to see in the world." – Mahatma Gandhi

---

Submitted on 08/19/2019 1:24PM
Submitted values are:

Name: Michelle Garmon
Email: (b)(6) Personal Privacy
Comments:
A gentleman came out to my home (b)(6) Personal Privacy yesterday, regarding the Able ContractingSite Fire and I believe I gave him my incorrect email address. There is to be a meeting tomorrow night at the Okatie Elementary School and he was going to email me the information. My correct email address is: (b)(6) Personal Privacy
Thank you Kindly,

Michelle Garmon (b)(6) Personal Privacy
Are you human? fifteen

Armstrong, Kathy

From: Casey, Jose <Jose.Casey@mail.house.gov>
Sent: Tuesday, August 27, 2019 6:45 PM
To: shealyrg@dhec.sc.gov; Able Fire; Media; Tanner, Terry
Cc: reecemc@dhec.sc.gov; Huyser, Matthew
Subject: RE: Congressman Cunningham August 29th visit to Able Fire Site

Hello all,
The Congressman will now be stopping by with Senator Davis at 11 AM Thursday. We will likely have print and TV media there for the 20-30 minute visit. Sorry for the change of schedule, Sen Davis was unavailable in the afternoon.
Please let me know if you have any questions.
Best,
Jose Casey | Field Representative
Rep. Joe Cunningham (SC-01)
o (843) 525-1311 | (202) 836-1484 m

From: Shealy, Renee <shealyrg@dhec.sc.gov>
Sent: Friday, August 23, 2019 1:47 PM
To: Able Fire <ablefire@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Media <Media@dhec.sc.gov>; Casey, Jose <Jose.Casey@mail.house.gov>
Cc: Reece, Myra <reecemc@dhec.sc.gov>; Tanner.Terry@epa.gov
Subject: Re: Congressman Cunningham August 29th visit to Able Fire Site

Mr. Casey,

As discussed, DHEC will be there on Thursday to meet with Congressman Cunningham. I have added Terry Tanner to this email chain as he has replaced Matt Huyser as the EPA OSC so he is aware of this request.

Best,
Renee

From: Casey, Jose <Jose.Casey@mail.house.gov>
Sent: Friday, August 23, 2019 1:26 PM
To: Able Fire <ablefire@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>
Cc: Media <Media@dhec.sc.gov>
Subject: Congressman Cunningham August 29th visit to Able Fire Site

*** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***

Hello Matthew and DHEC Representative,
I was at the EPA informational meeting Tuesday night, and spoke with our DC office. Congressman Cunningham will be in Beaufort County next week and is planning on stopping by the site between 4:15 and 4:45 pm Thursday August 29th. We will have about 15 minutes to spend there, if you could give him a 5 minute briefing on what has been happening and next steps, it would be appreciated. Thank you.
Respectfully,
Jose Casey | Field Representative

Rep. Joe Cunningham (SC-01)
o (843) 525-1311 | (202) 836-1484 m

Armstrong, Kathy

From: Casey, Jose <Jose.Casey@mail.house.gov>
Sent: Friday, August 23, 2019 1:27 PM
To: ablefire@dhec.sc.gov; Huyser, Matthew
Cc: media@dhec.sc.gov
Subject: Congressman Cunningham August 29th visit to Able Fire Site

Hello Matthew and DHEC Representative,
I was at the EPA informational meeting Tuesday night, and spoke with our DC office. Congressman Cunningham will be in Beaufort County next week and is planning on stopping by the site between 4:15 and 4:45 pm Thursday August 29th. We will have about 15 minutes to spend there, if you could give him a 5 minute briefing on what has been happening and next steps, it would be appreciated. Thank you.
Respectfully,
Jose Casey | Field Representative
Rep. Joe Cunningham (SC-01)
o (843) 525-1311 | (202) 836-1484 m

Armstrong, Kathy

From: aov2@cdc.gov
Sent: Sunday, August 11, 2019 6:50 PM
To: Tolliver, Ronald
Cc: Huyser, Matthew; Adams, Greg; Frederick, Tim; Jenkins, Brandi; Pinkney, James
Subject: Re: Able Fire -

Agreed.

If I can help let me know.

Sue Casteel
ATSDR
404-562-0637

From: Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Sent: Sunday, August 11, 2019 3:29:36 PM
To: Casteel, Sue A. (ATSDR/DCHI/CB) <aov2@cdc.gov>
Cc: Huyser, Matthew <Huyser.Matthew@epa.gov>; Adams, Greg <Adams.Greg@epa.gov>; Frederick, Tim <Frederick.Tim@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>
Subject: Re: Able Fire -

I agree. I also think we should have contact information for those who may not understand the story map.

Sent from my iPhone

On Aug 11, 2019, at 2:52 PM, Casteel, Sue A. (ATSDR/DCHI/CB) <aov2@cdc.gov> wrote:

> Matt
>
> I defer to EPA to decide how to use the AQI. I like the idea of using a color coded chart to explain the different levels of health concern. I would include who is included in sensitive populations in the chart so everything is in one place.
>
> Sue Casteel
> ATSDR
> 404-562-0637
>
> ---
>
> **From:** Huyser, Matthew <Huyser.Matthew@epa.gov>
> **Sent:** Sunday, August 11, 2019 2:15:58 PM
> **To:** Adams, Greg <Adams.Greg@epa.gov>; Frederick, Tim <Frederick.Tim@epa.gov>; Casteel, Sue A. (ATSDR/DCHI/CB) <aov2@cdc.gov>; Casteel, Sue A. (ATSDR/DCHI/CB) <aov2@cdc.gov>
> **Cc:** Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>
> **Subject:** Able Fire -
>
> I would like to consider putting the below chart and text in a story map that would be opene for public viewing. Please review and recommend whether this is accurate and appropriate.

Level of Health Concern	Particulate Matter Below 2.5 microns, measured in µg/m3		
	1 hour average	24 hour average	
Good	0.0-40.0	0.0-12.0	Air quality is considered s
Moderate	**40.1-80.0**	**12.1-35.4**	**Air quality is acceptable; h moderate health concern unusually sensitive 3 to ai**
Unhealthy for Sensitive groups	**80.1-175.0**	**35.5-55.4**	**Members of sensitive grou public is not likely to be a**
Unhealthy	175.1-300.0	55.5-150.4	Everyone may begin to ex groups may experience m
Very Unhealthy	300.1-500.0	150.5-250.4	Health warnings of emerg likely to be affected.
Hazardous	>500.0	>250.5	Health alert: everyone ma

Threshold values taken from original EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc for PM2.5 (24 hour) and Idaho Department of Environmental Quality AQI for PM2.5 (1 hour) taken from http://app.airsis.com/usfs/aqi.asp.
Recommendations from EPA Air Now web site.
People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Armstrong, Kathy

From: aov2@cdc.gov
Sent: Saturday, August 10, 2019 12:18 PM
To: reecemc@dhec.sc.gov
Cc: Huyser, Matthew; Marshall, Frances (Fran); Jenkins, Brandi; Tolliver, Ronald
Subject: Re: Able Contracting Fire - affected resident request consultation

Matt,

I just talked to (b)(6) Personal Privacy has pre-existing medical conditions that she thinks are being exacerbated by exposure to Able Construction fire smoke.

(b)(6) works at G and E Landscaping, located close to the fire site according to (b)(6) says that (b) is in the office about 10-12 hours a day. At the end of the day (b) is experiencing health problems (b) thinks are being caused by exposure to fire smoke. (b) lives about 20 miles from Able Contracting and doesn't think her house is impacted by the smoke.

I recommended (b) talk to Dr. Bob Geller, PEHSH, Monday morning because of the medical nature of (b) concerns. I am asking Bob to call (b) on Monday because (b) is out of the office all weekend and isn't being exposed to fire smoke.

(b)(6) s also concerned about a guard dog that died of cancer recently. The dog lived at the landscaping company and (b)(6) is concerned it's cancer was caused by exposure to contaminants from the site. I told (b) we had no way of knowing what caused (b) dogs cancer.

Please call if you want to discuss.

Sue Casteel
ATSDR
404-562-0637

From: Reece, Myra <reecemc@dhec.sc.gov>
Sent: Saturday, August 10, 2019 10:57:46 AM
To: Casteel, Sue A. (ATSDR/DCHI/CB) <aov2@cdc.gov>
Cc: Huyser, Matthew <huyser.matthew@epa.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Subject: Re: Able Contracting Fire - affected resident request consultation

Thanks Sue !!

Sent from my iPhone

On Aug 10, 2019, at 10:42 AM, Casteel, Sue A. (ATSDR/DCHI/CB) <aov2@cdc.gov> wrote:

> *** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***
> Matt

I called (b)(6) Personal this morning. I left a voice mail for (b)(6) to call me anytime this weekend to discuss (b)(6) Perso smoke inhalation concerns.

I will let you know what we discuss if (b)(6) calls me back.

Sue Casteel
ATSDR
404-562-0637

From: Casteel, Sue A. (ATSDR/DCHI/CB)
Sent: Saturday, August 10, 2019 10:08:07 AM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>
Cc: reecemc@dhec.sc.gov <reecemc@dhec.sc.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Subject: Re: Able Contracting Fire - affected resident request consultation

Matt

I can contact her today and see what we can do to help.

I will keep you posted.

Sue Casteel
ATSDR
404-562-0637

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Friday, August 9, 2019 11:24:05 PM
To: Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Casteel, Sue A. (ATSDR/DCHI/CB) <aov2@cdc.gov>
Cc: reecemc@dhec.sc.gov <reecemc@dhec.sc.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Subject: RE: Able Contracting Fire - affected resident request consultation

(this email is being resent because an non-funcitonal email address was used for Sue Casteel in the original email)

I was approached by a resident at the MCP this afternoon who was asking for information about symptoms with breathing problems that are worsening and affecting other health issues. The resident is a heart attack patient and plans to visit her physician soon. (b)(6) works very close to the Able Contracting facility in a workspace that is not fully or always enclosed.

Based on the information that I gathered I believe information for her to discuss with her doctor is what (b)(6) was requesting. The residents name is (b)(6) Personal Privacy

Sue, is this a task that ATSDR can take on
or, Fran, is this a task that DHEC would prefer to assume for the meantime?

Matthew J. Huyser, PE - On-Scene Coordinator

U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Armstrong, Kathy

From: aov2@cdc.gov
Sent: Saturday, August 10, 2019 10:42 AM
To: Huyser, Matthew; Marshall, Frances (Fran)
Cc: reecemc@dhec.sc.gov; Jenkins, Brandi; Tolliver, Ronald
Subject: Re: Able Contracting Fire - affected resident request consultation

Matt

I called (b)(6) Personal this morning. I left a voice mail for (b) (6) to call me anytime this weekend to discuss (b) smoke inhalation concerns.

I will let you know what we discuss if (b) calls me back.

Sue Casteel
ATSDR
404-562-0637

From: Casteel, Sue A. (ATSDR/DCHI/CB)
Sent: Saturday, August 10, 2019 10:08:07 AM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>
Cc: reecemc@dhec.sc.gov <reecemc@dhec.sc.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Subject: Re: Able Contracting Fire - affected resident request consultation

Matt

I can contact her today and see what we can do to help.

I will keep you posted.

Sue Casteel
ATSDR
404-562-0637

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Friday, August 9, 2019 11:24:05 PM
To: Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Casteel, Sue A. (ATSDR/DCHI/CB) <aov2@cdc.gov>
Cc: reecemc@dhec.sc.gov <reecemc@dhec.sc.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Subject: RE: Able Contracting Fire - affected resident request consultation

(this email is being resent because an non-funcitonal email address was used for Sue Casteel in the original email)

I was approached by a resident at the MCP this afternoon who was asking for information about symptoms with breathing problems that are worsening and affecting other health issues. The resident is a heart attack patient and plans to visit (b) physician soon. (b) works very close to the Able Contracting facility in a workspace that is not fully or always enclosed.

Based on the information that I gathered I believe information for her to discuss with her doctor is what (b)(6) was requesting. The residents name is (b)(6) Personal Privacy

Sue, is this a task that ATSDR can take on
or, Fran, is this a task that DHEC would prefer to assume for the meantime?

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Armstrong, Kathy

From: aov2@cdc.gov
Sent: Saturday, August 10, 2019 10:42 AM
To: Huyser, Matthew; Marshall, Frances (Fran)
Cc: reecemc@dhec.sc.gov; Jenkins, Brandi; Tolliver, Ronald
Subject: Re: Able Contracting Fire - affected resident request consultation

Matt

I called (b)(6) Personal this morning. I left a voice mail for (b) (6) to call me anytime this weekend to discuss (b) (6) smoke inhalation concerns.

I will let you know what we discuss if (b) (6) calls me back.

Sue Casteel
ATSDR
404-562-0637

From: Casteel, Sue A. (ATSDR/DCHI/CB)
Sent: Saturday, August 10, 2019 10:08:07 AM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>
Cc: reecemc@dhec.sc.gov <reecemc@dhec.sc.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Subject: Re: Able Contracting Fire - affected resident request consultation

Matt

I can contact (b) (6) today and see what we can do to help.

I will keep you posted.

Sue Casteel
ATSDR
404-562-0637

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Friday, August 9, 2019 11:24:05 PM
To: Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Casteel, Sue A. (ATSDR/DCHI/CB) <aov2@cdc.gov>
Cc: reecemc@dhec.sc.gov <reecemc@dhec.sc.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Subject: RE: Able Contracting Fire - affected resident request consultation

(this email is being resent because an non-funcitonal email address was used for Sue Casteel in the original email)

I was approached by a resident at the MCP this afternoon who was asking for information about symptoms with breathing problems that are worsening and affecting other health issues. The resident is a heart attack patient and plans to visit her physician soon. She works very close to the Able Contracting facility in a workspace that is not fully or always enclosed.

Based on the information that I gathered I believe information for (b)(6) to discuss with her doctor is what (b) was requesting. The residents name is (b)(6) Personal Privacy

Sue, is this a task that ATSDR can take on
or, Fran, is this a task that DHEC would prefer to assume for the meantime?

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Armstrong, Kathy

From: aov2@cdc.gov
Sent: Saturday, August 10, 2019 10:08 AM
To: Huyser, Matthew; Marshall, Frances (Fran)
Cc: reecemc@dhec.sc.gov; Jenkins, Brandi; Tolliver, Ronald
Subject: Re: Able Contracting Fire - affected resident request consultation

Matt

I can contact (b) today and see what we can do to help.

I will keep you posted.

Sue Casteel
ATSDR
404-562-0637

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Friday, August 9, 2019 11:24:05 PM
To: Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Casteel, Sue A. (ATSDR/DCHI/CB) <aov2@cdc.gov>
Cc: reecemc@dhec.sc.gov <reecemc@dhec.sc.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Subject: RE: Able Contracting Fire - affected resident request consultation

(this email is being resent because an non-funcitonal email address was used for Sue Casteel in the original email)

I was approached by a resident at the MCP this afternoon who was asking for information about symptoms with breathing problems that are worsening and affecting other health issues. The resident is a heart attack patient and plans to visit (b) physician soon. (b) works very close to the Able Contracting facility in a workspace that is not fully or always enclosed.

Based on the information that I gathered I believe information for (b) to discuss with (b) doctor is what (b) was requesting. The residents name is (b)(6) Personal Privacy

Sue, is this a task that ATSDR can take on
or, Fran, is this a task that DHEC would prefer to assume for the meantime?

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Armstrong, Kathy

From: Chandler & Angela Lloyd <ablecontracting29936@gmail.com>
Sent: Monday, August 12, 2019 9:32 AM
To: Huyser, Matthew
Subject: Re: Able - Summary Report NIGHT 8/11-8/12

Thank you Matthew!
Angela

On Mon, Aug 12, 2019 at 9:10 AM Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:

Attached is the EPA data summary report for Nightime 8/11 to 8/12/19

Smoke was observed at ground level yesterday evening to the east in Brooke Mill and Abberly Chase Apartments. This was anticipated with generic wind forecasting so Dusttrak 1 was relocated to Brooke Mill apartments at approximately 7pm.

Visible smoke on the morning of 8/12 was traveling South towards Palmetto Exterminators and Sun City

No noteworthy VOC or CO readings

Average PM2.5 readings at Brooke Mill, Sun City, and Command Post (east side) were near 30 ug/m3 which is Moderate for the 24-hour average. Notice in the trendline persistent peaks of over 100 ug/m3 at Brooke Mill in at around 9pm and over 100 ug/m3 in Sun City at 1am.

Matthew J. Huyser, PE - On-Scene Coordinator

U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303

Emergency Response Removal and Prevention Branch (ERRPB)

office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**

epaosc.org

Armstrong, Kathy

From: Chandler & Angela Lloyd <ablecontracting29936@gmail.com>
Sent: Monday, August 12, 2019 9:32 AM
To: Huyser, Matthew
Subject: Re: Able - Summary Report NIGHT 8/11-8/12

Thank you Matthew!
Angela

On Mon, Aug 12, 2019 at 9:10 AM Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:

Attached is the EPA data summary report for Nightime 8/11 to 8/12/19

Smoke was observed at ground level yesterday evening to the east in Brooke Mill and Abberly Chase Apartments. This was anticipated with generic wind forecasting so Dusttrak 1 was relocated to Brooke Mill apartments at approximately 7pm.

Visible smoke on the morning of 8/12 was traveling South towards Palmetto Exterminators and Sun City

No noteworthy VOC or CO readings

Average PM2.5 readings at Brooke Mill, Sun City, and Command Post (east side) were near 30 ug/m3 which is Moderate for the 24-hour average. Notice in the trendline persistent peaks of over 100 ug/m3 at Brooke Mill in at around 9pm and over 100 ug/m3 in Sun City at 1am.

Matthew J. Huyser, PE - On-Scene Coordinator

U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303

Emergency Response Removal and Prevention Branch (ERRPB)

office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**

epaosc.org

Armstrong, Kathy

From: Chandler & Angela Lloyd <ablecontracting29936@gmail.com>
Sent: Sunday, August 11, 2019 7:49 PM
To: Huyser, Matthew
Subject: Re: Able - EPA Sampling Data

Hi Matthew! Thank you for sending this information to us. I look forward to meeting you tomorrow.

Angela Lloyd

On Sun, Aug 11, 2019 at 5:25 PM Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:

Chandler, I thought I sent this to you yesterday then checked my records and realized it never sent. I'm sorry about that

Attached are validated results for EPA air and water sampling data. Please note that some samples not included are still undergoing validation and quality control review. Distribute as-needed.

The constituent to note is the Acrolein in the VOCs list. Several samples exceeded the EPA Removal Management Level of 0.063 ug/m3 but the samples worth noting are ACF-AS-SMOKE-PM-072719 at 1.18 ug/m3 and ACF-AS-SMOKE-24HRVOC at 2.56 ug/m3

Matthew J. Huyser, PE - On-Scene Coordinator

U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303

Emergency Response Removal and Prevention Branch (ERRPB)

office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**

epaosc.org

Armstrong, Kathy

From: Clay E. Lucas <clayl@jaspercountysc.gov>
Sent: Wednesday, August 14, 2019 4:49 PM
To: Russell Wells; Command Staff; Dispatcher Personnel
Cc: Huyser, Matthew; Gary Morris; Kevin S. Smith
Subject: RE: 205
Attachments: ATT00001.txt; 205.pdf

Please find attached updated Comm plan.

From: Russell Wells
Sent: Friday, August 9, 2019 5:59 PM
To: Command Staff <CommandStaff@jaspercountysc.gov>; Dispatcher Personnel <DispatcherPersonnel@jaspercountysc.gov>
Cc: huyser.matthew@epa.gov; Gary Morris <gmorris@jaspercountysc.gov>; Kevin S. Smith <kssmith@jaspercountysc.gov>
Subject: 205

Please find attached the comm plan. The Jasper MA channel is assigned for the duration. EPA1 is in service until further. They will be your on site POC. Their MCP is established is established at 61 Schinger Ave.

INCIDENT RADIO COMMUNICATIONS PLAN (ICS 205)

1. Incident Name:	2. Date/Time Prepared:	3. Operational Period:
Able Contracting Recycle Center	Date: 8/14/2019 Time: 1700	Date From: 8/14/2019 Date To: Date Time From: 1700 Time To: HHMM

4. Basic Radio Channel Use:

Zone Grp.	Ch #	Function	Channel Name/Trunked Radio System Talkgroup	Assignment	RX Freq N or W	RX Tone/NAC	TX Freq N or W	TX Tone/NAC	Mode (A, D, or M)	Remarks
4	8	Command	Jasper MA	EPA1						Matt Huyser 678-427-8829
4	8	Fire Safety Team	Jasper MA	DHEC1						John Kinsey 843-991-0376

5. Special Instructions:

All incident communications have been designated to Jasper Mutual Aid talk group for the duration of the incident. EPA1 is call sign of the USEPA IC, DHEC1 is the call sign for the Fire Safety Team.

6. Prepared by (Communications Unit Leader): Name: C. Lucas Signature:

ICS 205	IAP Page	Date/Time: 8/14/2019 5:00 PM

ICS 205
Incident Radio Communications Plan

Purpose. The Incident Radio Communications Plan (ICS 205) provides information on all radio frequency or trunked radio system talkgroup assignments for each operational period. The plan is a summary of information obtained about available radio frequencies or talkgroups and the assignments of those resources by the Communications Unit Leader for use by incident responders. Information from the Incident Radio Communications Plan on frequency or talkgroup assignments is normally placed on the Assignment List (ICS 204).

Preparation. The ICS 205 is prepared by the Communications Unit Leader and given to the Planning Section Chief for inclusion in the Incident Action Plan.

Distribution. The ICS 205 is duplicated and attached to the Incident Objectives (ICS 202) and given to all recipients as part of the Incident Action Plan (IAP). All completed original forms must be given to the Documentation Unit. Information from the ICS 205 is placed on Assignment Lists.

Notes:

- The ICS 205 is used to provide, in one location, information on all radio frequency assignments down to the Division/Group level for each operational period.
- The ICS 205 serves as part of the IAP.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Date/Time Prepared**	Enter date prepared (month/day/year) and time prepared (using the 24-hour clock).
3	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
4	**Basic Radio Channel Use**	Enter the following information about radio channel use:
	Zone Group	
	Channel Number	Use at the Communications Unit Leader's discretion. Channel Number (Ch #) may equate to the channel number for incident radios that are programmed or cloned for a specific Communications Plan, or it may be used just as a reference line number on the ICS 205 document.
	Function	Enter the Net function each channel or talkgroup will be used for (Command, Tactical, Ground-to-Air, Air-to-Air, Support, Dispatch).
	Channel Name/Trunked Radio System Talkgroup	Enter the nomenclature or commonly used name for the channel or talk group such as the National Interoperability Channels which follow DHS frequency Field Operations Guide (FOG).
	Assignment	Enter the name of the ICS Branch/Division/Group/Section to which this channel/talkgroup will be assigned.
	RX (Receive) Frequency (N or W)	Enter the Receive Frequency (RX Freq) as the mobile or portable subscriber would be programmed using xxx.xxxx out to four decimal places, followed by an "N" designating narrowband or a "W" designating wideband emissions. The name of the specific trunked radio system with which the talkgroup is associated may be entered across all fields on the ICS 205 normally used for conventional channel programming information.
	RX Tone/NAC	Enter the Receive Continuous Tone Coded Squelch System (CTCSS) subaudible tone (RX Tone) or Network Access Code (RX NAC) for the receive frequency as the mobile or portable subscriber would be programmed.

Block Number	Block Title	Instructions
4 (continued)	TX (Transmit) Frequency (N or W)	Enter the Transmit Frequency (TX Freq) as the mobile or portable subscriber would be programmed using xxx.xxxx out to four decimal places, followed by an "N" designating narrowband or a "W" designating wideband emissions.
	TX Tone/NAC	Enter the Transmit Continuous Tone Coded Squelch System (CTCSS) subaudible tone (TX Tone) or Network Access Code (TX NAC) for the transmit frequency as the mobile or portable subscriber would be programmed.
	Mode (A, D, or M)	Enter "A" for analog operation, "D" for digital operation, or "M" for mixed mode operation.
	Remarks	Enter miscellaneous information concerning repeater locations, information concerning patched channels or talkgroups using links or gateways, etc.
5	**Special Instructions**	Enter any special instructions (e.g., using cross-band repeaters, secure-voice, encoders, private line (PL) tones, etc.) or other emergency communications needs). If needed, also include any special instructions for handling an incident within an incident.
6	**Prepared by** (Communications Unit Leader) • Name • Signature • Date/Time	Enter the name and signature of the person preparing the form, typically the Communications Unit Leader. Enter date (month/day/year) and time prepared (24-hour clock).

Armstrong, Kathy

From: Crooks, Carol <Crookscl@DHEC.SC.GOV>
Sent: Wednesday, August 21, 2019 8:58 AM
To: Huyser, Matthew; Cole, Robert; Morrison, Karen; williajc@dhec.sc.gov; Tim Kadar; Stewart, R. Gary
Cc: Tanner, Terry; Patel, Subash
Subject: Re: Able Contracting Sampling Map and Work Plan

Great. I'll plan to add this location. On the way now.

Carol

Carol L. Crooks
Project Manager
State Remediation Section
Bureau of Land and Waste Management
S.C. Dept. of Health & Environmental Control
Office: (803) 898-0810
Connect: www.scdhec.gov Facebook Twitter

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Wednesday, August 21, 2019 7:51:21 AM
To: Crooks, Carol <Crookscl@DHEC.SC.GOV>; Cole, Robert <colerb@dhec.sc.gov>; Morrison, Karen <morrisks@dhec.sc.gov>; Williams, Jason C. <williajc@dhec.sc.gov>; Kadar, Tim <kadartj@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>
Cc: Tanner, Terry <Tanner.Terry@epa.gov>; Patel, Subash <Patel.Subash@epa.gov>
Subject: RE: Able Contracting Sampling Map and Work Plan

*** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***

Carol, thanks.

FYI, we just visited with JS Construction and observed that there is a confluence with another ditch that joins from another source and this point may be an excellent location for sampling. Chris Russell and Terry Tanner can help with locating that when your team arrives.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Crooks, Carol <Crookscl@DHEC.SC.GOV>
Sent: Tuesday, August 20, 2019 10:49 AM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>; Cole, Robert <colerb@dhec.sc.gov>; Morrison, Karen <morrisks@dhec.sc.gov>; williajc@dhec.sc.gov; Tim Kadar <kadartj@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>
Subject: Able Contracting Sampling Map and Work Plan

Both are attached. Please let me know if any changes are necessary.

Carol

Carol L. Crooks

Project Manager

State Remediation Section

Bureau of Land and Waste Management

S.C. Dept. of Health & Environmental Control
Office: (803) 898-0810
Connect: www.scdhec.gov Facebook Twitter

Armstrong, Kathy

From: Crooks, Carol <Crookscl@DHEC.SC.GOV>
Sent: Tuesday, August 20, 2019 10:49 AM
To: Huyser, Matthew; Cole, Robert; Morrison, Karen; williajc@dhec.sc.gov; Tim Kadar; Stewart, R. Gary
Subject: Able Contracting Sampling Map and Work Plan
Attachments: sample map4.jpg; Surface Water-Sediment Sampling Plan.doc

Both are attached. Please let me know if any changes are necessary.

Carol

Carol L. Crooks
Project Manager
State Remediation Section
Bureau of Land and Waste Management
S.C. Dept. of Health & Environmental Control
Office: (803) 898-0810
Connect: www.scdhec.gov Facebook Twitter

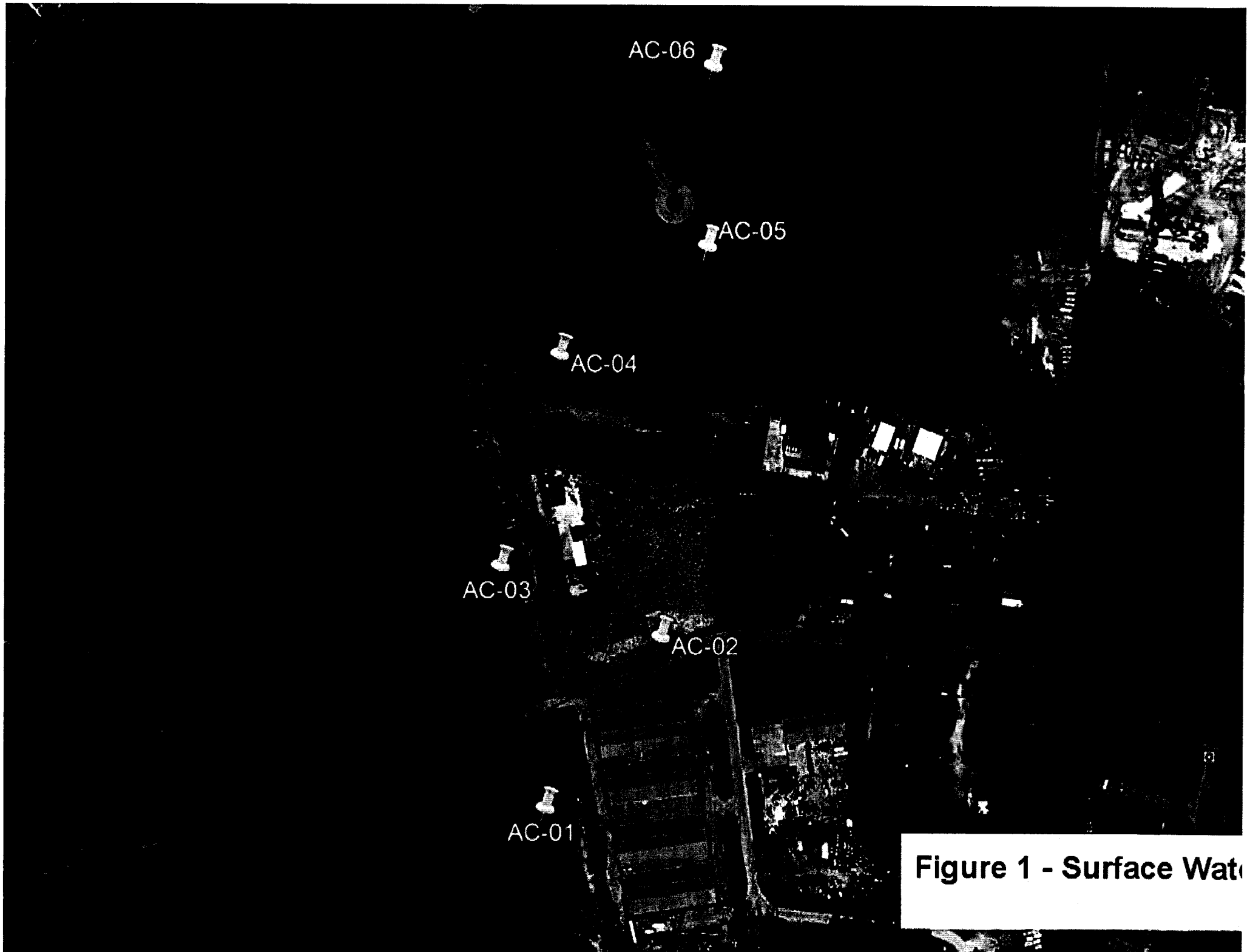


Figure 1 - Surface Wat

Work Plan for Sample Collection at Able Contracting Site
472 Schinger Ave. –Ridgeland, South Carolina

August 20, 2019

The South Carolina Department of Health and Environmental Control (SCDHEC), in an attempt to ensure that surface water quality has not been impacted by the Able Contracting Site (Site), will collect surface water and sediment samples on and near the Site. Six (6) surface water samples and two (2) sediment samples will be collected during this first sampling event. Figure 1 shows the locations of the six surface water samples labeled AC-01 through AC-06. The sediment samples will be collected from locations AC-02 and AC-03. All samples will be analyzed for Target Compound List (TCL) volatiles and semi-volatiles (including pesticides and PCBs) and include reporting of tentatively identified compounds. Additionally, samples will be analyzed for Target Analyte List (TAL) metals and cyanide.

Samples will be collected by SCDHEC personnel working in the Federal and State Site Assessment Section (Site Assessment). The Site Assessment Section will collect samples in accordance with their United States Environmental Protection Agency (USEPA) approved Quality Assurance Project Plan used in CERCLA Site Screening activities. The samples will then be analyzed by Shealy Environmental Services Laboratory. The target date for sample collection is August 21, 2019.

Carol Crooks, Project Manager
State Remediation, SCDHEC
803-898-0810
crookscl@dhec.sc.gov

Armstrong, Kathy

From: David Tedder <dtedder@jaspercountysc.gov>
Sent: Friday, August 09, 2019 1:38 PM
To: reecemc@dhec.sc.gov
Cc: Andrew Fulghum; Frank Edwards; Russell Wells; Lisa Wagner; Huyser, Matthew; shealyrg@dhec.sc.gov
Subject: Re: Draft AM Info RE: Able Fire - August 9

I think we were going to remove the specifics on ppm. The monitors indicated that levels were in excess of the healthy levels set by the AQI...

Sent from my iPad
David Tedder

On Aug 9, 2019, at 12:58 PM, Reece, Myra <reecemc@dhec.sc.gov> wrote:

Sent from my iPad

Begin forwarded message:

From: "Marshall, Frances (Fran)" <marshaf2@dhec.sc.gov>
Date: August 9, 2019 at 12:26:15 PM EDT
To: "Shealy, Renee" <shealyrg@dhec.sc.gov>, "Reece, Myra" <reecemc@dhec.sc.gov>
Subject: Draft AM Info RE: Able Fire - August 9

Fran W. Marshall, J.D., M.S.P.H., CIH(r)

Director of Applied Science and Community Engagement

SC DHEC Environmental Affairs

Office: 803.898.9956

<DRAFT Document - Able Fire August 9 AM Information.docx>

Armstrong, Kathy

From: Derosier, Deborah
Sent: Wednesday, August 21, 2019 6:06 AM
To: Teasley, Leonna; Powers, Hieu M CIV; Huyser, Matthew; Gutierrez, Mary
Cc: Williams, Timothy S LT; Phelps, Christopher N LT; Martin, Matthew A LT; Chavalia, Isaac J MSTC; Cruz, Jimmy F&S4; Head, Javen R YN1; Young, Erin D YN1; Pounds, Kenneth E CIV; Overbeek, Maarten G CIV
Subject: RE: WAF Inquiry for Able Contracting Fire - RE: [Non-DoD Source] FW: USCG GULF STRIKE TEAM WAF EST

Done, you should see this hit CDW NLT tomorrow.

88	20,000.00	.00	20,000.00	.00	.00	.00	302DC6C	C020	C4A9RV00

Deb

Deborah Derosier/USEPA/US
Accountant OCFO-OC-CFC
26 W. Martin Luther King Dr
Cincinnati, OH 45268
Phone: 513-487-2256

From: Teasley, Leonna <teasley.leonna@epa.gov>
Sent: Tuesday, August 20, 2019 4:09 PM
To: Powers, Hieu M CIV <Hieu.M.Powers@uscg.mil>; Huyser, Matthew <Huyser.Matthew@epa.gov>; Gutierrez, Mary <Gutierrez.Mary@epa.gov>; Derosier, Deborah <Derosier.Deborah@epa.gov>
Cc: Williams, Timothy S LT <Timothy.S.Williams@uscg.mil>; Phelps, Christopher N LT <Christopher.N.Phelps@uscg.mil>; Martin, Matthew A LT <Matthew.A.Martin1@uscg.mil>; Chavalia, Isaac J MSTC <Isaac.J.Chavalia@uscg.mil>; Cruz, Jimmy F&S4 <Jimmy.G.Cruz@uscg.mil>; Head, Javen R YN1 <Javen.R.Head@uscg.mil>; Young, Erin D YN1 <Erin.D.Young@uscg.mil>; Pounds, Kenneth E CIV <Kenneth.E.Pounds@uscg.mil>; Overbeek, Maarten G CIV <Maarten.G.Overbeek@uscg.mil>
Subject: RE: WAF Inquiry for Able Contracting Fire - RE: [Non-DoD Source] FW: USCG GULF STRIKE TEAM WAF EST
Importance: High

Hello Hieu,

Attached is the signed WAF for Able Contracting.

v/r

Leonna Teasley
Grants Project Officer
Superfund Division
Resource & Scientific Integrity Branch
U.S. Environmental Protection Agency
61 Forsyth Street
Atlanta, Georgia 30303
(404) 562-8509

From: Powers, Hieu M CIV <Hieu.M.Powers@uscg.mil>
Sent: Tuesday, August 20, 2019 1:31 PM
To: Teasley, Leonna <teasley.leonna@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>; Gutierrez, Mary <Gutierrez.Mary@epa.gov>
Cc: Williams, Timothy S LT <Timothy.S.Williams@uscg.mil>; Phelps, Christopher N LT <Christopher.N.Phelps@uscg.mil>; Martin, Matthew A LT <Matthew.A.Martin1@uscg.mil>; Chavalia, Isaac J MSTC <Isaac.J.Chavalia@uscg.mil>; Cruz, Jimmy F&S4 <Jimmy.G.Cruz@uscg.mil>; Head, Javen R YN1 <Javen.R.Head@uscg.mil>; Young, Erin D YN1 <Erin.D.Young@uscg.mil>; Pounds, Kenneth E CIV <Kenneth.E.Pounds@uscg.mil>; Overbeek, Maarten G CIV <Maarten.G.Overbeek@uscg.mil>
Subject: WAF Inquiry for Able Contracting Fire - RE: [Non-DoD Source] FW: USCG GULF STRIKE TEAM WAF EST
Importance: High

Good afternoon Leonna and Matthew,

Based on the email string below between Matthew and the GST, I have set up our CPN C19G02 which GST has assigned to Able Contracting Fire.
I also set an initial funding ceiling of $20K.

Please provide me with a signed WAF when ready so I can file it with our case folder.

"Able Contracting Fire

Schinger Ave., Ridgeland, Jasper County, SC

Site ID: C4A9RV00

$20k should last 35 to 40 days"

Thank you,
~Mike

Hieu Michael Powers
CERCLA Strike Team ATB/Project Manager
EPA IAA Funds Project Manager
Financial Budget Analyst, USCG, NPFC
Office#: 202-795-6046

From: Williams, Timothy S LT <Timothy.S.Williams@uscg.mil>
Sent: Wednesday, August 14, 2019 5:15 PM
To: Powers, Hieu M CIV <Hieu.M.Powers@uscg.mil>
Cc: Phelps, Christopher N LT <Christopher.N.Phelps@uscg.mil>; Martin, Matthew A LT <Matthew.A.Martin1@uscg.mil>
Subject: FW: [Non-DoD Source] FW: USCG GULF STRIKE TEAM WAF EST
Importance: High

Good afternoon sir,

The GST has received a request to support EPA region IV. I have attached the SOW sent to me from the EPA for your review. We tried calling you this afternoon but missed you. If you are available in the morning we will try again to discuss the CPN and WAF.
Thanks in advance for your support.

Respectfully,
LT Tim Williams
Gulf Strike Team

From: Williams, Timothy S LT
Sent: Wednesday, August 14, 2019 4:04 PM
To: Phelps, Christopher N LT <Christopher.N.Phelps@uscg.mil>; Cantu, Ryan A LT <Ryan.A.Cantu@uscg.mil>; Bradway, Richard S DC1 <Richard.S.Bradway@uscg.mil>
Cc: Pounds, Kenneth E CIV <Kenneth.E.Pounds@uscg.mil>; Chavalia, Isaac J MSTC <(b)(6) Personal Privacy [redacted]; Martin, Matthew A LT <Matthew.A.Martin1@uscg.mil>
Subject: FW: [Non-DoD Source] FW: USCG GULF STRIKE TEAM WAF EST
Importance: High

Good afternoon LT Phelps and AST,
Please find the attached SOW from the EPA requesting GST assistance.
Respectfully,
LT Williams

From: ikebowl300 (b)(6) Personal Privacy [redacted]
Sent: Wednesday, August 14, 2019 3:27 PM
To: Williams, Timothy S LT <Timothy.S.Williams@uscg.mil>
Subject: [Non-DoD Source] FW: USCG GULF STRIKE TEAM WAF EST
Importance: High

Sent from my Verizon, Samsung Galaxy smartphone

-------- Original message --------
From: "Huyser, Matthew" <Huyser.Matthew@epa.gov>
Date: 8/14/19 15:20 (GMT-06:00)
To: Ike Chavalia <ikebowl300@gmail.com>, isaac.j.chavalia@uscg.mil
Subject: FW: USCG GULF STRIKE TEAM WAF EST

See below

Matthew J. Huyser, PE - On-Scene Coordinator

U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303

Emergency Response Removal and Prevention Branch (ERRPB)

office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**

cpaosc.org

From: Bates, Lloyd <Bates.Lloyd@epa.gov>
Sent: Wednesday, August 14, 2019 1:49 PM
To: Teasley, Leonna <teasley.leonna@epa.gov>
Cc: Harper, Greg <Harper.Greg@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: FW: USCG GULF STRIKE TEAM WAF EST
Importance: High

Leonna: Please initiate funding for the USCG Strike Team in the amount of $20,000. ERRPPB has requested deployment to a site effective today. I have attached the SOW for USCG.

Here is the site information:

Able Contracting Fire

Schinger Ave., Ridgeland, Jasper County, SC

Site ID: C4A9RV00

Lead OSC: Matt Huyser

From: Harper, Greg <Harper.Greg@epa.gov>
Sent: Wednesday, August 14, 2019 10:16 AM
To: Bates, Lloyd <Bates.Lloyd@epa.gov>
Subject: Fwd: USCG GULF STRIKE TEAM WAF EST

$20k should last 35 to 40 days.

Gregory L. Harper

EPA On-Scene Coordinator

U.S. Environmental Protection Agency, Region 4

Emergency Response Removal and Prevention Branch, 11th Floor

61 Forsyth Street. S.W.

Atlanta, Georgia 30303

Office (404) 562-8322

Cell (770) 570-8106

harper.greg@epa.gov

Sent from my iPhone

Begin forwarded message:

From: Ike Chavalia (b)(6) Personal Privacy
Date: August 13, 2019 at 10:21:51 PM EDT
To: "Huyser, Matthew" <Huyser.Matthew@epa.gov>
Cc: "isaac.j.chavalia@uscg.mil" <isaac.j.chavalia@uscg.mil>, "Harper, Greg" <Harper.Greg@epa.gov>
Subject: Re: USCG GULF STRIKE TEAM WAF EST

Copy that.

On Tue, Aug 13, 2019 at 8:10 PM Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:

Thanks. We're going to have to start at $10k right now and then increase it next week.

I've got some cost ceiling issues to work out this week and I can't risk getting out of that range before everything is fully worked out.

Matthew J. Huyser, PE - On-Scene Coordinator

U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303

Emergency Response Removal and Prevention Branch (ERRPB)

office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**

epaosc.org

From: Ike Chavalia (b)(6) Personal Privacy
Sent: Tuesday, August 13, 2019 7:19 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>; isaac.j.chavalia@uscg.mil
Subject: USCG GULF STRIKE TEAM WAF EST

Good Evening Matthew,

Basing my numbers on 21 days for two persons rough estimate puts costs at $12,000. A break down of those numbers is as follows:

40 days - Hotel @ $130/night = $5200

Flights (Savanna GA) - $963 X 2 = $1926

MI&E (Perdiem) 42 X $61 = $2562

Rental (Full Size Car) =$950

Miss Cost (Fuel,etc) $1100

Total $11,738

A WAF for $15,000 would suffice and we could support with 2 persons for 21 days if the duration is longer that 21 days we would need to replace personnel for same cost for (2) persons, approx. $6,000 a person.

v/r

MSTC Isaac Chavalia

USCG Gulf Strike Team

Mobile, AL 36608

718-689-4408

Armstrong, Kathy

From: chris.draper@tetratech.com
Sent: Thursday, July 25, 2019 2:02 PM
To: Huyser, Matthew; Falkner, Amber
Cc: John Snyder
Subject: RE: Able Fire - air sampling methods

Thanks, Matt. I forwarded this on to John Snyder. He is our lead in the field.

I think they are planning to sample the same as Kevin had us do at Bishop Road.

Chris Draper
Direct: + 1 (615) 969-1334
chris.draper@tetratech.com

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Thursday, July 25, 2019 1:42 PM
To: Falkner, Amber <Amber.Falkner@tetratech.com>; Draper, Chris <chris.draper@tetratech.com>
Subject: FW: Able Fire - air sampling methods

⚠ **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠

FYI, I should have copied you on this email below

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Huyser, Matthew
Sent: Thursday, July 25, 2019 1:40 PM
To: Jessica Vickers <Jessica.Vickers@tetratech.com>
Cc: Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Able Fire - air sampling methods

Below is a list from Dave Mickunas on sampling methodology that would be beneficial.

- Primary focus should be on PAHs which are expected
- Formaldehyde method is also provided below
- Both Dave and SESD recommended considering phthalates, except the TO-13A method doesn't list phthalates so Dave is checking in with a laboratory in CA on phthalates and will respond to me in an hour about their response
- VOCs may still be beneficial for poly-vinyl chloride and benzene so measurement of VOCs shouldn't be completely dismissed
- Dioxins, pesticides, and PCBs are optional

Attached is a COC and report from Bennett Landfill sampling. These samples were taken over the smoke plume. Analyses in the COC is listed below and the report contains the method numbers

- VOCs
- PM2.5 mass
- Total metals
- Particle Size
- Formaldehyde
- Total Mass

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 1:27 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Air Methods

Good Afternoon,

https://www3.epa.gov/ttnamti1/files/ambient/airtox/tocomp99.pdf
VOCs - Method TO-15: Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography Mass Spectrometry (GC/MS)
VOCs - Method TO-17: Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes Compendium Method TO-13A
SVOCs - Method TO-13A: Determination of Polycyclic Aromatic Hydrocarbons (PAHs) in Ambient Air Using Gas Chromatographic/Mass Spectrometry (GC/MS)
Formaldehyde - Method TO-11A: Determination of Formaldehyde in Ambient Air Using Adsorbent Cartridge Followed by High Performance Liquid Chromatography (HPLC)
Pesticides and PCBs - Method TO-10A: Determination Of Pesticides And Polychlorinated Biphenyls In Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed By Gas Chromatographic/Multi-Detector Detention (GC/MD)
Dioxins - Method TO-9A- Determination of Polychlorinated, Polybrominated And Brominated/Chlorinated Dibenzo-p-Dioxins And Dibenzofurans In Ambient Air

PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5515.pdf
PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5506.pdf

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team
109 T.W. Alexander Drive
Mail Code E343-04
Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)

Armstrong, Kathy

From: Eoc, Epahq
Sent: Friday, August 23, 2019 12:10 PM
To: Huyser, Matthew; Greenberg, Marc
Cc: Gaines, Linda; Libelo, Laurence; Schlieger, Brian; Blaze, Stephen
Subject: RE: Able Contracting Fire - immediate consultation requested

Thanks, Matt. If there's any need for additional consultation over the weekend, please let us know. Hope all goes well.

Pete Oh, Watch Officer
U.S. Environmental Protection Agency
Headquarters Emergency Operations Center
1200 Pennsylvania Ave
Washington, DC 20460
202-564-3850 (24hrs)
eoc.epahq@epa.gov

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Friday, August 23, 2019 10:56 AM
To: Greenberg, Marc <Greenberg.Marc@epa.gov>; Eoc, Epahq <Eoc.Epahq@epa.gov>
Cc: Gaines, Linda <Gaines.Linda@epa.gov>; Libelo, Laurence <Libelo.Laurence@epa.gov>; Schlieger, Brian <schlieger.brian@epa.gov>; Blaze, Stephen <Blaze.Stephen@epa.gov>
Subject: RE: Able Contracting Fire - immediate consultation requested

Thank you everyone for your help. Attached are data that we received from the manufacturer. Additionally, we are looking at redirecting firefighting runoff water to a POTW instead of managing it on-site.

Material is being mobilized initially for testing purposes.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Greenberg, Marc <Greenberg.Marc@epa.gov>
Sent: Thursday, August 22, 2019 2:59 PM
To: Eoc, Epahq <Eoc.Epahq@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>
Cc: Gaines, Linda <Gaines.Linda@epa.gov>; Libelo, Laurence <Libelo.Laurence@epa.gov>; Schlieger, Brian <schlieger.brian@epa.gov>; Blaze, Stephen <Blaze.Stephen@epa.gov>; Greenberg, Marc <Greenberg.Marc@epa.gov>
Subject: RE: Able Contracting Fire - immediate consultation requested

Peter and Matt,

We are aware that this fire has been an ongoing challenge and we recognize that the fire needs to be extinguished. We also recognize your efforts to try selecting and obtaining firefighting agents that are as environmentally friendly as

possible. Regarding the request for us to see if there is anything that stands out as potentially problematic, we advise that if you do ultimately select the Novacool product, it will be important to know more specifically what is in the formulation before using it. This could be said about any firefighting agent.

Given the information provided for review on the Novacool firefighting agent—primarily marketing material and a very limited MSDS from 2006—we cannot be certain that there are no PFAS in the product currently being considered by the Region. For example, there are several statements including no fluorine, no fluorocarbons, and no PFOA or PFOS. However there are also statements indicating the formulation of the agent includes several organic surfactants being anionic, nonionic and amphoteric in behavior; these are also characteristics of fluorinated surfactants (e.g., PFAS). There is also mention of rates of biodegradation of 37% biodegradable in five days and 50% biodegradable in 30 days which sound relatively high and as an attractive feature, but says nothing about which compounds, or classes of compounds, are biodegraded at those rates. Therefore, we suggest that some additional follow-up with the manufacturer be considered by the Region to better inform their decision on whether to use or not use this particular product. Please consider the following:

- Call the manufacturer and ask if the current formulation contains any fluorinated compounds or feedstock materials from such suppliers as DuPont, Chemours, 3M, Ansell, Chemguard or Tyco. We would be happy to join a call, if you wish.
- Would be good for the Region to get a picture of the all labels from a container of the Novacool product under consideration. This would provide us all with even more information to evaluate. If the fire department has the product already it will be easy to get the pics.
- Whatever product the Region decides to use, they could save a sample of the product and have it analyzed by a laboratory with appropriate capabilities to detect PFAS.
- In addition to the suggestion of controlling runoff to minimize or prevent impacts to surface water due to BOD, it would be advisable for the response to include sampling of leachate and runoff from the fire fighting activities involving the selected product(s). These samples could be analyzed for PFAS.

Please feel free to contact us for further discussions.

Thanks

Marc S. Greenberg, Ph.D.
Deputy Branch Chief
U.S. EPA - Environmental Response Team
OLEM/OSRTI/TIFSD/ERT

2890 Woodbridge Ave., Bldg. 205
Edison, NJ 08837
+1 (732) 452 6413 office
+1 (609) 865-3924 mobile
greenberg.marc@epa.gov

From: Eoc, Epahq <Eoc.Epahq@epa.gov>
Sent: Thursday, August 22, 2019 11:50 AM
To: Greenberg, Marc <Greenberg.Marc@epa.gov>
Cc: Gaines, Linda <Gaines.Linda@epa.gov>; Libelo, Laurence <Libelo.Laurence@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: FW: Able Contracting Fire - immediate consultation requested

Marc,

Per our discussion, here are the links to product literature provided by R3 for the Able Contracting Facility in Jasper County, SC. Region 4 is looking for a determination today. Really appreciate your help here.

Linda and Laurence,
This e-mail is related to the VMs that I left for you a few moments ago. Please coordinate with Marc if you have any feedback on a determination.

Thanks much, everyone.

Pete Oh, Watch Officer
U.S. Environmental Protection Agency
Headquarters Emergency Operations Center
1200 Pennsylvania Ave
Washington, DC 20460
202-564-3850 (24hrs)
eoc.epahq@epa.gov

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Thursday, August 22, 2019 11:25 AM
To: Eoc, Epahq <Eoc.Epahq@epa.gov>
Subject: Able Contracting Fire - immediate consultation requested

Per our phone call, I'm looking for someone who can review some product information and to see if they find any "red flags"
We are looking at using this product on an active fire – review is requested immediately
It does not have to be a full review, report, or approval; all we need is someone to look at it and see if there's anything that stands out as potentially problematic.

The product is a firefighting agent. The company says there is no PFOA/PFOS in the product but we want to be sure there's no issue from the agency side

Novacool UEF
http://novacoolfire.com/
http://novacoolfire.com/wp-content/uploads/2016/06/Baums_UEF_Description-2.pdf
http://novacoolfire.com/wp-content/uploads/2016/07/EPA_0001.pdf
http://novacoolfire.com/wp-content/uploads/2016/06/Aquatic_Toxicity_UEF.pdf
http://novacoolfire.com/wp-content/uploads/2016/06/UEF_BOD_COD.pdf
http://novacoolfire.com/wp-content/uploads/2016/06/Novacool_UEFrev19.MSD_.pdf

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Armstrong, Kathy

From: ert-frcc@dhec.sc.gov
Sent: Thursday, July 25, 2019 12:27 PM
To: R4DutyOSC; leepd@dhec.sc.gov
Subject: NRC Report 1253131

The NRC report has been made and the number for the Able Contracting fire is 1253131.

Dana

Duty Officer, Division of Emergency Response
S.C. Department of Health & Environmental Control
Mobile: (803) 920-4840
24-Hour: (888) 481-0125
ert-frcc@dhec.sc.gov

Armstrong, Kathy

From: ert-frcc@dhec.sc.gov
Sent: Thursday, July 25, 2019 11:13 AM
To: R4DutyOSC
Cc: leepd@dhec.sc.gov
Subject: Able Contracting - Okatie (Ridgeland)

Matt,

I spoke with Renee Shealy - our Bureau Director and she informed me that Myra Reece - Environmental Affairs Director and Henry Porter - Bureau Director or Land and Waste Management (both with DHEC) are meeting with county officials in Jasper and Beaufort tomorrow. EMD representative Kim Stinson will also be at the meetings. It is requested that EPA be in attendance. Details and times are not available at this time.

Richard Threatt - Office Manager for the Beaufort Regional Office is involved with a group discussion regarding the site and is up to date on current status and activities. He will be the best contact for meeting information for tomorrow and EPA OSC involvement. His number is 843-986-4426 or the office number is 843-846-1030.

I am working on getting the NRC report generated.

Thanks!
Dana

Duty Officer, Division of Emergency Response
S.C. Department of Health & Environmental Control
Mobile: (803) 920-4840
24-Hour: (888) 481-0125
ert-frcc@dhec.sc.gov

Armstrong, Kathy

From: Falkner, Amber <Amber.Falkner@tetratech.com>
Sent: Thursday, July 25, 2019 1:46 PM
To: Huyser, Matthew; chris.draper@tetratech.com
Subject: RE: Able Fire - air sampling methods

No worries. Thanks!

Amber Falkner | Environmental Scientist

Office **+1 (678) 775-3087** | Fax **+1 (678) 775-3138** |
Tetra Tech Inc. | Complex World, Clear Solutions™

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Thursday, July 25, 2019 1:42 PM
To: Falkner, Amber <Amber.Falkner@tetratech.com>; Draper, Chris <chris.draper@tetratech.com>
Subject: FW: Able Fire - air sampling methods

⚠ **CAUTION: This email originated from an external sender. Verify the source before opening links or attachments.** ⚠

FYI, I should have copied you on this email below

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Huyser, Matthew
Sent: Thursday, July 25, 2019 1:40 PM
To: Jessica Vickers <Jessica.Vickers@tetratech.com>
Cc: Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Able Fire - air sampling methods

Below is a list from Dave Mickunas on sampling methodology that would be beneficial.

- Primary focus should be on PAHs which are expected
- Formaldehyde method is also provided below
- Both Dave and SESD recommended considering phthalates, except the TO-13A method doesn't list phthalates so Dave is checking in with a laboratory in CA on phthalates and will respond to me in an hour about their response
- VOCs may still be beneficial for poly-vinyl chloride and benzene so measurement of VOCs shouldn't be completely dismissed
- Dioxins, pesticides, and PCBs are optional

Attached is a COC and report from Bennett Landfill sampling. These samples were taken over the smoke plume. Analyses in the COC is listed below and the report contains the method numbers

- VOCs

- PM2.5 mass
- Total metals
- Particle Size
- Formaldehyde
- Total Mass

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 1:27 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Air Methods

Good Afternoon,

https://www3.epa.gov/ttnamti1/files/ambient/airtox/tocomp99.pdf
VOCs - Method TO-15: Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography Mass Spectrometry (GC/MS)
VOCs - Method TO-17: Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes Compendium Method TO-13A
SVOCs - Method TO-13A: Determination of Polycyclic Aromatic Hydrocarbons (PAHs) in Ambient Air Using Gas Chromatographic/Mass Spectrometry (GC/MS)
Formaldehyde - Method TO-11A: Determination of Formaldehyde in Ambient Air Using Adsorbent Cartridge Followed by High Performance Liquid Chromatography (HPLC)
Pesticides and PCBs - Method TO-10A: Determination Of Pesticides And Polychlorinated Biphenyls In Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed By Gas Chromatographic/Multi-Detector Detention (GC/MD)
Dioxins - Method TO-9A- Determination of Polychlorinated, Polybrominated And Brominated/Chlorinated Dibenzo-p-Dioxins And Dibenzofurans In Ambient Air

PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5515.pdf
PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5506.pdf

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team
109 T.W. Alexander Drive
Mail Code E343-04
Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)

Armstrong, Kathy

From: Franco, Benjamin
Sent: Thursday, August 22, 2019 11:04 AM
To: Huyser, Matthew
Subject: Landfill Fire Fire Fighting Operation in in Vancouver

In early November 1999, landfill owners at the Delta Shake and Shingle Landfill in North Delta, Canada, sounded the alarm. It was just about midnight when smoke began to fill the air. A 250,000-cubic-yard cell in the landfill had erupted in flames. The landfill operator tried to put out the fire, but initial efforts only accelerated combustion of the construction and demolition (C&D) waste.

A few weeks later, with the landfill still burning, the city became worried. Smoke from the fire began to cast a thick haze over the nearby Vancouver skyline. Streams in the area were threatened by leachate pools forming from the firefight, and workers on adjacent properties were being affected by smoke and odors.

On November 27, Delta's Mayor declared a state of local emergency, and the British Columbia Fire Commissioner ordered the Delta Fire Department to extinguish the blaze.

But quelling a landfill fire is not that simple, firefighters found. Complicating their efforts was the presence of a high-pressure natural gas main that provided heating fuel for nearly half-a-million customers in Vancouver, as well as a large-volume sewer force-main, a water supply main, a high-voltage transmission line and a railway line. All of these utilities were located adjacent to the landfill in unstable peats, and were potentially threatened by slope failure or excessive settlement.

ADVERTISING

Additionally, careful attention had to be paid to the geotechnical design and monitoring of the areas on top of and adjacent to the landfill to avoid stressing or displacing the nearby gas pipeline.

With these things in mind, the fire department created a strategy to close the 200-yard by 200-yard burn zone, rapidly construct PVC-lined cool down areas on expropriated property, excavate and wet down the burning material, and ultimately replace the extinguished material back in the landfill.

Nary a Spark The Delta Shake and Shingle Landfill is a privately run C&D facility located in North Delta, near Vancouver, British Columbia. Developed on a soft foundation, including organic peats, unconsolidated clays and silts, the landfill began operations in 1989. It was permitted to receive 20,000 tons of waste per year. And by November 1998, almost the entire 32-acre footprint was covered with waste to a height of 60 feet above grade, with the exception of a horseshoe-shaped area on the north side. The landfill was developed in 10-feet-high lifts that were capped with soil and/or a hog fuel (shredded wood waste) intermediate cover. The horseshoe originally housed the scale and administration facilities.

To maximize revenues, the new landfill owner, who purchased the property in 1998, relocated the scale and offices onto an adjacent property north of the railway tracks and began to fill in the horseshoe. The bottom of the horseshoe first was covered with a 10-foot to 15-foot thick lift of inert concrete and blacktop demolition material from the 1986 World's Fair Expo site.

During the next 10 months, the landfill received a steady stream of demolition waste, including crushed dimensional lumber, tar roofing shingles, plastic and metal. Because materials were pushed into place with a bulldozer, the waste

was loosely deposited in a single 50-foot deep layer throughout the entire horseshoe without proper compaction or soil fire breaks - contrary to operating permit requirements.

After issuing several non-compliance citations to the landfill, the British Columbia Ministry of Environment, Lands and Parks (MoELP) ordered the landfill to close on Nov. 9, 1999. But by that time, more than 250,000 cubic yards of waste already had been deposited in the horseshoe.

Anyone Smell Smoke? Ironically, steam and smoke had been emerging from the site for several weeks before the closing, but no one realized the landfill was on fire until flames broke through the surface on Monday, Nov. 8 around midnight, when the landfill owner placed a 911 emergency call. The Delta Fire Department responded with several pumper trucks that brought the surface fire under control during the next 24 hours. Managers thought the problem had been solved.

However, on Wednesday, Nov. 11, when a 50-yard by 100-yard sinkhole fell approximately 10 feet on the crest of the horseshoe and flames erupted on the steep face, the Delta Fire Chief realized that the fire was much more complicated than he first believed.

Concerned that the fire would spread, Delta Shake and Shingle operators began excavating 20-foot deep trenches around the burning areas, which they completed on Sunday, Nov. 14. But it quickly became apparent that these trenches would not be effective in stopping the fire because they penetrated less than one half of the fill thickness.

Seeing it was time to bring in a landfill fire specialist, the owners hired North Vancouver-based Sperling Hansen Associates (SHA) on Nov. 12. SHA's plan involved establishing perimeter fire guards down to solid soil around the horseshoe, excavating and extinguishing all burning material from the horseshoe, and conducting thorough geotechnical monitoring to ensure that surrounding utilities would not be damaged by the firefighters' efforts. A previous slope failure at the landfill had displaced the gas pipeline by more than 10 feet and had resulted in several million dollars in damages.

Sound the Alarm Over the next few days, the fire gained intensity. Fearing a serious environmental emergency, the British Columbia Fire Commissioner on Nov. 25, ordered the landfill to extinguish its fire following SHA's plan. However, because of the large anticipated cost of extinguishing the fire, the company ignored the order and eventually went into receivership.

By this time, smoke from the plume was starting to pose a health hazard to adjacent businesses. A thick haze began to choke much of the Delta area. Additionally, the potential spread of fire into the main landfill posed a serious threat to the British Columbia gas pipeline. Leachate from the firefight also began to pool, and was starting to affect the environment and threaten groundwater resources.

Consequently, the British Columbia Fire Commissioner determined that the fire was posing a serious threat to life and property and ordered the Delta Fire Department to extinguish the landfill fire according to SHA's plan on Nov. 27, 1999. To alleviate the landfill owner's cost concerns, the British Columbia Provincial Emergency Program (PEP) committed to help fund the effort.

However, some of the adjacent private property owners were less than cooperative. So to secure access, the Corporation of Delta's mayor declared a local state of emergency.

By Nov. 27, much of the 250,000-cubic-yard horseshoe was in flames, and a thick plume of smoke was rising into the skies.

Forming the Fire Safety Plan To extinguish the blaze, firefighters knew they had to eliminate one of three ingredients: the fuel supply, oxygen or the high-temperature ignition source. SHA considered six methods, including:

- Accelerating high-temperature combustion;

- Capping the landfill burn area with soil;

- Capping the landfill burn area with a geomembrane;

- Flooding the burn area with water from the nearby Fraser River;

- Injecting an inert gas such as CO2 to displace oxygen; and

- Excavating the burning material and then extinguishing it with foam.

The only feasible solution that seemed apparent to the SHA team was to excavate the burning material then transport it to an area where it could be soaked with water and fully extinguished. Specialists from Key Safety in Red Dear, Alberta, which were retained by the Delta fire chief confirmed the strategy.

The idea of accelerating the burn was abandoned due to air quality concerns and the risk of spreading the fire into the landfill's main fill zone. Because operators did not want to risk further slope failures, they could not cap the landfill with soil. Applying a geomembrane cap was not practical on the steep slopes approaching 1.5 horizontal:1 vertical. Also, firefighters were concerned that the membrane would melt before the fire was extinguished. Flooding the burn area with large volumes of water was not pursued due to geotechnical stability concerns and potential leachate impacts. And, oxygen displacement using CO subscript 2 was not feasible because of the waste's porous nature and the lack of cover soils that would prevent the injected gas from escaping.

Rescuers to the Scene SHA's first step in controlling the fire was to fill in the trenches previously excavated by the landfill owner. This reduced the amount of air fanning the burn and made the landfill surface safer. Next, firefighters smothered the fire zone with a 6-foot to 10-foot thick lift of refuse. For two days, two bulldozers covered the fire zone with unburned waste to limit oxygen. This dramatically reduced the burn rate and the amount of smoke.

Initially, water was applied to the fire in high-pressure streams in excess of 2,000 gallons per minute (gpm). This extinguished flames at the surface but did not quell the fire brewing deep in the landfill. In fact, most of the water quickly ran off the surface, draining to the landfill toe where pools of toxic black leachate were forming. So, to improve the effectiveness of the monitors, operators misted the water at a reduced rate over the fire. To improve penetration, a Class A foam was added to the water.

Moving Material Once the blaze was under control, the team mobilized two large excavators and six Caterpillar D350D articulated off-road trucks to excavate and transport burning waste from the horseshoe to the cool down areas. To avoid the nightmare of the landfill's main fill zone igniting, excavators worked around the horseshoe's perimeter until a reliable fire guard was established down to inert soil and concrete rubble. Only at that point did the firefighters work over the remaining 250,000 cubic yards.

To ensure safety, each excavator worked with a spotter throughout the firefight. The spotter also used an infrared temperature sensor to screen each bucket load placed in the truck. If all material placed in the truck was below 122 degrees, it could be sent to the cold storage area. Loads above that temperature were directed to the hot pad where they could be extinguished. Screening the excavated material also reduced by approximately 45 percent the amount of product that required extinguishing.

Hot loads were transported to two large pads that were constructed on industrial properties north of the landfill. There, firefighters spread out and foamed the burning material. The hot pads, each approximately 100 yards by 150 yards in

area, were constructed using a 20 mil polyvinyl chloride (PVC) membrane liner on top of a 12-inch sand cushion layer to prevent leachate loss and avoid contaminating the private properties temporarily expropriated during the firefight. A second 18-inch sand cushion layer was placed over the PVC to provide protection from above.

Lined ditches were constructed around the pad perimeter to collect leachate and convey it to a central sump. Water collected in the sump was recirculated into the firehoses to minimize the amount of leachate needing discharge and to reuse Class A foam additives.

A Careful Watch Throughout the firefight and landfill restoration, Horizontal Engineering, SHA's geotechnical subconsultant, conducted geotechnical temperature and gas composition monitoring to ensure that firefighting activities would not lead to a slope failure and that the fire was not spreading into the main fill zone.

To determine whether earth-moving activities - particularly relocation of the cold waste to the top of the landfill and construction of storage areas adjacent to the sewer and water mains - were causing instability in the utility corridors, Horizon installed a network of geotechnical instrumentation and monitored it daily. Nine inclinometers capable of recording as little as 0.1 inch of deflection provided the primary warning mechanism against excessive movement.

Also, Horizon established total station survey benchmarks along the crest and mid-slope on the north and south landfill sides, and along the sewer main/water main right-of-way. Workers also installed piezometers that measured water levels in the fill zone to provide early warning of pore pressure buildup within the refuse, which could potentially trigger slope failure.

The geotechnical monitoring program confirmed the effectiveness of the height restrictions on storage piles and setbacks from utility corridors. Movements in all sensitive areas proved to be less than 1 inch.

As the fire spread throughout the horseshoe, the firefighting team became concerned that the fire would spread into the main fill zone, especially when they discovered a fire on the back side of the landfill (later determined to have been a separate spontaneous combustion). Consequently, to establish how far the fire had penetrated within the landfill, thermistor strings were installed in five boreholes around the horseshoe. Temperature measurements were obtained by lowering three thermistors into the cased boreholes at 15 feet, 30 feet and 45 feet below surface.

The hand-held infrared heat sensors also were used to monitor temperatures from surface vents and test pits. Based on this experience, SHA concluded that temperatures above 167 degrees Fahrenheit are a strong indication of a fire.

Gas composition monitoring also provided additional data about the location and intensity of the fire. Landfill areas that were on fire showed carbon monoxide concentrations above 1,000 parts per million (ppm); oxygen levels between 15 percent and 20 percent; and little, if any, methane. On the other hand, landfill areas that were not on fire exhibited elevated methane concentrations (20 percent to 45 percent), no oxygen and little carbon monoxide (less than 100 ppm).

Restoring the Land Nearly two months after the firefighting began, the landfill was finally extinguished on Jan. 18, 2000. Because there was pressure on the municipality to return the expropriated lands to their owners quickly, placing the extinguished material back into the horseshoe became a priority.

To ensure that fire would never again spread from the horseshoe into the main fill, the entire horseshoe area was lined with 3 feet of clay to provide a continuous and reliable fire wall. Extinguished waste then was placed back into the landfill in cells that measured 40 yards by 75 yards by 4 yards deep. The waste was thoroughly compacted during placement. Each cell was covered with 2 feet of inert soil cover prior to placing of the next overlying lift.

The SHA team worked with local excavation contractors to obtain clean cover soil for free in return for providing them with a free dump site.

Although SHA originally anticipated that available air space would not be sufficient to hold all the extinguished product and extra cover soil, in the end, proper compaction reduced the refuse volume by more than 40 percent. Also, SHA noted that if the landfill had been compacted properly beforehand, the fire may not have started or spread as quickly, and the operator would have been able to generate more revenue from his operation.

Lessons Learned This experience provided several key lessons:

- Uncontrolled deposition and poor compaction of demolition waste can pose an extreme fire hazard.

- Spontaneous combustion presents the most likely triggering mechanism for fires at C&D landfills.

- Soil berm fire guards, which were created around the horseshoe, can be effective in containing fires.

- Refuse should be placed in cells no larger than 20,000 cubic yards, and each cell should be fully encapsulated within 2 feet of inert soil material, not ground wood waste.

- During a fire, excavating shallow trenches that do not fully penetrate the refuse is ineffective. Trenches should be excavated only if they can penetrate the full thickness of refuse reaching inert material.

- Regulations should be strictly enforced to ensure that poorly managed landfill operations are shut down before large fire liabilities are accrued.

- Fire insurance should be a mandatory requirement at all C&D landfill sites.

In total, extinguishing the fire for slightly more than two months cost more than $2 million (Canadian). Currently, extinguished material is being placed back in the landfill in a fire-proof manner, and properties expropriated during the fire fight are being restored to their owners.

Strong evidence suggests that the Delta Shake and Shingle Landfill was caused by spontaneous combustion. Sperling Hansen Associates Inc., North Vancouver, British Columbia, Canada, noted that the second fire, which broke out on the back side of the landfill midway through the firefight, was in an old, inactive area of the site filled with mixed roofing material and wood waste. Because the fire started beneath a 6-foot-deep berm that was not accessible from the surface, spontaneous combustion was determined the most likely ignition mechanism.

However, the mechanics of spontaneous combustion in refuse are not well- understood. Wood starts to burn with an open flame once temperatures rise above 600 degrees Fahrenheit. Pyrolysis, the process by which wood chemically oxidizes, can start at temperatures of 200 degrees Fahrenheit. The reaction becomes exothermic (heat-producing) and self-sustaining at temperatures as low as 300 degrees Fahrenheit.

But, temperatures approaching the 300 degrees Fahrenheit ignition point seldom are reached in properly operated landfills where refuse decomposition is occurring under anaerobic conditions. Anaerobic bacteria thrive at temperatures that seldom exceed 140 degrees. Aerobic bacteria generally thrive at temperatures below 167 degrees and typically die once temperatures climb above 176 degrees.

Thus, heat released during rapid oxidation of pyrophoric substances in the landfill is believed to be the triggering mechanism that elevates internal temperatures above the 300 degrees Fahrenheit required to create spontaneous combustion in wood. Common pyrophoric substances include rags soaked in vegetable oils, linseed oil, low-grade coal, grass, straw and certain metal compounds such as iron sulphite.

Besides spontaneous combustion, other potential causes of landfill fires include:

- Embers in a hot load;

- Careless smoking;

- Methane flash from an equipment spark; and

- Arson.

The first step in any firefight is to ensure protection of all firefighters and support staff involved. To combat the Delta Shake and Shingle fire, a comprehensive health and safety program was developed in cooperation with the Workers Compensation Board of British Columbia (WCB) and implemented before firefighters were permitted to enter the fire zone. The health and safety program involved:

- Controlled access and site security;

- All persons sign in and sign out;

- Radio communication;

- Air horn warning;

- Spotters working with all equipment;

- Onsite first-aid attendant;

- Warning fences around all trenches; and

- Daily safety meetings.

All workers also were required to wear the following protective equipment:

- Fit-tested respirator (fit certified);

- Hard hat;

- High-visibility vest;

- Steel shank/toe boots;

- Gloves; and

- Safety eyewear.

A key aspect of the health and safety plan was determining whether it would be necessary for all workers to wear self-contained breathing apparatus (SCBA) in the fire zone. SCBA use would have resulted in a significant burden on firefighters and hampered progress.

Fortunately, air composition testing conducted by the Greater Vancouver Regional District (GVRD) determined that the smoke was not acutely toxic and that properly fitted respirators would provide adequate protection to field personnel.

Based on experience gained at Delta Shake and Shingle and other landfill fire projects, temperatures above 167 degrees Fahrenheit are cause for alarm, and temperatures above 200 degrees Fahrenheit are a very strong indication that a fire exists. Following is a practical reference guide to evaluating field temperature measurements.

140 degrees Fahrenheit Anaerobic Decomposition <167 degrees Fahrenheit Aerobic Decomposition 176 degrees Fahrenheit Microbes Die-off 200 degrees Fahrenheit Pyrolysis Starts 300 degrees Fahrenheit Exothermic Oxidation of Wood Starts 600 degrees Fahrenheit Wood Ignites Spontaneously (Combustion)

Respectfully,

Benjamin Franco,
Federal On Scene Coordinator
Emergency Response, Removal and Prevention Branch
Superfund Division
USEPA R4
61 Forsyth St
Atlanta, GA 30303

404-562-8758 (w)
404-915-6952 (c)

Report Oil and Chemical Spills to the National Response Center 1-800-424-8802

Armstrong, Kathy

From: Franco, Benjamin
Sent: Monday, August 12, 2019 8:56 AM
To: Huyser, Matthew
Subject: RE: Able Fire - need NWS local forecast

Got NWS-Charleston to do it. Sent a web request and they received it and are working on it. POC: Peter Mullins- 843-744-0211.

Respectfully,

Benjamin Franco,
Federal On Scene Coordinator
Emergency Response, Removal and Prevention Branch
Superfund Division
USEPA R4
61 Forsyth St
Atlanta, GA 30303

404-562-8758 (w)
404-915-6952 (c)

Report Oil and Chemical Spills to the National Response Center 1-800-424-8802

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Monday, August 12, 2019 7:47 AM
To: Franco, Benjamin <Franco.Benjamin@epa.gov>
Subject: Able Fire - need NWS local forecast

I would like to get a forecast setup for the Site. Critical information is wind direction projected several days out.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Armstrong, Kathy

From: Franco, Benjamin
Sent: Monday, August 12, 2019 8:19 AM
To: nws.charlestonsc@noaa.gov
Cc: Huyser, Matthew
Subject: Need a weather forecast for the Ridgeland, SC concerning a landfill fire in

Good morning Charleston NWS:

I am the Phone Duty Officer for EPA Region4's Emergency Response program and EPA is currently responding to a landfill fire (Able Contracting Fire) in Ridgeland, SC. EPA is and SCDHEC is conducting particulate and volatile organic compound (VOC) air monitoring in the area. The EPA On Scene Coordinator for this response would like to receive a weather forecast for the area that includes prevailing and forecasted winds, thunderstorms, etc. We would like it to have a couple of days of forecast. How can we get this accomplished?

Respectfully,

Benjamin Franco,
Federal On Scene Coordinator
Emergency Response, Removal and Prevention Branch
Superfund Division
USEPA R4
61 Forsyth St
Atlanta, GA 30303

404-562-8758 (w)
404-915-6952 (c)

Report Oil and Chemical Spills to the National Response Center 1-800-424-8802

Armstrong, Kathy

From: Franco, Benjamin
Sent: Monday, August 12, 2019 8:00 AM
To: Huyser, Matthew
Subject: RE: Able Fire - need NWS local forecast

Roger

Respectfully,

Benjamin Franco,
Federal On Scene Coordinator
Emergency Response, Removal and Prevention Branch
Superfund Division
USEPA R4
61 Forsyth St
Atlanta, GA 30303

404-562-8758 (w)
404-915-6952 (c)

Report Oil and Chemical Spills to the National Response Center 1-800-424-8802

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Monday, August 12, 2019 7:47 AM
To: Franco, Benjamin <Franco.Benjamin@epa.gov>
Subject: Able Fire - need NWS local forecast

I would like to get a forecast setup for the Site. Critical information is wind direction projected several days out.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Armstrong, Kathy

From: Franco, Benjamin
Sent: Monday, August 12, 2019 7:48 AM
To: Huyser, Matthew
Subject: Air Monitoring Link?

Went on to SCDHEC Able Fire Site and they stated the following: "This sensor data provides citizens with near real time data so they can make informed decisions about outdoor activities." Is there an air monitoring link being shared with citizens?

Respectfully,

Benjamin Franco,
Federal On Scene Coordinator
Emergency Response, Removal and Prevention Branch
Superfund Division
USEPA R4
61 Forsyth St
Atlanta, GA 30303

404-562-8758 (w)
404-915-6952 (c)

Report Oil and Chemical Spills to the National Response Center 1-800-424-8802

Armstrong, Kathy

From: Franco, Benjamin
Sent: Sunday, August 11, 2019 12:45 PM
To: Huyser, Matthew
Subject: Re: Able PM

Got the previous one as well.

Respectfully,

Benjamin Franco,
Federal On Scene Coordinator
Emergency Response, Removal and Prevention Branch
Superfund Division
USEPA R4
61 Forsyth St
Atlanta, GA 30303

404-562-8758 (w)
404-915-6952 (c)

Report Oil and Chemical Spills to the National Response Center 1-800-424-8802

On Aug 11, 2019, at 12:43 PM, Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Huyser, Matthew
Sent: Sunday, August 11, 2019 12:42 PM
To: Reynolds, Scott <REYNOLDS@dhec.sc.gov>; Frost, Keith <frostrk@dhec.sc.gov>; thompsrb@dhec.sc.gov; shealyrg@dhec.sc.gov; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; reecemc@dhec.sc.gov; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>
Cc: Frederick, Tim <Frederick.Tim@epa.gov>; Ronald Tolliver (Tolliver.Ronald@epa.gov) <Tolliver.Ronald@epa.gov>; Brandi Jenkins (Jenkins.Brandi@epa.gov) <Jenkins.Brandi@epa.gov>; James Pinkney (Pinkney.James@epa.gov) <Pinkney.James@epa.gov>
Subject: RE: Able PM

Attached is the EPA data summary report for the nighttime 8/10-8/11

Note peak concentrations of Over 0.5 ppm for VOCs on all corners of the pile with detections of VOCs approximately 25% of the time in the southeast corner (209 detections out of 753 readings)

PM2.5 at Peacock Collision average 247 ug/m3 and AQI class Unhealthly
PM2.5 at Command post and Sun City average under 30 ug/m3 AQI class Moderate

Since 1030 update:

- EPA distributed flyers to an additional 7 businesses (including one childcare center), 2 churches, and 2 non-business "workshops".
- Forino Homes will distribute information to 140 residents in Heathstone Lakes, located NW of the Site, via email and facebook
- 1 resident in trailer located nearby to West of Site will be contacted at approximately 2pm

Yard Signs planned for posting in Abbety Chase and Brooke Mill cannot be printed today – the printer originally promised completion by 3pm today but will not be able to complete that task until Tuesday. Message to Abbety Chase and Brooke Mill may be possible through social media – I will visit the Abbety Chase office at 1pm

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Huyser, Matthew
Sent: Sunday, August 11, 2019 10:30 AM
To: Reynolds, Scott <REYNOLDS@dhec.sc.gov>; Frost, Keith <frostrk@dhec.sc.gov>; thompsrb@dhec.sc.gov; shealyrg@dhec.sc.gov; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; reecemc@dhec.sc.gov; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>
Cc: Frederick, Tim <Frederick.Tim@epa.gov>; Ronald Tolliver (Tolliver.Ronald@epa.gov) <Tolliver.Ronald@epa.gov>; Brandi Jenkins (Jenkins.Brandi@epa.gov) <Jenkins.Brandi@epa.gov>; James Pinkney (Pinkney.James@epa.gov) <Pinkney.James@epa.gov>
Subject: RE: Able PM

Attached is the EPA data summary report for the daytime on 8/10. Nighttime summary report is forthcoming.

Note the peak concentration of 0.4 ppm VOCs at the SE and West sides of the pile with 0.25 ppm to the NE side of the pile

PM2.5 at Peacock Collision average 137 ug/m3 and AQI class Unhealthy
PM2.5 at Command post and Sun City average under 30 ug/m3 AQI class Moderate

EPA observed significant smoke NNE of the pile this morning at 0700 well beyond the intersection of Argent Blvd and Hwy 170 which is 1.5 miles from the Site.

- EPA distributed flyers with the DHEC webpage address to 6 businesses, 1 church, and 1 residence.
- 2 other residences were not home.
- 3 residents approached EPA during this time and received flyers.
- EPA will visit additional residences and 1 other church this morning.
- Abbety Chase leasing office opens at 1pm today and will be visited
- Brooke Mill leasing office is closed for the day – phone number for management will be sought

Wind shifts are anticipated by this afternoon from the East. Yard signs with the DHEC webpage will be printed and posted in the entrance to Abbety Chase and Brooke Mill apartments

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Sunday, August 11, 2019 9:11 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; thompsrb@dhec.sc.gov; shealyrg@dhec.sc.gov; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; reecemc@dhec.sc.gov; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>
Cc: Frederick, Tim <Frederick.Tim@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 10 Midnight to midnight)

Palmetto Exterminators 20 ug/M3 (Moderate)

Schinger 180 ug/M3 (Very Unhealthy)

<image001.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Saturday, August 10, 2019 11:00:08 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry

<porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>
Cc: frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>
Subject: Re: Able PM

Sorry Fighting with 2 many computers..

Correct value for Schinger below and correct PDF

Yesterday's 24 hour averages (Aug 9 Midnight to midnight)

Palmetto Exterminators 12 ug/M3 (Moderate)

Schinger **250** ug/M3 (Very Unhealthy)

Very high concentrations yesterday pushed the Schinger site to the cusp of Hazardous. PE at cusp of Moderate..High concentrations there (Schinger) again this morning

<image002.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Saturday, August 10, 2019 10:42:04 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>
Cc: frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>
Subject: Able PM

Yesterday's 24 hour averages (Aug 9 Midnight to midnight)

Palmetto Exterminators 12 ug/M3 (Moderate)

Schinger 150 ug/M3 (Very Unhealthy)

Very high concentrations yesterday pushed the Schinger site to the cusp of Hazardous. PE at cusp of Moderate..High concentrations there (Schinger) again this morning

<image003.png>

<Able_START_Viper Summary report_AR and DustTrack_20190810NIGHT.pdf>

Armstrong, Kathy

From: Franco, Benjamin
Sent: Friday, August 09, 2019 2:42 PM
To: Jenkins, Brandi; Pinkney, James; Tolliver, Ronald; McCullough, Rachel
Cc: Huyser, Matthew
Subject: Able Contracting Fire Outreach opportunity, Sunday, Grace Coastal Church

Grace Coastal Church (15 William Dr., Okatie, SC 29909) has graciously offered to provide a dinner at their church to the displaced residents. It will be from 6:00PM-7:30 PM. Matt Huyser will attend to start the introductory process with the displaced residents. SCDHE will provide a Spanish peaking staff person.

If anyone has any concerns, questions or suggestions for Matt, please contact him at 678-427-8829.

By the way, Matt reported that the smoke is getting thicker in the area.

Respectfully,

Benjamin Franco,
Federal On Scene Coordinator
Emergency Response, Removal and Prevention Branch
Superfund Division
USEPA R4
61 Forsyth St
Atlanta, GA 30303

404-562-8758 (w)
404-915-6952 (c)

Report Oil and Chemical Spills to the National Response Center 1-800-424-8802

Armstrong, Kathy

From: Franco, Benjamin
Sent: Friday, August 09, 2019 1:41 PM
To: Ball, Gerald
Cc: Huyser, Matthew
Subject: Need 4 EBAMs for EPA R4 Emergency Response Able Contracting Fire SID C4A9

Gerald

OSC Matt Huyser (678-427-8829) needs 4 EBAMS and Viper Lincs. There may not be any shore power in some of these locations and it may need extra batteries.

They need to arrive by Monday, August 12, to Hampton Inn and Suites Bluffton-Sun City, 29 William Pope Dr., Bluffton, SC 29909.

I will let you know if he needs personnel.

Respectfully,

Benjamin Franco,
Federal On Scene Coordinator
Emergency Response, Removal and Prevention Branch
Superfund Division
USEPA R4
61 Forsyth St
Atlanta, GA 30303

404-562-8758 (w)
404-915-6952 (c)

Report Oil and Chemical Spills to the National Response Center 1-800-424-8802

Armstrong, Kathy

From: Franco, Benjamin
Sent: Thursday, August 08, 2019 3:42 PM
To: Bates, Lloyd; Johnson, Dora Ann
Cc: Huyser, Matthew
Subject: Activating ERRS-CMC for Able Contracting Fire (C4A9)
Attachments: Able Contracting Fire ERRS DWO.pdf; Able Contracting Fire ERRS SOW.doc

Dora Ann/Monty:

We are ramping up our activities at this Site and will need ERRS to initially take over relocation effort. The County is taking care of this for now, but they are running out of funds. There is a possibility that ERRS may take over the extinguishing of the fire. The OSC and SCDHEC are coordinating this action with the Responsible Party. Initial request will be for $100,000

I am going to call CMC and see if they can spare their PM from Cheraw Site and help Huyser at the ER.

Respectfully,

Benjamin Franco,
Federal On Scene Coordinator
Emergency Response, Removal and Prevention Branch
Superfund Division
USEPA R4
61 Forsyth St
Atlanta, GA 30303

404-562-8758 (w)
404-915-6952 (c)

Report Oil and Chemical Spills to the National Response Center 1-800-424-8802

U.S. ENVIRONMENTAL PROTECTION AGENCY
ERRS CONTRACTOR TASKING NOTICE

Emergency T.O. -Tel. Duty OSC Complete items- 1,10,11,13,14,15,16, and 17 cc:OSC Support/PO with SOW

1. DATE OF REQUEST:.	7-8-2019
2. CONTRACT NUMBER:	EP-S4-15-04
3. ASSIGNED SITE ID NUMBER:	C4A9
4. ISSUING OFFICE (Address):	U.S. EPA REGION IV, PROCUREMENT SECTION 14TH FLOOR AFC, 61 FORSYTH ST. S.W. ATLANTA, GA 30303
5. PROJECT OFFICER:	Dora Ann Johnson
6. CONTRACTOR:(include ZIP code)	CMC, Inc. 1151 Jessamine Station Road Nicholasville, KY 40356
7. TYPE OF ORDER (NTC, EMERGENCY)	EMERGENCY
8. STATEMENT OF WORK:	SEE ATTACHED
9. ORDERING OFFICER (CO OR OSC) SIGNATURE: CO OR OSC)	[signature]
10.ORDERING OFFICER NAME TYPED AND DATE:	Benjamin Franco 7-8-19
11. SITE NAME AND ADDRESS:	Able Contracting Fire 472 Schinger Ave Ridgeland, SC
12. CONTRACTOR REQUIRED ON-SITE DATE:	7-8-2019
13. PERIOD OF PERFORMANCE site vist,etc.	FROM: 7-8-2019 TO: 7-7-2020
14. TOTAL FUNDING:	$100,000
15. OSC ASSIGNED NAME AND TELEPHONE NO.:	MAH Huyser- 678-427-8829
16. OSC SUPPORT SPECIALIST:	L. Monty Bates, Ext. 28354

DCN	FY	APPRO. CODE	ORG CODE	PROG. ELEM.	OBJECT CLASS	SFO

AMT. DOLLARS	SITE ID.	COST ORG/CODE

replaces EPA Form 1900-59 (revised 7-94)

STATEMENT OF WORK
Able Contracting Fire Site
Ridgeland, Jasper County, SC
ERRS Contract – CMC

1. The contractor is required to contact OSC Matt Huyser on August 8, 2019, to coordinate Site activities and mobilization by August 9, 2019. The OSC with appropriate equipment and personnel to perform the following tasks as part of the emergency removal action associated with construction debris landfill fire:

   a. Coordinate all site activities with FOSC Matt Huyser at 678-427-8829;
   b. Provide relocation services to evacuated residents;
   c. Supply personnel and heavy equipment as specified by the OSC to segregate burning construction debris and extinguish the fire;
   d. Provide personnel and equipment as specified by the OSC to manage firefighting water and construct diversion drains to prevent flooding from the water used to extinguish the fire;
   e. Collect samples of wastes generated during removal activities. This activity may include hazard categorization or procurement of laboratory analytical services to facilitate disposal/treatment/reuse/recycling;
   f. Provide a qualified individual capable of profiling waste streams for treatment/disposal or recycling/reuse by other legitimate business entities;
   g. Arrange for off-site transportation disposal/treatment /recycling/reuse of hazardous substances as directed by the OSC;
   h. Demobilize equipment and personnel upon direction by the OSC.

2. Develop a site specific Health and Safety Plan (HASP) for approval by the OSC prior to initiation of response activities.

3. Contractor authorized for overtime not to exceed 23.5 hours per day per individual. This authorization is subject to revision by OSC through weekly work orders.

4. Contractor shall not charge to the Task Order for any work performed at off-site locations, unless it is approved in advance by the OSC.

5. This Task Order is issued in accordance with the EPA Region 4 ERRS Contract No. EP-S4-15-04, Statement of Work, and may require any or all of the removal actions described in Attachment C-1.

STATEMENT OF WORK
Able Contracting Fire Site
Ridgeland, Jasper County, SC
ERRS Contract – CMC

1. The contractor is required to contact OSC Matt Huyser on August 8, 2019, to coordinate Site activities and mobilization by August 9, 2019. The OSC with appropriate equipment and personnel to perform the following tasks as part of the emergency removal action associated with construction debris landfill fire:

   a. Coordinate all site activities with FOSC Matt Huyser at 678-427-8829;
   b. Provide relocation services to evacuated residents;
   c. Supply personnel and heavy equipment as specified by the OSC to segregate burning construction debris and extinguish the fire;
   d. Provide personnel and equipment as specified by the OSC to manage firefighting water and construct diversion drains to prevent flooding from the water used to extinguish the fire;
   e. Collect samples of wastes generated during removal activities. This activity may include hazard categorization or procurement of laboratory analytical services to facilitate disposal/treatment/reuse/recycling;
   f. Provide a qualified individual capable of profiling waste streams for treatment/disposal or recycling/reuse by other legitimate business entities;
   g. Arrange for off-site transportation disposal/treatment /recycling/reuse of hazardous substances as directed by the OSC;
   h. Demobilize equipment and personnel upon direction by the OSC.

2. Develop a site specific Health and Safety Plan (HASP) for approval by the OSC prior to initiation of response activities.

3. Contractor authorized for overtime not to exceed 23.5 hours per day per individual. This authorization is subject to revision by OSC through weekly work orders.

4. Contractor shall not charge to the Task Order for any work performed at off-site locations, unless it is approved in advance by the OSC.

5. This Task Order is issued in accordance with the EPA Region 4 ERRS Contract No. EP-S4-15-04, Statement of Work, and may require any or all of the removal actions described in Attachment C-1.

Armstrong, Kathy

From: Franco, Benjamin
Sent: Thursday, August 08, 2019 2:56 PM
To: Corey CB. Brown
Cc: Harper, Greg; Huyser, Matthew
Subject: Able Contracting Fire RRC Equipment needs

Cory:

Matt has been deployed to the Able Contracting Fire and he needs the same air monitoring equipment used and the MCP. Please get with Matt on when and where the resources should be deployed. Thanks

Respectfully,

Benjamin Franco,
Federal On Scene Coordinator
Emergency Response, Removal and Prevention Branch
Superfund Division
USEPA R4
61 Forsyth St
Atlanta, GA 30303

404-562-8758 (w)
404-915-6952 (c)

Report Oil and Chemical Spills to the National Response Center 1-800-424-8802

Armstrong, Kathy

From: Franco, Benjamin
Sent: Thursday, August 08, 2019 2:42 PM
To: Garrard, Jordan; Huyser, Matthew
Subject: RE: Able Contracting

I am going to start ERRS-CMC with $100,000. That will give you some ceiling room under the ER AM. Unless ERRS brings in equipment, that should be sufficient for relocation.

Respectfully,

Benjamin Franco,
Federal On Scene Coordinator
Emergency Response, Removal and Prevention Branch
Superfund Division
USEPA R4
61 Forsyth St
Atlanta, GA 30303

404-562-8758 (w)
404-915-6952 (c)

Report Oil and Chemical Spills to the National Response Center 1-800-424-8802

From: Garrard, Jordan <Garrard.Jordan@epa.gov>
Sent: Thursday, August 8, 2019 2:22 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>; Franco, Benjamin <Franco.Benjamin@epa.gov>
Subject: Able Contracting

Current ceiling for START TDD is $90,000. I don't know if it would all fall under Removal Action or Assessment, I don't know how management would classify the sampling that was completed. I have also drafted 2 polreps, which are awaiting mgmt approval.

Jordan

Armstrong, Kathy

From: Franco, Benjamin
Sent: Thursday, August 08, 2019 2:38 PM
To: Jenkins, Brandi; McCullough, Rachel
Cc: Huyser, Matthew; Webster, James; Moore, Tony
Subject: Need PIO/CIC Support for Able Contracting Fire

Brandi/Rachel:

Once again we are ramping up our involvement with this ongoing ER. The SCDHEC has requested EPA's involvement through the RA and we are sending out Matt Huyser out there today to assist with air monitoring and possibly taking over relocation of nearby affected residents. We will need assistance in crafting a public message in coordination with SCDHEC and local county agencies. Can we get a one CIC and one PIO assigned to this Site? The PIO can work remotely, but we will need a CIC mobilized to assist Matt with the relocation effort. Currently, the county is paying for the relocation of 27 people (11 residences/pets) in 14 hotel rooms, and the County will fund this till next Thursday. EPA will use ERRS (CMC) to do the relocation. Matt is still determining if he needs CIC activities starting this weekend. Let us start by identifying the PIO and the CIC. Please make sure that the CIC is able to respond this weekend. For now please respond by email. Matt is busy getting on conference calls and leaving to the Site.

Respectfully,

Benjamin Franco,
Federal On Scene Coordinator
Emergency Response, Removal and Prevention Branch
Superfund Division
USEPA R4
61 Forsyth St
Atlanta, GA 30303

404-562-8758 (w)
404-915-6952 (c)

Report Oil and Chemical Spills to the National Response Center 1-800-424-8802

Armstrong, Kathy

From: Frank Edwards <fedwards@jaspercountysc.gov>
Sent: Monday, August 19, 2019 3:33 PM
To: Tolliver, Ronald; Huyser, Matthew
Subject: Public Meeting

I understand that a decision has been made on the public meeting tomorrow night. Can one of you provide me with details so we can get it communicated. Thanks

Matt,
I want to confirm that you will still be coming tonight to the Council Meeting?

Thanks

Armstrong, Kathy

From: Frank Edwards <fedwards@jaspercountysc.gov>
Sent: Wednesday, August 14, 2019 1:32 PM
To: Huyser, Matthew
Subject: FW: Questions Carina Curiel brought to the Dinner at the Church Last night
Attachments: Chandler's Toxic Landfill Questions submitted by Carina Curiel.pdf

FYI, the list of questions we mentioned this morning in the conference call.

From: Lisa Wagner
Sent: Monday, August 12, 2019 5:06 PM
To: Andrew Fulghum; David Tedder; Frank Edwards
Subject: Questions Carina Curiel brought to the Dinner at the Church Last night

Hi Andy,

At the church dinner last night given for the Schinger family, Carina Curiel passed out the questions attached to this email. She wants DHEC and the County to answer these questions in writing where applicable. Additional questions that were asked at the meeting are:

- How far out should be residents/people be concerned about toxic smoke?
- What should residents do/expect when they return home?
- Should dust in their homes be considered toxic?
- Who is responsible for interior clean-up of residences?

She and her mom indicated that they will be at the Council Meeting August 19th so just a head's up.

Thanks!
Lisa Wagner, CFM
Director of Planning and Building Services
358 Third Avenue
P.O. Box 1659
Ridgeland, SC 29936
843-717-3650

This email message contains confidential and/or privileged information that is intended solely for the addressee. If you have received this message in error, please notify us by return email, and delete it from your system. Reading, copying or disseminating this message is strictly prohibited.

Chandler's Toxic Hazardous Landfill Ques

How often are inspections done on health and environmental co
in SC?

How often are inspections done on health and environmental co
centers in SC?

How much property is needed and allowed for landfills in the sta

How did the air quality go from good to hazardous?

When was DHEC's inspection prior to waste placement for this t
landfill?

How many feet does a landfill need to be above elevation?

Where is the buffer for this toxic hazardous landfill?

Who approved this landfill?

Why is water continuing to run on Chandler's toxic hazardous landfill?

Why was Chandler Lloyd accepting loads when he was told not to?

Why is Nature's Calling trash trucks parking loaded trucks in their yard at night? I have seen and taken pictures of their trucks loaded and parked on his property, why is this?

Why is Chandler Lloyd accepting log trucks and weighing them?

What does wet debris do to residential structures and well water after it has been sitting there for 6 years?

When was ground water monitoring done? How often?

How far is Chandler's toxic hazardous landfill from a residential structure?

Where is the retention?

How toxic and hazardous is burning plastic when inhaled by people and animals?

What does wet drywall do to the environment, people and animals after 6 years?

How does burning fiberglass affect the environment, people and animals after 6 years?

What about treated wood?

Why is our water black?

Why do our eyes fill cloudy, burning, itchy and watery? Why do we feel nauseous, have headaches, dizziness, burning and sore throats and not able to breathe? Why do we feel tired all the time?

Why were we told to stay in doors when the smoke and stench was seeping through the residential structures?

Why was the smoke and stench so bad during the day when the high of it was supposed to be at night? When we arrived during the day it was unbearable, why?

Why were we told we could cook and wash clothes with water that is on high question of contamination?

What has DHEC done to help the residents on Schinger Ave?

Who is responsible besides Chandler Lloyd for this toxic and hazardous landfill/recycling facility?

When will it be safe for residents to return home?

What is DHEC going to do for those residents who has contaminated water?

Has EPA tested our water to confirm it is safe to cook, shower, drink and wash clothes for bacteria and chemicals?

Is the soil contaminated? If so, how deep and wide spread is it?

What have we been inhaling?

Has asbestos been found?

Armstrong, Kathy

From: Frank Edwards <fedwards@jaspercountysc.gov>
Sent: Monday, August 12, 2019 8:52 AM
To: Huyser, Matthew
Subject: Hotel Billing

Matt,
Please get with the manager at the Holiday Inn at Exit 8 to transfer the billing for the resident rooms over to the EPA starting the night of 8/16 through 8/23. Her name is Cindy Williams. She is super to deal with. Her phone number is 843-784-2800 and her email address is (b)(6) Personal Privacy

Thanks

Frank

Armstrong, Kathy

From: Frank Edwards <fedwards@jaspercountysc.gov>
Sent: Saturday, August 10, 2019 5:14 PM
To: Huyser, Matthew
Subject: Re: Able Fire - Signs

Ok. Thanks

Sent from my iPhone

On Aug 10, 2019, at 4:46 PM, Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:

> Thanks. I spoke with both Clay and with Jimmy Williams (DOT) and mentioned that we had the VMBs already. Both of them called just about the time that the signs were rolling in so their timing was impeccable.
>
> I mentioned to Jimmy that we had them. He said that the message boards wouldn't have been available until Monday anyway and would have to come from Columbia.
>
> If we need more then I suppose we could call back on Monday. The wind is scheduled to blow from the east and I'm planning on moving one of the particulate monitors to the apartment complex over there perhaps Sunday evening.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

> **From:** Frank Edwards <fedwards@jaspercountysc.gov>
> **Sent:** Saturday, August 10, 2019 4:41 PM
> **To:** Huyser, Matthew <Huyser.Matthew@epa.gov>
> **Subject:** Re: Able Fire - Signs
>
> Good job. Thanks. If you haven't already, you'll need to cancel the DOT signs.
>
> Sent from my iPhone
>
> On Aug 10, 2019, at 4:32 PM, Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:
>
>> While we were having our conference call meeting, my ERRS contractor was busy being impossibly productive. Hats off to Rick Hollingsworth who tracked down two variable message boards after rental businesses had closed for the weekend - and mobilized both of them in this afternoon.
>>
>> One is located on Schinger Ave adjacent to the MCP. The other is located on Riverwalk Blvd.

Both signs currently contain the same message:
SMOKE INFORMATION GO TO
SCDHEC.GOV/ABLE-CONTRACTING-FIRE

Because the message boards are now up, I've foregone printing of the yard signs that I spoke about earlier

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Armstrong, Kathy

From: Frank Edwards <fedwards@jaspercountysc.gov>
Sent: Saturday, August 10, 2019 4:41 PM
To: Huyser, Matthew
Subject: Re: Able Fire - Signs

Good job. Thanks. If you haven't already, you'll need to cancel the DOT signs.

Sent from my iPhone

On Aug 10, 2019, at 4:32 PM, Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:

> While we were having our conference call meeting, my ERRS contractor was busy being impossibly productive. Hats off to Rick Hollingsworth who tracked down two variable message boards after rental businesses had closed for the weekend - and mobilized both of them in this afternoon.
>
> One is located on Schinger Ave adjacent to the MCP. The other is located on Riverwalk Blvd.
>
> Both signs currently contain the same message:
> SMOKE INFORMATION GO TO
> SCDHEC.GOV/ABLE-CONTRACTING-FIRE
>
> Because the message boards are now up, I've foregone printing of the yard signs that I spoke about earlier

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Armstrong, Kathy

From: Frank Edwards <fedwards@jaspercountysc.gov>
Sent: Friday, August 09, 2019 4:22 PM
To: shealyrg@dhec.sc.gov
Cc: David Tedder; reecemc@dhec.sc.gov; Andrew Fulghum; Russell Wells; Lisa Wagner; Huyser, Matthew
Subject: RE: info for residents

OK, I'm going with this to get it translated.

From: Shealy, Renee [mailto:shealyrg@dhec.sc.gov]
Sent: Friday, August 9, 2019 4:19 PM
To: Frank Edwards
Cc: David Tedder; Reece, Myra; Andrew Fulghum; Russell Wells; Lisa Wagner; Huyser, Matthew
Subject: Re: info for residents

We are good with this addition. Thx!

Sent from my iPhone

On Aug 9, 2019, at 4:05 PM, Frank Edwards <fedwards@jaspercountysc.gov> wrote:

*** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***
Here are my comments. Otherwise I am good with it.

From: Shealy, Renee [mailto:shealyrg@dhec.sc.gov]
Sent: Friday, August 9, 2019 4:01 PM
To: David Tedder; Frank Edwards; Reece, Myra; Andrew Fulghum; Russell Wells; Lisa Wagner; Huyser, Matthew
Subject: info for residents

Attached please find the update info for the Schinger Ave residents. If you need help with the translation, please let us know.

<DHEC.Resident Flyer.August-9-2019.docx>

Armstrong, Kathy

From: Frank Edwards <fedwards@jaspercountysc.gov>
Sent: Friday, August 09, 2019 4:04 PM
To: shealyrg@dhec.sc.gov; David Tedder; reecemc@dhec.sc.gov; Andrew Fulghum; Russell Wells; Lisa Wagner; Huyser, Matthew
Subject: RE: info for residents
Attachments: DHEC.Resident Flyer.August-9-2019.docx

Here are my comments. Otherwise I am good with it.

From: Shealy, Renee [mailto:shealyrg@dhec.sc.gov]
Sent: Friday, August 9, 2019 4:01 PM
To: David Tedder; Frank Edwards; Reece, Myra; Andrew Fulghum; Russell Wells; Lisa Wagner; Huyser, Matthew
Subject: info for residents

Attached please find the update info for the Schinger Ave residents. If you need help with the translation, please let us know.

dhec

Healthy People. Healthy Communities.

Schinger Avenue Residents
August 9, 2019

We would like to provide you with information on the Able Contracting, Inc. (Able) fire situation.

On Sunday, August 11 from 6:00 p.m. – 7:30 pm, the members of Grace Coastal Church located at 15 Williams Drive, Okatie, SC 29909, will provide dinner for the residents of Schinger Ave. who have been impacted by the Able fire.

DHEC and the EPA will be there to answer questions you may have about the fire response.

EPA has extended your hotel reservation for checkout on Saturday, August 24th, and will re-evaluate the need to extend the hotel on a weekly basis.

The fire suppression contractor has been secured and is moving equipment to the site to begin work early next week.

If you should have any other concerns or questions, please call SC DHEC at 843-846-1030.

S.C. Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201 (803) 898-3432 www.scdhec.gov

Armstrong, Kathy

From: Frank Edwards <fedwards@jaspercountysc.gov>
Sent: Friday, August 09, 2019 3:26 PM
To: reecemc@dhec.sc.gov; Huyser, Matthew; Porter, Henry (porterhj@dhec.sc.gov); Lisa Wagner; Andrew Fulghum; David Tedder
Subject: Meeting Attendance
Attachments: Meeting.DHEC-EPA-Contractor.August-8-2019..pdf

Here is the sign in sheet from this morning for whomever needs a copy.

Name	Organization	E-mail	Phone
Joe Mantua	BJWSA	joe.mantua@bjwsa.org	843 987 8044
ANDY FULGHUM	JASPER COUNTY	afulghum@jaspercountysc.gov	843-717-3691
Frank Edwards	Jasper County	fedwards@jaspercountysc.gov	843-726-7603
Myra Reece	SC DHEC	reecemc@dhec.sc.gov	803 667-1113
DAVID TADDER	Jasper County	dtadder@jaspercounty.sc.gov	843 717 3683
Josiah Williams	EPA START	josiah.williams@tetratech.com	404 542 6530
Eric Huss	EPA START	eric.huss@tetratech.com	610-348-6[illegible]
Courtney S. Redd	EPA START	courtney.redd@tetratech.com	678-656-3481
~~MATTHEW HUSSER~~	~~EPA~~	~~HUSSER.MATTHEW@EPA.GOV~~	678-427-[illegible]
Keith Frost	SC DHEC	Keith.Frost@dhec.sc.gov	803-465-1529
Henry Porter	SC DHEC	porterhi@dhec.sc.gov	803-360-[illegible]
Bryce Snow	EnviroSmart	Bryce@enviroSmart.US	843-609-6[illegible]
Steven Hodskins	EnSafe	shodskins@ensafe.com	706-455-7556
John Kinsey	EnviroSmart SS	JohnKinsey@enviroSmart.us	843-991-0376
Justin Thomas	BJWSA	justin.thomas@BJWSA.org	843-987-9981
Patrick Burke	BJWSA	pat.burke@BJWSA.org	843-987-8042
Kelly Jo Alston	BJWSA	Kelly.Alston@bjwsa.org	843-987-8014
Shannon Smith	JCFR	SSmith@jaspercounty.sc.gov	843 [illegible]
CLAY LUCAS	JCFR	CLAYL@JASPERCOUNTYSC.GOV	
Lisa Wagner	Jasper County	lwagner@jaspercountysc.gov	843-717-3661

Armstrong, Kathy

From: Frank Edwards <fedwards@jaspercountysc.gov>
Sent: Friday, August 09, 2019 2:59 PM
To: shealyrg@dhec.sc.gov; reecemc@dhec.sc.gov; David Tedder; Andrew Fulghum; Russell Wells; Lisa Wagner; Huyser, Matthew
Subject: RE: Time sensitive - Feedback requested - Able update/

My two cents. I would say more about the contractor being on site to begin immediate work next week. This message just talks about the sampling.

From: Shealy, Renee [mailto:shealyrg@dhec.sc.gov]
Sent: Friday, August 9, 2019 2:55 PM
To: Reece, Myra; David Tedder; Andrew Fulghum; Frank Edwards; Russell Wells; Lisa Wagner; Huyser, Matthew
Subject: Time sensitive - Feedback requested - Able update/

Please see the attached updated document we are preparing to send out to media. Please provide feedback before 3:30. Thanks!!!!

From: Reece, Myra <reecemc@dhec.sc.gov>
Sent: Friday, August 9, 2019 12:57 PM
To: dtedder@jaspercountysc.gov <dtedder@jaspercountysc.gov>; afulghum@jaspercountysc.gov <afulghum@jaspercountysc.gov>; fedwards@jaspercountysc.gov <fedwards@jaspercountysc.gov>; rwells@jaspercountysc.gov <rwells@jaspercountysc.gov>; lwagner@jaspercountysc.gov <lwagner@jaspercountysc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>
Cc: Shealy, Renee <shealyrg@dhec.sc.gov>
Subject: Fwd: Draft AM Info RE: Able Fire - August 9

Sent from my iPad

Begin forwarded message:

> **From:** "Marshall, Frances (Fran)" <marshaf2@dhec.sc.gov>
> **Date:** August 9, 2019 at 12:26:15 PM EDT
> **To:** "Shealy, Renee" <shealyrg@dhec.sc.gov>, "Reece, Myra" <reecemc@dhec.sc.gov>
> **Subject: Draft AM Info RE: Able Fire - August 9**

Fran W. Marshall, J.D., M.S.P.H., CIH(r)
Director of Applied Science and Community Engagement
SC DHEC Environmental Affairs
Office: 803.898.9956

Armstrong, Kathy

From: Frederick, Tim
Sent: Friday, August 30, 2019 11:03 AM
To: John Snyder
Cc: Adams, Glenn; Huyser, Matthew; chris.jones@tetratech.com; Spurlin, Steve
Subject: Re: HCN and H2S sampling methods

Thanks for digging into this. It looks like the summas are our best bet then.

Sent from my iPhone

On Aug 30, 2019, at 10:51 AM, Snyder, John <John.Snyder@tetratech.com> wrote:

Brain Trust (and Chris),
I've asked the lab to propose different methods for analyzing for H2S and HCN. Their recommendations were either Tedlar bags or Radiello badges for the H2S and OTM-029 (NaOH impingers) for HCN. I've put together a comparison of the detection levels for these methods:

	Reported by lab		Calculated by Snyder (ug/m3)		Res RML
	MDL	LOQ	MDL	LOQ	
H_2S Radiello Badges	0.0143 ug/mL	0.143 ug/mL	14,300 ug/m3	143,000 ug/m3	2.5 ug/m
H_2S Tedlar Bags	0.2 ppm	2 ppm (assumed)	280 ug/m3	2,800 ug/m3	
H_2S Summa	0.0781 ppm	~.16 ppm	109 ug/m3	~224 ug/m3	
HCN OTM-29	~.10 ug/mL	1 ug/mL (assumed)	100,000 ug/m3	1,000,000 ug/m3	6.3 ug/m
HCN Summa	1.27 ppm	4 ppm	1,397 ug/m3	4,400 ug/m3	

I would encourage everyone to double-check my math, but it looks like the summa cans give us the lowest detection limits...still way off the RMLs though.

If there are additional methods that the lab has not shared with me, please let me know.

ASAP responses are appreciated...3-day weekend is rapidly approaching...

John

John Snyder, PG, PE | Environmental Engineer
Mobile **+1 (770) 402-9013** | john.snyder@tetratech.com

Tetra Tech | Complex World, Clear Solutions™ | **Tetra Tech** EMI
Raleigh, NC (Cary) | tetratech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

<image001.png> <image002.png> <image003.png> Please consider the environment before printing. Read more
<image004.jpg>

Armstrong, Kathy

From: Frederick, Tim
Sent: Thursday, August 22, 2019 5:08 PM
To: Huyser, Matthew
Cc: Thomas, Brett; Moore, Tony; Adams, Glenn
Subject: Re: Beekeeper in SC

I got her hooked up with the county ag extension service. Maybe just follow up in a few days.

Sent from my iPhone

On Aug 22, 2019, at 4:36 PM, Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:

> I recommend we buzz DHEC to take and analyze samples if that is warranted. We are at our limit to sting out the fire. DHECs help with the surface water and groundwater is going well so this other activity is a good place for them to bee in.
>
> Would you like me to take the lead on that or someone else?
>
> **Matthew J. Huyser, PE - On-Scene Coordinator**
> **U.S. Environmental Protection Agency, Region 4** | 61 Forsyth St SW | Atlanta, Georgia | 30303
> **Emergency Response Removal and Prevention Branch (ERRPB)**
> office: 404-562-8934 | cell: 678-427-8829 | fax:404-562-8699
> epaosc.org
>
> On Aug 22, 2019, at 12:17 PM, Thomas, Brett <Thomas.Brett@epa.gov> wrote:
>
>> I talked with Michelle Garmon for a short bit. She has some concern for the safety of the bees, but her main concern right now is the 200 lbs of honey she harvested: can she safely sell that/give it to people or not? Also some concern about the amount of contamination in the wax in the honeycombs, and whether that all needs to be cleaned out so the bees can start fresh. There evidently is value in having lots of wax buildup; I guess it makes the honey darker and gives it more flavor. I said my guess would be there probably was not significant contamination buildup in the honey to pose a risk, but that was just a guess and the only way to have a better idea would be to have the honey (and wax?) analyzed to see what is in it. I said then a human health risk assessor would have some information to work with to get an idea of the safety of the honey.
>>
>> I asked if she had contact info with the State of SC, and she said she does. She understands that EPA will likely only be around long enough to get the fire under control, and then the State again takes over. I told her I would try to find a contact from EPA, like our OSC or someone like that, who perhaps could advise her regarding the potential of having the honey analyzed and who could help her with that. I recommended that she follow up with her State contacts while I look into an EPA contact.
>>
>> Who would be our best EPA contact for this? If it is our OSC working on this, who do we have over there?

Thanks.
Brett

From: Frederick, Tim <Frederick.Tim@epa.gov>
Sent: Thursday, August 22, 2019 9:49 AM
To: Thomas, Brett <Thomas.Brett@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>
Subject: RE: Beekeeper

We haven't analyzed the PM. Nearer the site we have had some volatile organics, hydrogen cyanide, acrolein, and (maybe) phosgene.

From: Thomas, Brett
Sent: Thursday, August 22, 2019 9:47 AM
To: Frederick, Tim <Frederick.Tim@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>
Subject: RE: Beekeeper

I am looking stuff up. Off the top of my head, my response is ????????

As far as her honey, I have not seen mention of ill effects from people ingesting PM 2.5, obviously depending on what the particles are made of or have associated with them. I suppose if the particles are high in PAHs, that could cause concern though I would imagine if the honey had that much PM 2.5 in it, it would taste bad or look "off". So the organoleptic effects might keep people away from it. Obvious just a SWAG, since we don't know concentrations. Has anyone analyzed the PM to see what it is or has in it?

I am looking at a few papers that looked at particulate matter and bees. Once I see what the general conclusions of those papers are, maybe I/we can call her.

Brett

From: Frederick, Tim <Frederick.Tim@epa.gov>
Sent: Thursday, August 22, 2019 9:23 AM
To: Thomas, Brett <Thomas.Brett@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>
Subject: Beekeeper

Brett –

Glenn and I just returned from a public meeting at the Able Contracting Fire site in SC. After the meeting, I talked with a beekeeper who is concerned about what the air pollution means for her hives. She's less than a mile from the site, and they main contaminant of concern at the hives would be PM2.5. She mentioned that the bees themselves would forage over a much bigger area that could include areas nearer to the site. She wants to know if she needs to get rid of the honey she's harvested and/or if her honeycombs may be contaminated as well. I told her that we would try to get someone to get back with her and talk about her concerns. Can you help out? Or point us to someone who can? Her name is Michelle Garmon and her phone number is (b)(6) (b)(6) Personal

Thanks,

Tim

Armstrong, Kathy

From: Frederick, Tim
Sent: Thursday, August 22, 2019 2:00 PM
To: Adams, Glenn; Moore, Tony; Thomas, Brett
Cc: Huyser, Matthew; Tanner, Terry
Subject: RE: Beekeeper in SC

I talked to Sydney McKay with the Jasper County Agricultural Extension Service (843-726-3461). She is going to reach out to the beekeeper directly and will help her with honey testing etc.

From: Adams, Glenn
Sent: Thursday, August 22, 2019 1:54 PM
To: Moore, Tony <moore.tony@epa.gov>; Thomas, Brett <Thomas.Brett@epa.gov>; Frederick, Tim <Frederick.Tim@epa.gov>
Cc: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: RE: Beekeeper in SC

Tim is reaching out to the County Ag to see if he can get her a contact.
Thanks,
Glenn

From: Moore, Tony <moore.tony@epa.gov>
Sent: Thursday, August 22, 2019 1:47 PM
To: Thomas, Brett <Thomas.Brett@epa.gov>; Frederick, Tim <Frederick.Tim@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: RE: Beekeeper in SC

Send her to State Ag

From: Thomas, Brett <Thomas.Brett@epa.gov>
Sent: Thursday, August 22, 2019 12:17 PM
To: Frederick, Tim <Frederick.Tim@epa.gov>; Moore, Tony <moore.tony@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: RE: Beekeeper in SC

I talked with Michelle Garmon for a short bit. She has some concern for the safety of the bees, but her main concern right now is the 200 lbs of honey she harvested: can she safely sell that/give it to people or not? Also some concern about the amount of contamination in the wax in the honeycombs, and whether that all needs to be cleaned out so the bees can start fresh. There evidently is value in having lots of wax buildup; I guess it makes the honey darker and gives it more flavor. I said my guess would be there probably was not significant contamination buildup in the honey to pose a risk, but that was just a guess and the only way to have a better idea would be to have the honey (and wax?) analyzed to see what is in it. I said then a human health risk assessor would have some information to work with to get an idea of the safety of the honey.

I asked if she had contact info with the State of SC, and she said she does. She understands that EPA will likely only be around long enough to get the fire under control, and then the State again takes over. I told her I would try to find a contact from EPA, like our OSC or someone like that, who perhaps could advise her regarding the potential of having the

honey analyzed and who could help her with that. I recommended that she follow up with her State contacts while I look into an EPA contact.

Who would be our best EPA contact for this? If it is our OSC working on this, who do we have over there?

Thanks.
Brett

From: Frederick, Tim <Frederick.Tim@epa.gov>
Sent: Thursday, August 22, 2019 9:49 AM
To: Thomas, Brett <Thomas.Brett@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>
Subject: RE: Beekeeper

We haven't analyzed the PM. Nearer the site we have had some volatile organics, hydrogen cyanide, acrolein, and (maybe) phosgene.

From: Thomas, Brett
Sent: Thursday, August 22, 2019 9:47 AM
To: Frederick, Tim <Frederick.Tim@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>
Subject: RE: Beekeeper

I am looking stuff up. Off the top of my head, my response is ????????

As far as her honey, I have not seen mention of ill effects from people ingesting PM 2.5, obviously depending on what the particles are made of or have associated with them. I suppose if the particles are high in PAHs, that could cause concern though I would imagine if the honey had that much PM 2.5 in it, it would taste bad or look "off". So the organoleptic effects might keep people away from it. Obvious just a SWAG, since we don't know concentrations. Has anyone analyzed the PM to see what it is or has in it?

I am looking at a few papers that looked at particulate matter and bees. Once I see what the general conclusions of those papers are, maybe I/we can call her.

Brett

From: Frederick, Tim <Frederick.Tim@epa.gov>
Sent: Thursday, August 22, 2019 9:23 AM
To: Thomas, Brett <Thomas.Brett@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>
Subject: Beekeeper

Brett –

Glenn and I just returned from a public meeting at the Able Contracting Fire site in SC. After the meeting, I talked with a beekeeper who is concerned about what the air pollution means for her hives. She's less than a mile from the site, and they main contaminant of concern at the hives would be PM2.5. She mentioned that the bees themselves would forage over a much bigger area that could include areas nearer to the site. She wants to know if she needs to get rid of the honey she's harvested and/or if her honeycombs may be contaminated as well. I told her that we would try to get someone to get back with her and talk about her concerns. Can you help out? Or point us to someone who can? Her name is Michelle Garmon and her phone number is (b)(6) Personal Privacy

Thanks,

Tim

Armstrong, Kathy

From: Frederick, Tim
Sent: Wednesday, August 14, 2019 2:28 PM
To: Huyser, Matthew
Cc: Adams, Glenn
Subject: Re: Questions Carina Curiel brought to the Dinner at the Church Last night

Let us know what you need from us.

Sent from my iPhone

On Aug 14, 2019, at 2:25 PM, Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:

> I think it's best to allow DHEC to remain the lead in answering these questions and EPA can provide support in answering questions particularly to the air samples that we collected. I've copied Glenn Adams and Tim Frederick who can provide the best description of the analytical results and human health impacts from the EPA perspective.
>
> I don't know what level of effort should be devoted to answer these questions as an independent response but it's fairly comprehensive so I suspect that the best approach would be to identify what issues are addressed in information that has already been published and then flag questions that have not already been addressed in published information for further follow-up in future updates.
>
> If there is a point person who can do that then I will be willing to provide replies to information/explanation that's needed from EPA.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Frank Edwards <fedwards@jaspercountysc.gov>
Sent: Wednesday, August 14, 2019 1:32 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: FW: Questions Carina Curiel brought to the Dinner at the Church Last night

FYI, the list of questions we mentioned this morning in the conference call.

From: Lisa Wagner
Sent: Monday, August 12, 2019 5:06 PM
To: Andrew Fulghum; David Tedder; Frank Edwards
Subject: Questions Carina Curiel brought to the Dinner at the Church Last night

Hi Andy,

At the church dinner last night given for the Schinger family, Carina Curiel passed out the questions attached to this email. She wants DHEC and the County to answer these questions in writing where applicable. Additional questions that were asked at the meeting are:

- How far out should be residents/people be concerned about toxic smoke?
- What should residents do/expect when they return home?
- Should dust in their homes be considered toxic?
- Who is responsible for interior clean-up of residences?

She and her mom indicated that they will be at the Council Meeting August 19th so just a head's up.

Thanks!
Lisa Wagner, CFM
Director of Planning and Building Services
358 Third Avenue
P.O. Box 1659
Ridgeland, SC 29936
843-717-3650

This email message contains confidential and/or privileged information that is intended solely for the addressee. If you have received this message in error, please notify us by return email, and delete it from your system. Reading, copying or disseminating this message is strictly prohibited.

<Chandler's Toxic Landfill Questions submitted by Carina Curiel.pdf>

Armstrong, Kathy

From: Frederick, Tim
Sent: Wednesday, August 14, 2019 2:28 PM
To: Huyser, Matthew
Cc: Adams, Glenn
Subject: Re: Questions Carina Curiel brought to the Dinner at the Church Last night

Let us know what you need from us.

Sent from my iPhone

On Aug 14, 2019, at 2:25 PM, Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:

> I think it's best to allow DHEC to remain the lead in answering these questions and EPA can provide support in answering questions particularly to the air samples that we collected. I've copied Glenn Adams and Tim Frederick who can provide the best description of the analytical results and human health impacts from the EPA perspective.
>
> I don't know what level of effort should be devoted to answer these questions as an independent response but it's fairly comprehensive so I suspect that the best approach would be to identify what issues are addressed in information that has already been published and then flag questions that have not already been addressed in published information for further follow-up in future updates.
>
> If there is a point person who can do that then I will be willing to provide replies to information/explanation that's needed from EPA.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

> **From:** Frank Edwards <fedwards@jaspercountysc.gov>
> **Sent:** Wednesday, August 14, 2019 1:32 PM
> **To:** Huyser, Matthew <Huyser.Matthew@epa.gov>
> **Subject:** FW: Questions Carina Curiel brought to the Dinner at the Church Last night
>
> FYI, the list of questions we mentioned this morning in the conference call.
>
> **From:** Lisa Wagner
> **Sent:** Monday, August 12, 2019 5:06 PM
> **To:** Andrew Fulghum; David Tedder; Frank Edwards
> **Subject:** Questions Carina Curiel brought to the Dinner at the Church Last night
>
> Hi Andy,

At the church dinner last night given for the Schinger family, Carina Curiel passed out the questions attached to this email. She wants DHEC and the County to answer these questions in writing where applicable. Additional questions that were asked at the meeting are:

- How far out should be residents/people be concerned about toxic smoke?
- What should residents do/expect when they return home?
- Should dust in their homes be considered toxic?
- Who is responsible for interior clean-up of residences?

She and her mom indicated that they will be at the Council Meeting August 19th so just a head's up.

Thanks!

Lisa Wagner, CFM
Director of Planning and Building Services
358 Third Avenue
P.O. Box 1659
Ridgeland, SC 29936
843-717-3650

This email message contains confidential and/or privileged information that is intended solely for the addressee. If you have received this message in error, please notify us by return email, and delete it from your system. Reading, copying or disseminating this message is strictly prohibited.

<Chandler's Toxic Landfill Questions submitted by Carina Curiel.pdf>

Armstrong, Kathy

From: Frederick, Tim
Sent: Friday, August 09, 2019 11:02 AM
To: Huyser, Matthew
Subject: Fwd: Map and today's update
Attachments: 080919 Able AQI category.pdf; ATT00001.htm; Able local homes (2).png; ATT00002.htm; FINAL Environmental Smoke Fact Sheet - July 25 2019.docx; ATT00003.htm

Matt

More communication from Fran. Just keeping you in the loop.

Tim

Sent from my iPhone

Begin forwarded message:

> **From:** "Marshall, Frances (Fran)" <marshaf2@dhec.sc.gov>
> **To:** "Frederick, Tim" <Frederick.Tim@epa.gov>
> **Cc:** "reecemc@dhec.sc.gov" <reecemc@dhec.sc.gov>, "shealyrg@dhec.sc.gov" <shealyrg@dhec.sc.gov>, "Adams, Glenn" <Adams.Glenn@epa.gov>
> **Subject: Fw: Map and today's update**

Tim, it was a pleasure to speak with you this morning. For your information I am attaching the english version of our Environmental Smoke Fact Sheet as well as the latest AQI calculations and the map overlay with significant receptors on it.

We are hoping to get a web page on this site launched this morning. I will send you the URL once it is up.

Please do not hesitate to contact me if you have any questions. My work cell is 803.422.1805, my personal cell is (b)(6) Personal Privacy

We look forward to working together with EPA to mitigate the exposure of our citizens to smoke from this fire.

Best Regards,

Fran

Fran W. Marshall, J.D., M.S.P.H., CIH(r)

Director of Applied Science and Community Engagement

SC DHEC Environmental Affairs

Office: 803.898.9956

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Friday, August 9, 2019 10:34 AM
To: Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>
Subject: Map and today's update

Community Air Quality Update - August 9, 2019

Ridgeland, South Carolina

South Carolina Department of Health and Environmental Control • www.scdhec.gov

Air Quality in the area has gotten worse over the past week during the calm late night and early morning. Even on days with higher average concentrations, particulate concentrations are low and in the 'GOOD' Air Quality Index category during the day and early evening.
DHEC's air Quality sensor data can be accessed at http://tinyurl.com/MOIX17468
to view the latest 15-minute average concentrations of Particulate Matter (PM) 2.5 microns in diameter - the size of particles found in smoke. The short 15 minute readings may be much higher that the average for the full day.

Date		Business		Community	
		24 Hour Average concentration ($\mu g/M^3$)	***Air Quality Index Category***	**24 Hour Average concentration ($\mu g/M^3$)**	***Air Quality Index Category***
Mon	22-July	4			
Tues	23-July	4			
Wed	24-July	36	*Unhealthy for Sensitive Groups*		
Thur	25-July	64			
Fri	26-July	25	*Moderate*		
Sat	27-July	47	*Unhealthy for Sensitive Groups*		
Sun	28-July	20	*Moderate*		
Mon	29-July	66			
Tues	30-July	40	*Unhealthy for Sensitive Groups*	Monitor Installed	
Wed	31-July	66		85	
Thur	1-Aug	31	*Moderate*	41	*Unhealthy for Sensitive Groups*
Fri	2-Aug	29	*Moderate*	17	*Moderate*
Sat	3-Aug	7		8	
Sun	4-Aug	16	*Moderate*	16	*Moderate*
Mon	5-Aug	15	*Moderate*	44	*Unhealthy for Sensitive Groups*
Tues	6-Aug	10		46	*Unhealthy for Sensitive Groups*
Wed	7-Aug	6		55	*Unhealthy for Sensitive Groups*
Thur	8-Aug	14	*Moderate*	82	

Printed 8/9/19

More information on the other side

Air Quality Category	Who Needs to be Concerned?	What Should I Do?
Moderate 12-35	Some people who may be unusually sensitive to particle pollution.	**Unusually sensitive people:** *Consider reducing* prolonged or heavy exertion. Watch for symptoms such as coughing or shortness of breath. These are signs to take it easier. **Everyone else:** It's a good day to be active outside.
Unhealthy for Sensitive Groups 36-55	Sensitive groups include **people with heart or lung disease, older adults, children and teenagers.**	**Sensitive groups:** *Reduce* prolonged or heavy exertion. It's OK to be active outside, but take more breaks and do less intense activities. Watch for symptoms such as coughing or shortness of breath. **People with asthma** should follow their asthma action plans and keep quick relief medicine handy. **If you have heart disease:** Symptoms such as palpitations, shortness of breath, or unusual fatigue may indicate a serious problem. If you have any of these, contact your heath care provider.
Unhealthy 56-150	**Everyone**	**Sensitive groups:** *Avoid* prolonged or heavy exertion. Move activities indoors or reschedule to a time when the air quality is better. **Everyone else:** *Reduce* prolonged or heavy exertion. Take more breaks during all outdoor activities.
Very Unhealthy 151-250	**Everyone**	**Sensitive groups:** *Avoid all* physical activity outdoors. Move activities indoors or reschedule to a time when air quality is better. **Everyone else:** *Avoid* prolonged or heavy exertion. Consider moving activities indoors or rescheduling to a time when air quality is better.
Hazardous 251-500	**Everyone**	**Everyone**: *Avoid all* physical activity outdoors. **Sensitive groups:** Remain indoors and keep activity levels low. Follow tips for keeping particle levels low indoors.

dhec Fact Sheet

South Carolina Department of Health and Environmental Control • www.scdhec.gov

Environmental Smoke

What is smoke?

Whether from a campfire, wildfire, or burning landfill or pile of debris, all smoke is made up of very small partially-burned particles and chemicals that form during burning. What makes up the particles and accompanying gases depends on the type of material that is burning. An efficient fire that burns clean, dry fuel and has plenty of air will have little visible smoke and fewer potentially harmful chemicals. A fire consuming damp, dirty fuel and that burns slowly due to a lack of air will create more particles and chemicals that come from incomplete combustion. Visible smoke is the most immediate sign of incomplete combustion.

It's never good to breathe smoke of any kind for extended periods of time. Most people should not have long-term health problems caused by breathing smoke for short periods of time, but chemical odors and particles in the air from fires may cause short-term nausea, headaches, and/or irritation to the throat and eyes. If symptoms are caused by smoke, they should improve when a person leaves the smoky area. Exposure to smoke may aggravate some pre-existing lung or heart-related health conditions.

How can I be exposed to smoke?

The heat from outdoor fires typically lifts smoke up into the air, but slower, smoldering fires in combination with some weather conditions can trap smoke close to the ground. You can be exposed to smoke from fires close by or from fires long distances away.

If smoke is visible, even if the source of the smoke is not, we recommend that you follow the precautions listed in this fact sheet.

Who is at greatest risk from smoke?

- ***Pregnant women and people who have existing health conditions*** like heart disease, lung disease, or asthma, are at higher risk of health effects from smoke.
- ***Older adults*** are more likely to be affected by smoke due to their increased risk of heart and lung diseases.
- ***Children*** are more likely to be affected by smoke. Children's airways are still developing and they breathe more air per pound of body weight than adults. That results in an increased dose or exposure. Children also often spend more time outdoors engaged in activity and play.

What should I do if smoke is in my area?

In the event of an uncontrolled fire or smoke event, the first and most important thing to do is to minimize your exposure.

- Report smoke to local authorities as the adage is usually true, "where there is smoke, there is fire."
- Go upwind from the source.
- Go inside, close windows and close exterior air intakes.
- Don't exercise in smoky conditions because you breathe in more air and that increases your exposure to smoke-related contaminants.

Keep in mind that sometimes weather conditions may bring smoke to the ground from a fire that is found a long way away.

How can I protect myself?

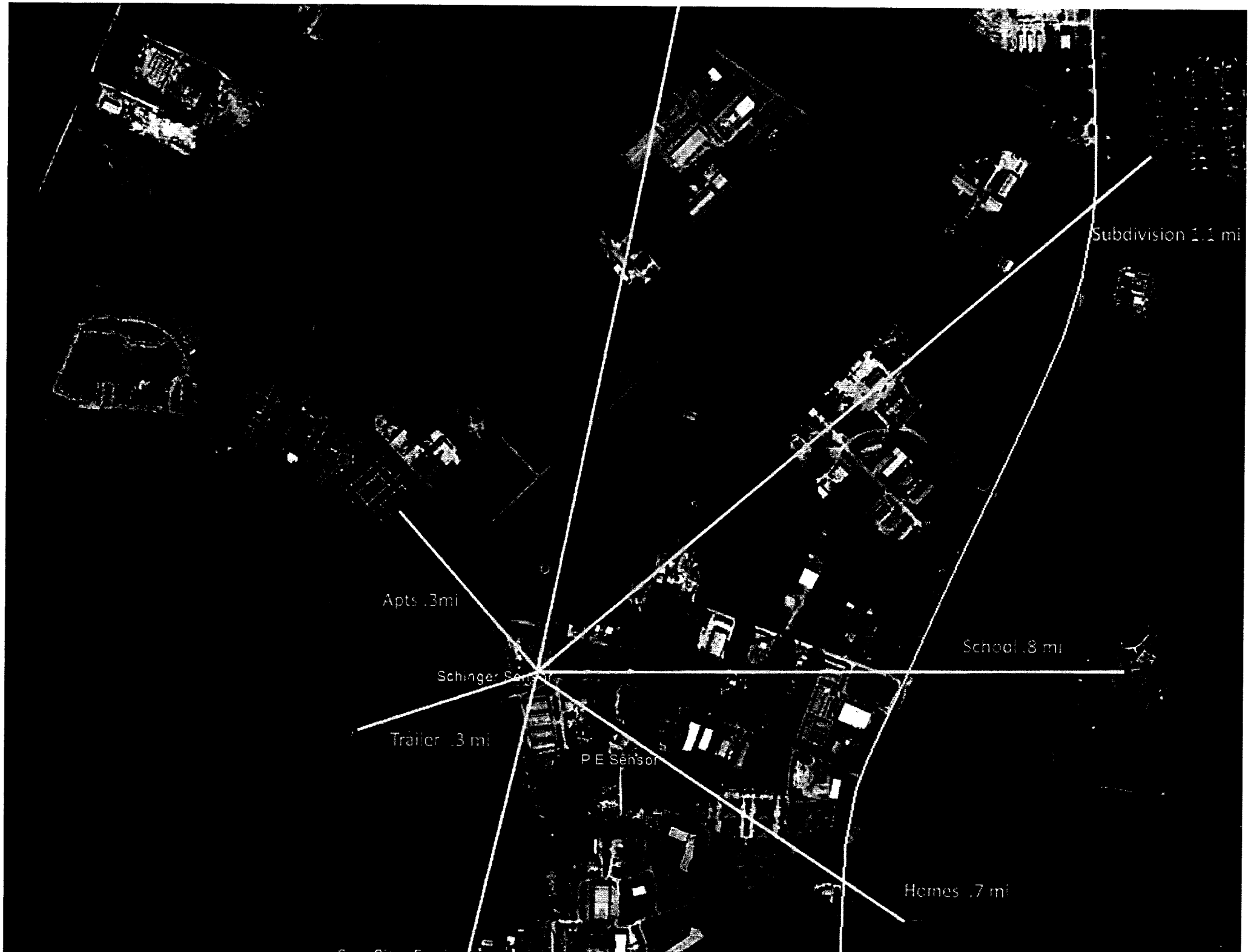
Avoid spending extended amounts of time in smoky conditions. Don't walk, run, do yard work or participate in outdoor activities on days when smoke is visible at ground level.

People who have trouble breathing, experience an increase in coughing episodes, or have tightness in their chest should seek medical attention from their doctor or health care provider. People with asthma, chronic obstructive pulmonary disease (COPD) or emphysema are more likely than others to have these symptoms and should, when possible, not stay in smoky environments for long periods of time.

Don't rely on "dust masks" for protection. Paper dust masks found at hardware stores are designed to trap large particles, like sawdust. These masks will ***not*** protect your lungs from the small particles found in smoke from an uncontrolled fire. **Don't use a respirator unless you speak with your doctor to ensure wearing one won't negatively affect your health**. If you use a respirator, choose a "particulate respirator" that has been tested and approved by the National Institute of Occupational Safety and Health (NIOSH). It will have the words "NIOSH" and either "N95" or "P100" printed on it.

Summary

When weather conditions bring the smoke from an uncontrolled fire (e.g. campfire, wildfire or other type of fire) into your area, it results in increased amounts of particulates and other chemicals in the air. This can be a nuisance even for healthy people, but it can also make some pre-existing health conditions, like asthma and some heart or lung conditions, worse. Our data monitoring has found that usually the particulate concentrations from smoke are highest in the early morning hours on days when the wind is coming from the direction of the fire and there is not enough wind to clear out smoke that has accumulated near the ground overnight. Choose to walk, jog, or be outside during times when smoke isn't visible at ground level. Should you have any personal health concerns, we recommend that you seek advice from your normal health care provider.


Subdivision 1.1 mi
Apts .3mi
School .8 mi
Schinger Sen
Trailer .3 mi
P E Sensor
Homes .7 mi

Armstrong, Kathy

From: Frederick, Tim
Sent: Friday, August 09, 2019 10:59 AM
To: Huyser, Matthew
Subject: Heads Up

I just talked with Fran (last name?) with DHEC for a risk assessors touching base call. She called just to set up the line of communication going forward and to talk about things generally. She says DHEC is happy that we've responded and they're particularly glad to have you there. Holler if you need me.

Tim

Sent from my iPhone

Armstrong, Kathy

From: Frost, Keith <frostrk@dhec.sc.gov>
Sent: Friday, September 13, 2019 10:25 AM
To: Scott Reynolds
Cc: thompsrb@dhec.sc.gov; reecemc@dhec.sc.gov; Marshall, Frances (Fran); Marcus, Mike; Porter, Henry; Keisler, Van; Blalock, Juli; Taylor, Monica N.; Dickman, Jacquelyn S.; Timmerman, Kelsey A.; Threatt, Richard; Boswell, Wendy; Stewart, R. Gary; Quina III, Gregory; Boyce, Lawra; Crooks, Carol; shealyrg@dhec.sc.gov; Glass, John; McAvoy, Bryan P.; Swanson, Courtney; Spurlin, Steve; Tanner, Terry; Byrd, Terrence; Pinkney, James; Frederick, Tim; Huyser, Matthew; Tolliver, Ronald; Jenkins, Brandi
Subject: Re: Able PM

Yes. Kelsey is heading out there to check. It is most likely been unplugged for lawn maintenance. Will know something shortly.

R. Keith Frost, Assistant Chief
Bureau of Air Quality
SC DHEC

(803) 898-4115 office
(803) 465-1529 cell

Sent from my iPhone

On Sep 13, 2019, at 10:10 AM, Reynolds, Scott <REYNOLDS@dhec.sc.gov> wrote:

Yesterday's 24 hour averages (Sep 12 Midnight to midnight)

Schinger	PM2.5	19 ug/M3 (Moderate)
Okatie Elementary	PM2.5	5 ug/M3 (Good)
Sun City	PM2.5	No Data

Significant late night/early morning smoke at Schinger site only - peak concentrations we haven't seen for a while. Highest concentrations after midnight , so not included in yesterday's average. Sun City sensor is off line. (Suspect it has been unplugged) .
<image.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Thursday, September 12, 2019 9:30 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>;

McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Sep 11 Midnight to midnight)

Schinger PM2.5 17 ug/M3 (Moderate)
Okatie Elementary PM2.5 7 ug/M3 (Good)
Sun City PM2.5 9 ug/M3 (Good)

Late night/early morning smoke at Schinger site only - but peak concentrations only ~20% of what it was last time we saw this pattern.

<image.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Wednesday, September 11, 2019 10:00 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Numbers and a graph..
Yesterday's 24 hour averages (Sep 10 Midnight to midnight)

Schinger PM2.5 13 ug/M3 (Moderate)
Okatie Elementary PM2.5 8 ug/M3 (Good)
Sun City PM2.5 11 ug/M3 (Good)

Activity at the site appears to have stirred it up a bit overnight. The satellite imagery still indicated light smoke over the SE US yesterday which is likely contributing a little to the concentrations at all sensors but that is not unusual.

<image.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Monday, September 9, 2019 12:55 PM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

No numbers
No Graphs
BUT
If you need a fix,
the sensors were reinstalled midday Sunday(9/8) at Schinger and Okatie Elementary. The sensor at the Palmetto Exterminators site has been discontinued and installed in Sun CIty.
The DHEC Web App has been updated to show the current locations and data.
Unless there is a change from current conditions, there will not be a daily email . Data and and graphs will still be updated and available on the OneDrive.
If you want to be SURE you're off the list, just let me know.

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Sunday, September 1, 2019 8:08 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>

Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 30 Midnight to midnight)
Palmetto Exterminators **PM10** 3 ug/M3 (Good)
Schinger 2.5 4 ug/M3 (Good)
Okatie Elementary PM2.5 3 ug/M3 (Good)

Monitors are being removed today in preparation for Dorian, but going out with lowest 3 site total since we started (lowest 24 hr average at 2 of the 3 sites).
'Clean' bonus graph below.

<pastedImage.png>

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Saturday, August 31, 2019 8:21:27 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 30 Midnight to midnight)
Palmetto Exterminators **PM10** Data not available(but operating and in GOOD range)
Schinger 2.5 6 ug/M3 (Good)
Okatie Elementary PM2.5 4 ug/M3 (Good)

Boring in a good way
Not so good - Dorian's track forecast shift (below)

<pastedImage.png>
8 AM Graphic
<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Friday, August 30, 2019 9:17:18 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 28 Midnight to midnight)
Palmetto Exterminators **PM10** Data not available
Schinger 2.5 7 ug/M3 (Good)
Okatie Elementary PM2.5 5 ug/M3 (Good)

<pastedImage.png>

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Thursday, August 29, 2019 9:07:23 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 28 Midnight to midnight)
Palmetto Exterminators **PM10** 6 ug/M3 (Good)
Schinger 2.5 6 ug/M3 (Good)
Okatie Elementary PM2.5 5 ug/M3 (Good)

.. and a bonus chart of the last few days below

<pastedImage.png>
The overnight 'bump' appears to be regional also being evidenced in the Charleston data
<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Wednesday, August 28, 2019 8:35:17 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 27 Midnight to midnight)
Palmetto Exterminators **PM10** 8 ug/M3 (Good)
Schinger 2.5 7 ug/M3 (Good)
Okatie Elementary PM2.5 3 ug/M3 (Good)

Third day no double digits...

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Tuesday, August 27, 2019 8:23 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra

<reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Russell.Chris@epa.gov <Russell.Chris@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 26 Midnight to midnight)
Palmetto Exterminators **PM10** 6 ug/M3 (Good)
Schinger 2.5 7 ug/M3 (Good)
Okatie Elementary PM2.5 4 ug/M3 (Good)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Monday, August 26, 2019 8:49:28 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Russell.Chris@epa.gov <Russell.Chris@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 25 Midnight to midnight)
Palmetto Exterminators **PM10** 6 ug/M3 (Good)

Schinger 2.5 5 ug/M3 (Good)
Okatie Elementary PM2.5 4 ug/M3 (Good)

Winds still indicated steady from generally N since yesterday -as steady in direction as we've seen-towards Sun City

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Sunday, August 25, 2019 8:09:46 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Russell.Chris@epa.gov <Russell.Chris@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 24 Midnight to midnight)
Palmetto Exterminators **PM10** 47 ug/M3 (Unhealthy for Sensitive groups)
Schinger 2.5 23 ug/M3 (Moderate)
Okatie Elementary PM2.5 2 ug/M3 (Good)

Winds indicated pretty steady from NNE to NE since midnight -towards Sun City

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Saturday, August 24, 2019 7:46 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy

<BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>; Pinkney, James <Pinkney.James@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 23 Midnight to midnight)
Palmetto Exterminators **PM10** 36 ug/M3 (Unhealthy for Sensitive groups)
Schinger 2.5 34 ug/M3 (Moderate)
Okatie Elementary PM2.5 3 ug/M3 (Good)

Almost had to increase scale for Palmetto Exterminators (592 spike at 11:30PM)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Friday, August 23, 2019 8:32:48 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>; Pinkney, James <Pinkney.James@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 22 Midnight to midnight)
Palmetto Exterminators **PM10** 5 ug/M3 (Good)
Schinger 2.5 15 ug/M3 (Moderate)
Okatie Elementary PM2.5 3 ug/M3 (Good)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Thursday, August 22, 2019 8:26:11 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N.

<TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>; Pinkney, James <Pinkney.James@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 21 Midnight to midnight)
Palmetto Exterminators **PM10** 5 ug/M3 (Good)
Schinger 2.5 51 ug/M3 (Unhealthy for Sensitive Groups)
Okatie Elementary PM2.5 4 ug/M3 (Good)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Wednesday, August 21, 2019 8:27:26 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>; Pinkney, James <Pinkney.James@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 19 Midnight to midnight)
Palmetto Exterminators **PM10** 9 ug/M3 (Good)
Schinger 2.5 13 ug/M3 (Moderate)
Okatie Elementary PM2.5 7 ug/M3 (Good)

20th s numbers about the same as 19th - but Schinger has been getting impacted since midnight, so not yet time to relax.

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Tuesday, August 20, 2019 8:40 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>; Pinkney, James <Pinkney.James@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 19 Midnight to midnight)
Palmetto Exterminators **PM10** 9 ug/M3 (Good)
Schinger 2.5 17 ug/M3 (Moderate)
Okatie Elementary PM2.5 7 ug/M3 (Good)

.. with a 'bonus' graph with the high concentrations of 8/13 rolled off, vertical scale reduced, and a bit more detail visible in the good to moderate data we've seen lately. Here and at the monitors- pay attention to the vertical scale...

<pastedImage.png>

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Monday, August 19, 2019 8:30:25 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>; Pinkney, James <Pinkney.James@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 18 Midnight to midnight)

Palmetto Exterminators **PM10** 4 ug/M3 (Good)
Schinger 2.5 23 ug/M3 (Moderate)
Okatie Elementary PM2.5 4 ug/M3 (Good)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Sunday, August 18, 2019 8:03:42 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>; Pinkney, James <Pinkney.James@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 17 Midnight to midnight)
Palmetto Exterminators **PM10** 6 ug/M3 (Good)
Schinger 2.5 51 ug/M3 (Unhealthy for Sensitive Groups)
Okatie Elementary PM2.5 4 ug/M3 (Good)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Saturday, August 17, 2019 8:00:18 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Pinckney, Jennifer M. <pincknjm@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P.

<mcavoybp@dhec.sc.gov>
Subject: Re: Able PM

Like yesterday- with the volume turned down a bit.
A good trend. .

Yesterday's 24 hour averages (Aug 16 Midnight to midnight)
Palmetto Exterminators **PM10** 4 ug/M3 (Good)
Schinger 2.5 49 ug/M3 (Unhealthy for Sensitive Groups)
Okatie Elementary PM2.5 3 ug/M3 (Good)

As a a bonus , the Movie of the Week (literally) has been posted under 'Timelapse'. 8/8-17
The hd versions best viewed after downloading.

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Friday, August 16, 2019 8:11:50 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Pinckney, Jennifer M. <pincknjm@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Subject: Re: Able PM

The concentration and the Category at Palmetto Exterminators is based on a PM10 sensor that has been shown to be well correlated with the PM2.5 measurements at that location .

Yesterday's 24 hour averages (Aug 15 Midnight to midnight)
Palmetto Exterminators **PM10** 9 ug/M3 (Good)
Schinger 2.5 51 ug/M3 (Unhealthy for Sensitive Groups)
Okatie Elementary PM2.5 6 ug/M3 (Good)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Thursday, August 15, 2019 8:19:45 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Pinckney, Jennifer M. <pincknjm@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Subject: Re: Able PM

The concentration and the Category at Palmetto Exterminators is based on a PM10 sensor that has been shown to be well correlated with the PM2.5 measurements at that location . The PE sensor did not report the last two expected readings . May need to be checked if that continues.

Yesterday's 24 hour averages (Aug 13 Midnight to midnight)
Palmetto Exterminators **PM10** 11 ug/M3 (Good)
Schinger 2.5 42 ug/M3 (Unhealthy for Sensitive Groups)
Okatie Elementary PM2.5 9 ug/M3 (Good)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Wednesday, August 14, 2019 7:58:26 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Pinckney, Jennifer M. <pincknjm@dhec.sc.gov>
Subject: Re: Able PM

First 24Hr PM2.5 at Okatie elementary

The concentration and the Category at Palmetto Exterminators will be based on a PM10 sensor that has been shown to be well correlated with the PM2.5 measurements at that location

Yesterday's 24 hour averages (Aug 13 Midnight to midnight)
Palmetto Exterminators **PM10** 48 ug/M3 (Unhealthy for Sensitive Groups)
Schinger 2.5 86 ug/M3 (Unhealthy)
Okatie Elementary PM2.5 8 ug/M3 (Good)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Tuesday, August 13, 2019 9:02:50 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Pinckney, Jennifer M. <pincknjm@dhec.sc.gov>
Subject: Re: Able PM

Some changes in the DHEC sensors since yesterday

PM2.5 has been added at Okatie elementary - added to the chart , but we do not yet have 24 hours of data for the average, but it has been the 'Good' range so far.
The concentration and the Category at Palmetto Exterminators will be based on a PM10 sensor that has been shown to be well correlated with the PM2.5 measurements at that location

Yesterday's 24 hour averages (Aug 12 Midnight to midnight)
Palmetto Exterminators **PM10** 17 ug/M3 (Good)
Schinger 2.5 14 ug/M3 (Moderate)
Okatie Elementary PM2.5 Tomorrow..

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Monday, August 12, 2019 9:07:24 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike

<MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Pinckney, Jennifer M. <pincknjm@dhec.sc.gov>
Subject: Able PM

Yesterday's 24 hour averages (Aug 11 Midnight to midnight)

Palmetto Exterminators	28 ug/M3	(Moderate)
Schinger	140 ug/M3	(Unhealthy)

<pastedImage.png>

Armstrong, Kathy

From: Frost, Keith <frostrk@dhec.sc.gov>
Sent: Monday, September 09, 2019 1:27 PM
To: Scott Reynolds
Cc: thompsrb@dhec.sc.gov; reecemc@dhec.sc.gov; Marshall, Frances (Fran); Marcus, Mike; Porter, Henry; Keisler, Van; Blalock, Juli; Taylor, Monica N.; Dickman, Jacquelyn S.; Timmerman, Kelsey A.; Threatt, Richard; Boswell, Wendy; Stewart, R. Gary; Quina III, Gregory; Boyce, Lawra; Crooks, Carol; shealyrg@dhec.sc.gov; Glass, John; McAvoy, Bryan P.; Swanson, Courtney; Spurlin, Steve; Tanner, Terry; Byrd, Terrence; Pinkney, James; Frederick, Tim; Huyser, Matthew; Tolliver, Ronald; Jenkins, Brandi
Subject: Re: Able PM

One correction, the sensor from Palmetto Exterminators was relocated to the mobile home park and the one that was there, was relocated to Sun City. The dashboard will show you the location of the monitor you are viewing.

R. Keith Frost, Assistant Chief
Bureau of Air Quality
SC DHEC

(803) 898-4115 office
(803) 465-1529 cell

Sent from my iPhone

On Sep 9, 2019, at 12:55 PM, Reynolds, Scott <REYNOLDS@dhec.sc.gov> wrote:

> No numbers
> No Graphs
> **BUT**
> If you need a fix,
> the sensors were reinstalled midday Sunday(9/8) at Schinger and Okatie Elementary. The sensor at the Palmetto Exterminators site has been discontinued and installed in Sun CIty.
> The DHEC Web App has been updated to show the current locations and data.
> Unless there is a change from current conditions, there will not be a daily email . Data and and graphs will still be updated and available on the OneDrive.
> If you want to be SURE you're off the list, just let me know.
>
> ---
>
> **From:** Reynolds, Scott <REYNOLDS@dhec.sc.gov>
> **Sent:** Sunday, September 1, 2019 8:08 AM
> **To:** Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>

Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 30 Midnight to midnight)
Palmetto Exterminators **PM10** 3 ug/M3 (Good)
Schinger 2.5 4 ug/M3 (Good)
Okatie Elementary PM2.5 3 ug/M3 (Good)

Monitors are being removed today in preparation for Dorian, but going out with lowest 3 site total since we started (lowest 24 hr average at 2 of the 3 sites).
'Clean' bonus graph below.

<pastedImage.png>

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Saturday, August 31, 2019 8:21:27 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 30 Midnight to midnight)
Palmetto Exterminators **PM10** Data not available(but operating and in GOOD range)
Schinger 2.5 6 ug/M3 (Good)
Okatie Elementary PM2.5 4 ug/M3 (Good)

Boring in a good way
Not so good - Dorian's track forecast shift (below)

<pastedImage.png>
8 AM Graphic
<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Friday, August 30, 2019 9:17:18 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 28 Midnight to midnight)
Palmetto Exterminators **PM10** Data not available
Schinger 2.5 7 ug/M3 (Good)
Okatie Elementary PM2.5 5 ug/M3 (Good)

<pastedImage.png>

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Thursday, August 29, 2019 9:07:23 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 28 Midnight to midnight)
Palmetto Exterminators **PM10** 6 ug/M3 (Good)
Schinger 2.5 6 ug/M3 (Good)
Okatie Elementary PM2.5 5 ug/M3 (Good)

.. and a bonus chart of the last few days below

<pastedImage.png>
The overnight 'bump' appears to be regional also being evidenced in the Charleston data
<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Wednesday, August 28, 2019 8:35:17 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 27 Midnight to midnight)
Palmetto Exterminators **PM10** 8 ug/M3 (Good)
Schinger 2.5 7 ug/M3 (Good)
Okatie Elementary PM2.5 3 ug/M3 (Good)

Third day no double digits...

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Tuesday, August 27, 2019 8:23 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra

<reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Russell.Chris@epa.gov <Russell.Chris@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 26 Midnight to midnight)
Palmetto Exterminators **PM10** 6 ug/M3 (Good)
Schinger 2.5 7 ug/M3 (Good)
Okatie Elementary PM2.5 4 ug/M3 (Good)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Monday, August 26, 2019 8:49:28 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Russell.Chris@epa.gov <Russell.Chris@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 25 Midnight to midnight)
Palmetto Exterminators **PM10** 6 ug/M3 (Good)

Schinger 2.5 5 ug/M3 (Good)
Okatie Elementary PM2.5 4 ug/M3 (Good)

Winds still indicated steady from generally N since yesterday -as steady in direction as we've seen-towards Sun City

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Sunday, August 25, 2019 8:09:46 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Cc: Swanson.Courtney@epa.gov <Swanson.Courtney@epa.gov>; Russell.Chris@epa.gov <Russell.Chris@epa.gov>; Spurlin.Steve@epa.gov <Spurlin.Steve@epa.gov>; Tanner.Terry@epa.gov <Tanner.Terry@epa.gov>; Byrd, Terrence <byrd.terrence@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 24 Midnight to midnight)
Palmetto Exterminators **PM10** 47 ug/M3 (Unhealthy for Sensitive groups)
Schinger 2.5 23 ug/M3 (Moderate)
Okatie Elementary PM2.5 2 ug/M3 (Good)

Winds indicated pretty steady from NNE to NE since midnight -towards Sun City

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Saturday, August 24, 2019 7:46 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy

<BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>; Pinkney, James <Pinkney.James@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 23 Midnight to midnight)
Palmetto Exterminators **PM10** 36 ug/M3 (Unhealthy for Sensitive groups)
Schinger 2.5 34 ug/M3 (Moderate)
Okatie Elementary PM2.5 3 ug/M3 (Good)

Almost had to increase scale for Palmetto Exterminators (592 spike at 11:30PM)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Friday, August 23, 2019 8:32:48 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>; Pinkney, James <Pinkney.James@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 22 Midnight to midnight)
Palmetto Exterminators **PM10** 5 ug/M3 (Good)
Schinger 2.5 15 ug/M3 (Moderate)
Okatie Elementary PM2.5 3 ug/M3 (Good)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Thursday, August 22, 2019 8:26:11 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N.

<TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>; Pinkney, James <Pinkney.James@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 21 Midnight to midnight)
Palmetto Exterminators **PM10** 5 ug/M3 (Good)
Schinger 2.5 51 ug/M3 (Unhealthy for Sensitive Groups)
Okatie Elementary PM2.5 4 ug/M3 (Good)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Wednesday, August 21, 2019 8:27:26 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>; Pinkney, James <Pinkney.James@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 19 Midnight to midnight)
Palmetto Exterminators **PM10** 9 ug/M3 (Good)
Schinger 2.5 13 ug/M3 (Moderate)
Okatie Elementary PM2.5 7 ug/M3 (Good)

20th s numbers about the same as 19th - but Schinger has been getting impacted since midnight, so not yet time to relax.

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Tuesday, August 20, 2019 8:40 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>; Pinkney, James <Pinkney.James@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 19 Midnight to midnight)
Palmetto Exterminators **PM10** 9 ug/M3 (Good)
Schinger 2.5 17 ug/M3 (Moderate)
Okatie Elementary PM2.5 7 ug/M3 (Good)

.. with a 'bonus' graph with the high concentrations of 8/13 rolled off, vertical scale reduced, and a bit more detail visible in the good to moderate data we've seen lately. Here and at the monitors- pay attention to the vertical scale...

<pastedImage.png>

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Monday, August 19, 2019 8:30:25 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>; Pinkney, James <Pinkney.James@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 18 Midnight to midnight)

Palmetto Exterminators **PM10** 4 ug/M3 (Good)
Schinger 2.5 23 ug/M3 (Moderate)
Okatie Elementary PM2.5 4 ug/M3 (Good)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Sunday, August 18, 2019 8:03:42 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>; Pinkney, James <Pinkney.James@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 17 Midnight to midnight)
Palmetto Exterminators **PM10** 6 ug/M3 (Good)
Schinger 2.5 51 ug/M3 (Unhealthy for Sensitive Groups)
Okatie Elementary PM2.5 4 ug/M3 (Good)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Saturday, August 17, 2019 8:00:18 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Pinckney, Jennifer M. <pincknjm@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P.

<mcavoybp@dhec.sc.gov>
Subject: Re: Able PM

Like yesterday- with the volume turned down a bit.
A good trend. .

Yesterday's 24 hour averages (Aug 16 Midnight to midnight)
Palmetto Exterminators **PM10** 4 ug/M3 (Good)
Schinger 2.5 49 ug/M3 (Unhealthy for Sensitive Groups)
Okatie Elementary PM2.5 3 ug/M3 (Good)

As a a bonus , the Movie of the Week (literally) has been posted under 'Timelapse'. 8/8-17
The hd versions best viewed after downloading.

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Friday, August 16, 2019 8:11:50 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Pinckney, Jennifer M. <pincknjm@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Subject: Re: Able PM

The concentration and the Category at Palmetto Exterminators is based on a PM10 sensor that has been shown to be well correlated with the PM2.5 measurements at that location .

Yesterday's 24 hour averages (Aug 15 Midnight to midnight)
Palmetto Exterminators **PM10** 9 ug/M3 (Good)
Schinger 2.5 51 ug/M3 (Unhealthy for Sensitive Groups)
Okatie Elementary PM2.5 6 ug/M3 (Good)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Thursday, August 15, 2019 8:19:45 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Pinckney, Jennifer M. <pincknjm@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>; McAvoy, Bryan P. <mcavoybp@dhec.sc.gov>
Subject: Re: Able PM

The concentration and the Category at Palmetto Exterminators is based on a PM10 sensor that has been shown to be well correlated with the PM2.5 measurements at that location . The PE sensor did not report the last two expected readings . May need to be checked if that continues.

Yesterday's 24 hour averages (Aug 13 Midnight to midnight)
Palmetto Exterminators **PM10** 11 ug/M3 (Good)
Schinger 2.5 42 ug/M3 (Unhealthy for Sensitive Groups)
Okatie Elementary PM2.5 9 ug/M3 (Good)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Wednesday, August 14, 2019 7:58:26 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Pinckney, Jennifer M. <pincknjm@dhec.sc.gov>
Subject: Re: Able PM

First 24Hr PM2.5 at Okatie elementary

The concentration and the Category at Palmetto Exterminators will be based on a PM10 sensor that has been shown to be well correlated with the PM2.5 measurements at that location

Yesterday's 24 hour averages (Aug 13 Midnight to midnight)
Palmetto Exterminators **PM10** 48 ug/M3 (Unhealthy for Sensitive Groups)
Schinger 2.5 86 ug/M3 (Unhealthy)
Okatie Elementary PM2.5 8 ug/M3 (Good)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Tuesday, August 13, 2019 9:02:50 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Pinckney, Jennifer M. <pincknjm@dhec.sc.gov>
Subject: Re: Able PM

Some changes in the DHEC sensors since yesterday

PM2.5 has been added at Okatie elementary - added to the chart , but we do not yet have 24 hours of data for the average, but it has been the 'Good' range so far.
The concentration and the Category at Palmetto Exterminators will be based on a PM10 sensor that has been shown to be well correlated with the PM2.5 measurements at that location

Yesterday's 24 hour averages (Aug 12 Midnight to midnight)
Palmetto Exterminators **PM10** 17 ug/M3 (Good)
Schinger 2.5 14 ug/M3 (Moderate)
Okatie Elementary PM2.5 Tomorrow..

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Monday, August 12, 2019 9:07:24 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike

<MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Huyser, Matthew <huyser.matthew@epa.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Quina III, Gregory <quinags@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Crooks, Carol <Crookscl@DHEC.SC.GOV>; Shealy, Renee <shealyrg@dhec.sc.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Pinckney, Jennifer M. <pincknjm@dhec.sc.gov>
Subject: Able PM

Yesterday's 24 hour averages (Aug 11 Midnight to midnight)

Palmetto Exterminators	28 ug/M3	(Moderate)
Schinger	140 ug/M3	(Unhealthy)

<pastedImage.png>

Armstrong, Kathy

From: Frost, Keith <frostrk@dhec.sc.gov>
Sent: Wednesday, August 14, 2019 10:33 AM
To: Huyser, Matthew
Subject: Fwd: Urgent! Able fire briefing EPA, DHEC, Jasper Co

R. Keith Frost, Assistant Chief
Bureau of Air Quality
SC DHEC

(803) 898-4115 office
(803) 465-1529 cell

Sent from my iPhone

Begin forwarded message:

From: "Shealy, Renee" <shealyrg@dhec.sc.gov>
Date: August 14, 2019 at 10:31:27 AM EDT
To: "Reece, Myra" <reecemc@dhec.sc.gov>, "Frost, Keith" <frostrk@dhec.sc.gov>, "Marcus, Mike" <MARCUSJM@dhec.sc.gov>, "Porter, Henry" <porterhj@dhec.sc.gov>, "Stewart, R. Gary" <stewarrg@dhec.sc.gov>, "Boyce, Lawra" <boycelc@dhec.sc.gov>, "Yon, Katherine" <yonk@dhec.sc.gov>, "Marshall, Frances (Fran)" <marshaf2@dhec.sc.gov>, David Tedder <dtedder@jaspercountysc.gov>, "afulghum@jaspercountysc.gov" <afulghum@jaspercountysc.gov>, Frank Edwards <fedwards@jaspercountysc.gov>, Lisa Wagner <lwagner@jaspercountysc.gov>, "Boswell, Wendy" <BOSWELWM@dhec.sc.gov>, "Threatt, Richard" <threatrl@dhec.sc.gov>, "Thompson, Rhonda" <thompsrb@dhec.sc.gov>
Subject: Urgent! Able fire briefing EPA, DHEC, Jasper Co

Correction to number:

1-800-753-1965

(b)(6) Personal Privacy [redacted]

From: Reece, Myra
Sent: Tuesday, August 13, 2019 4:45 PM
To: Reece, Myra <reecemc@dhec.sc.gov>; Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Yon, Katherine <yonk@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; David Tedder <dtedder@jaspercountysc.gov>; afulghum@jaspercountysc.gov <afulghum@jaspercountysc.gov>; Frank Edwards <fedwards@jaspercountysc.gov>; Lisa Wagner <lwagner@jaspercountysc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Thompson, Rhonda

<thompsrb@dhec.sc.gov>
Subject: Able fire briefing EPA, DHEC, Jasper Co
When: Wednesday, August 14, 2019 10:30-11:30.
Where: EA Affairs conference room 3256

Conference phone # 1-800-753-3964

access code (b)(6) Personal Privacy [redacted]

Armstrong, Kathy

From: Frost, Keith <frostrk@dhec.sc.gov>
Sent: Saturday, August 10, 2019 11:11 AM
To: reecemc@dhec.sc.gov
Cc: Scott Reynolds; thompsrb@dhec.sc.gov; shealyrg@dhec.sc.gov; Marshall, Frances (Fran); Marcus, Mike; Porter, Henry; Keisler, Van; Blalock, Juli; Taylor, Monica N.; Dickman, Jacquelyn S.; Timmerman, Kelsey A.; Threatt, Richard; Boyce, Lawra; Boswell, Wendy; Frederick, Tim; Huyser, Matthew
Subject: Re: Able PM

Great question. I am curious if we have data near the front of the business park and 170 showing elevated levels?

R. Keith Frost, Assistant Chief
Bureau of Air Quality
SC DHEC

(803) 898-4115 office
(803) 465-1529 cell

Sent from my iPhone

On Aug 10, 2019, at 11:04 AM, Reece, Myra <reecemc@dhec.sc.gov> wrote:

> Matt, were ur monitors on line last night , this am?
>
> Sent from my iPhone
>
> On Aug 10, 2019, at 11:03 AM, Reynolds, Scott <REYNOLDS@dhec.sc.gov> wrote:
>
> > Schlinger is the closest -directly east at the homes
> >
> > ---
> >
> > **From:** Reece, Myra <reecemc@dhec.sc.gov>
> > **Sent:** Saturday, August 10, 2019 11:01:55 AM
> > **To:** Reynolds, Scott <REYNOLDS@dhec.sc.gov>
> > **Cc:** Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>
> > **Subject:** Re: Able PM
> >
> > Which monitor and how close to pile ?
> >
> > Sent from my iPhone

On Aug 10, 2019, at 11:00 AM, Reynolds, Scott <REYNOLDS@dhec.sc.gov> wrote:

Sorry Fighting with 2 many computers..
Correct value for Schinger below and correct PDF

Yesterday's 24 hour averages (Aug 9 Midnight to midnight)

Palmetto Exterminators 12 ug/M3 (Moderate)

Schinger **250** ug/M3 (Very Unhealthy)

Very high concentrations yesterday pushed the Schinger site to the cusp of Hazardous. PE at cusp of Moderate..High concentrations there (Schinger) again this morning

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Saturday, August 10, 2019 10:42:04 AM
To: Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>
Cc: frederick.tim@epa.gov <frederick.tim@epa.gov>; Huyser, Matthew <huyser.matthew@epa.gov>
Subject: Able PM

Yesterday's 24 hour averages (Aug 9 Midnight to midnight)

Palmetto Exterminators 12 ug/M3 (Moderate)

Schinger 150 ug/M3 (Very Unhealthy)

Very high concentrations yesterday pushed the Schinger site to the cusp of Hazardous. PE at cusp of Moderate..High concentrations there (Schinger) again this morning

<pastedImage.png>

<081019 Able AQI category (1).pdf>

Armstrong, Kathy

From: Frost, Keith <frostrk@dhec.sc.gov>
Sent: Friday, August 09, 2019 11:38 PM
To: Huyser, Matthew
Cc: Stewart, R. Gary; Porter, Henry; Crooks, Carol; reecemc@dhec.sc.gov
Subject: Re: EPA Air monitoring

Thank you. That sounds perfect. We will be down Monday to install the monitor at the school

R. Keith Frost, Assistant Chief
Bureau of Air Quality
SC DHEC

(803) 898-4115 office
(803) 465-1529 cell

Sent from my iPhone

> On Aug 9, 2019, at 11:30 PM, Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:
>
> *** Caution. This is an EXTERNAL email. DO NOT open attachments or
> click links from unknown senders or unexpected email. ***
>
> We've placed a particulate monitor at the command post to catch particulates drifting with the prevailing westerly wind. We've also placed one on the north property near the undeveloped area and a third one in Sun City. In the morning, that particulate monitor on the north side will be relocated to the apartment complexes to the northwest of the Site which are approximately 1/3 of a mile from the facility. I've requested 4 more particulate units - EBAMS - which can be deployed to other population centers further downrange.
>
> The AreaRAEs are placed immediately adjacent to the Site on three sides and a fourth is co-located with the DHEC particulate monitor to the SSE of the facility.
>
> Carol - can you send a list of the businesses that you visited on Friday? I'll try to expand a bit by visiting more places on Saturday.
>
>
>
> Matthew J. Huyser, PE - On-Scene Coordinator U.S. Environmental
> Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia |
> 30303 Emergency Response Removal and Prevention Branch (ERRPB)
> office: 404-562-8934 | cell: 678-427-8829 | fax: 404-562-8699
> epaosc.org
>
> -----Original Message-----
> From: Frost, Keith <frostrk@dhec.sc.gov>
> Sent: Friday, August 9, 2019 5:52 PM

> To: Stewart, R. Gary <stewarrg@dhec.sc.gov>; Huyser, Matthew
> <Huyser.Matthew@epa.gov>
> Cc: Porter, Henry <porterhj@dhec.sc.gov>; Crooks, Carol
> <Crookscl@DHEC.SC.GOV>
> Subject: Re: EPA Air monitoring
>
> Matt, the only suggestion I would have is to place one in the commercial area near where your trailer is parked. This will give some indication of how quickly the smoke and particulate is dissipating and the impact on the customers and businesses at the front. I will be back down Monday morning and we can discuss more then if you wish.
>
> R. Keith Frost, Assistant Chief
> Bureau of Air Quality
> SC DHEC
>
> (803) 898-4115 office
> (803) 465-1529 cell
>
> Sent from my iPhone
>
>> On Aug 9, 2019, at 5:43 PM, Stewart, R. Gary <stewarrg@dhec.sc.gov> wrote:
>>
>> Keith,
>> Fyi...EPA is setting up various pieces of air monitoring equipment. Any particular input on EPA's locations? If so, please let Matt Huyser know and copy me and Carol. Thanks.
>> Gary

Armstrong, Kathy

From: Frost, Keith <frostrk@dhec.sc.gov>
Sent: Friday, August 09, 2019 5:52 PM
To: Stewart, R. Gary; Huyser, Matthew
Cc: Porter, Henry; Crooks, Carol
Subject: Re: EPA Air monitoring

Matt, the only suggestion I would have is to place one in the commercial area near where your trailer is parked. This will give some indication of how quickly the smoke and particulate is dissipating and the impact on the customers and businesses at the front. I will be back down Monday morning and we can discuss more then if you wish.

R. Keith Frost, Assistant Chief
Bureau of Air Quality
SC DHEC

(803) 898-4115 office
(803) 465-1529 cell

Sent from my iPhone

> On Aug 9, 2019, at 5:43 PM, Stewart, R. Gary <stewarrg@dhec.sc.gov> wrote:
>
> Keith,
> Fyi...EPA is setting up various pieces of air monitoring equipment. Any particular input on EPA's locations? If so, please let Matt Huyser know and copy me and Carol. Thanks.
> Gary

Armstrong, Kathy

From: Frost, Keith <frostrk@dhec.sc.gov>
Sent: Friday, August 09, 2019 2:55 PM
To: Scott Reynolds
Cc: thompsrb@dhec.sc.gov; shealyrg@dhec.sc.gov; Marshall, Frances (Fran); reecemc@dhec.sc.gov; Marcus, Mike; Porter, Henry; Keisler, Van; Blalock, Juli; Taylor, Monica N.; Dickman, Jacquelyn S.; Timmerman, Kelsey A.; Threatt, Richard; Boyce, Lawra; Boswell, Wendy; Huyser, Matthew
Subject: Re: Able PM

There appeared to be a glitch this morning. We are actually moving this monitor to the mobile home park and taking the other to the school. We will have that done Monday.

R. Keith Frost, Assistant Chief
Bureau of Air Quality
SC DHEC

(803) 898-4115 office
(803) 465-1529 cell

Sent from my iPhone

On Aug 9, 2019, at 11:23 AM, Reynolds, Scott <REYNOLDS@dhec.sc.gov> wrote:

> The Palmetto Exterminator PM2.5 appears to be operating now - which is good since that's the one that has been provided as the public link.
> - **Note:** when that monitor is moved to the School (planned for Monday) it will likely be reporting area background concentrations (assuming no or minimal impact at that distance)
>
> ---
>
> **From:** Reynolds, Scott <REYNOLDS@dhec.sc.gov>
> **Sent:** Friday, August 9, 2019 9:26:21 AM
> **To:** Thompson, Rhonda <thompsrb@dhec.sc.gov>
> **Cc:** Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
> **Subject:** Re: Able PM
>
> Yesterday's 24 hour averages (Aug 8 Midnight to midnight)
> Palmetto Exterminators 14 ug/M3 (Moderate)
> Schinger 82 ug/M3 (Unhealthy)
>
> It appears the Palmetto exterminators PM2.5 stopped transmitting data at~6:30AM this morning. PM10 is still.sending data.

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Thursday, August 8, 2019 9:18:09 AM
To: Thompson, Rhonda <thompsrb@dhec.sc.gov>
Cc: Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 7 Midnight to midnight)
Palmetto Exterminators 6 ug/M3 (Good)
Schinger 55 ug/M3 (Unhealthy for Sensitive Groups)- but right on the cusp of being classified 'Unhealthy'

A PM10 was deployed to Palmetto Exterminators yesterday to see if it could serve as a surrogate after the planned move of the PM2.5 to Okatie Elementary next week.

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Wednesday, August 7, 2019 9:41:43 AM
To: Thompson, Rhonda <thompsrb@dhec.sc.gov>
Cc: Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Re: Able PM

Forgot the graph.
Everybody likes graphs
Right?

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Wednesday, August 7, 2019 9:11:36 AM
To: Thompson, Rhonda <thompsrb@dhec.sc.gov>
Cc: Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran)

<marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 6 Midnight to midnight)
Palmetto Exterminators 10ug/M3 (Good)
Schinger 46ug/M3 (Unhealthy for Sensitive Groups)

The community has been downwind and current ~8 hour average is ~68 (in the unhealthy range), likely to moderate as the day goes on, but still indicating higher concentrations at night. Winds are predicted to be from the west during extended periods Thursday through late Saturday

---

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Tuesday, August 6, 2019 9:17:31 AM
To: Thompson, Rhonda <thompsrb@dhec.sc.gov>
Cc: Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 5 Midnight to midnight)
Palmetto Exterminators 15ug/M3 (Moderate)
Schinger 44ug/M3 (Unhealthy for Sensitive Groups)

The community has been(and continues to be) downwind and has seen elevated concentrations throughout the day - even during rain events . No break in impact during the day..

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Monday, August 5, 2019 9:20:38 AM
To: Thompson, Rhonda <thompsrb@dhec.sc.gov>
Cc: Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A.

<timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 4 Midnight to midnight)
Palmetto Exterminators 16ug/M3 (Moderate)
Schinger 16ug/M3 (Moderate)

<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Sunday, August 4, 2019 11:02:07 AM
To: Thompson, Rhonda <thompsrb@dhec.sc.gov>
Cc: Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Re: Able PM

When there aren't folks on site , rain events may be inferred from the ambient temperature dips . I'd guess short rain events at ~2 and 5pm yesterday.
in particular, at both locations at the same time.
<pastedImage.png><pastedImage.png>

From: Thompson, Rhonda <thompsrb@dhec.sc.gov>
Sent: Sunday, August 4, 2019 9:56:35 AM
To: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Cc: Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Re: Able PM

Did they get rain?

Sent from my iPad

Rhonda B. Thompson, P.E.
Chief, Bureau of Air Quality
South Carolina Department of Health & Environmental Control

thompsrb@dhec.sc.gov
(803)898-4391

On Aug 4, 2019, at 8:55 AM, Reynolds, Scott <REYNOLDS@dhec.sc.gov> wrote:

Yesterday's 24 hour averages (Aug 3 Midnight to midnight)
Palmetto Exterminators 7ug/M3 (Good)
Schinger 8ug/M3 (Good)
Wind still predicted to shift back to from the west(towards community) early Monday

<pastedImage.png>
<pastedImage.png>

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Saturday, August 3, 2019 8:31:36 AM
To: Thompson, Rhonda <thompsrb@dhec.sc.gov>; Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>
Cc: Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Able PM

Yesterday's 24 hour averages (Aug 1 Midnight to midnight)
Palmetto Exterminators 29ug/M3 (Moderate)
Schinger* 17ug/M3 (Moderate)
*Since Noon yesterday the Schinger monitor concentrations have been uncannily low and consistent. 'Tho it's been generally upwind and there's been precip, if someone can put eyes on it to confirm it the particulate inlet appears OK, I'd feel better..

<pastedImage.png>

Armstrong, Kathy

From: Garrard, Jordan
Sent: Wednesday, September 18, 2019 7:48 AM
To: Saskowski, Ronald
Cc: Huyser, Matthew
Subject: Re: Able Contracting POLREP #2

Changed to private

Jordan Garrard
On Scene Coordinator
EPA Region 4
Garrard.jordan@epa.gov
678-644-8648

On Sep 18, 2019, at 7:11 AM, Saskowski, Ronald <Saskowski.Ronald@epa.gov> wrote:

> Has it been changed? I'm logged in but still do not see it.
>
> Thanks,
>
> Ron Saskowski
> Task Order Manager
> Arctic Slope Mission Services (ASMS)
> Contracted to EPA
> 404-562-8944
> Saskowski.Ronald@epa.gov
>
> **From:** Garrard, Jordan <Garrard.Jordan@epa.gov>
> **Sent:** Monday, September 16, 2019 5:03 PM
> **To:** Huyser, Matthew <Huyser.Matthew@epa.gov>
> **Cc:** Saskowski, Ronald <Saskowski.Ronald@epa.gov>
> **Subject:** Re: Able Contracting POLREP #2
>
> I'll change to private.
>
> Jordan Garrard
> On Scene Coordinator
> EPA Region 4
> Garrard.jordan@epa.gov
> 678-644-8648
>
> On Sep 16, 2019, at 4:21 PM, Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:
>
> > It's marked as exclusive. Jordan Garrard wrote POLREP #2

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Saskowski, Ronald <Saskowski.Ronald@epa.gov>
Sent: Monday, September 16, 2019 3:38 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Able Contracting POLREP #2

Hi Matthew,

Was a POLREP #2 ever done? I don't see it on the OSC website.

Thanks,

Ron Saskowski
Task Order Manager
Arctic Slope Mission Services (ASMS)
Contracted to EPA
404-562-8944
Saskowski.Ronald@epa.gov

Armstrong, Kathy

From: Garrard, Jordan
Sent: Friday, August 09, 2019 4:12 PM
To: (b)(6) Personal Privacy
Cc: Huyser, Matthew
Subject: Water data
Attachments: Able Contracting Fire SW Pond Validated Table.pdf

Mr. Stever

Attached is the water sampling data collected from your pond. Over all the water looks descent, it does have some exceedances of some metals with arsenic and cadmium being the most significant, but no SVOCs or VOCs above SCDECH or EPA standards. You can reach out to SCDECH storm water or water enforcement to speak to someone more knowledgeable of surface water criteria. EPA OSC Matt Huyser will be taking over the project, since I am leaving for a preplanned vacation. I have copied him on this email. If you need to speak to Matt his phone number is 678-427-8829. Matt may need to place additional samplers or air monitoring stations on your property. When we receive finalized air data, we will forward to you. Thank you for your help and cooperation.

Jordan Garrard
On-Scene Coordinator
EPA Region 4
Emergency Response and Removal Branch
Work: 404-562-8642
Cell: 678-644-8648

SURFACE WATER RESULTS SUMMARY TABLE
DETECTIONS ONLY
ABLE CONTRACTING FIRE

Parameter	MCL/RSL[1]	DHEC (acute/cont) / EPA (Chr/Acute)[2]	ACE-SW-POND
	Groundwater	Surface Water	
Metals (µg/L)			
Aluminum	*2,000*	*87/750*	251
Antimony	6	*190/900*	32.3
Arsenic	10	340/150	493
Barium	2,000	*220/2,000*	133
Cadmium	5	0.53/0.10	3.6
Calcium	NL	*116,000/NL*	725,000
Chromium	100	580/28	148
Copper	1,300	3.8/2.9	20.2
Iron	*1,400*	*1,000/NL*	300
Lead	15	14/0.54	5.0 U
Magnesium	NL	*82,000/NL*	48,900
Manganese	*48*	*93/1,680*	526
Nickel	*40*	150/16	30.5
Potassium	NL	*53,000/NL*	75,300
Sodium	NL	*680,000/NL*	248,000
Vanadium	NL	*27/79*	22.7
Zinc	*600*	37/37	24.4
Volatile Organic Compounds (µg/L)			
1,2-Dichloroethane	5	*2,000/8,200*	0.55 J
2-Butanone (MEK)	*1,200*	*22,000/200,000*	43.2 J+
2-Hexanone	*10*	*99/1,800*	5.0 U
4-Methyl-2-pentanone (MIBK)	*630*	*170/2,200*	5.0 U
Acetone	*1,800*	*1,700/15,000*	269 J+
Benzene	5	*160/700*	21.4
Chloromethane	*19*	NL	1.8
Ethylbenzene	700	*61/550*	6.0
m&p-Xylene	*400*	*27/240*	1.8 J
Naphthalene	*40*	*21/170*	2.3
o-Xylene	*400*	*27/240*	1.1
Toluene	1,000	*62/560*	10.5
Xylene (Total)	10,000	*27/240*	1.1
Semivolatile Organic Compounds (µg/L)			
2,4-Dimethylphenol	*40*	*15/140*	6.0 J
2-Methylphenol(o-Cresol)	*100*	*67/600*	11.1
3&4-Methylphenol(m&p Cresol)	*200*	*62/560*	7.9 J
Phenol	*580*	*160/4,700*	9.8 UJ

Notes:

1 Drinking water values are compared to EPA MCLs. When an MCL is not listed, the EPA RSL is

2 Surface water values are compared to DHEC Freshwater Aquatic Life levels. When DHEC levels are not listed, EPA Surface Water Screening Values are used

SHAD Reported value exceeds the comparison criteria

Acute Acute exposure

Chr Chronic exposure

Cont Continuous exposure

J The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample, biased high.

J- The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample, biased low.

Max Maximum exposure level

MCL Maximum contaminant level

NL Not listed

RSL Regional Screening Level; Tapwater TR=1E-06, THQ=0.1

U The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).

UJ The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is estimated.

µg/L micrograms per liter

Armstrong, Kathy

From: Garrard, Jordan
Sent: Friday, August 09, 2019 3:30 PM
To: Chandler & Angela Lloyd
Cc: Huyser, Matthew
Subject: RE: Able Contracting
Attachments: Able Contracting Fire SW Validated Table.pdf; Viper Summary report_AR and DustTrack_ABLE CONTRACTING_072619.pdf; Viper Summary report_SPM_08022019NIGHT.pdf; Viper Summary report_SPM_08032019-08042019.pdf; Viper Summary report_VOC_08032019-08042019.pdf; Viper_Summary_Report_AR and DustTrack_07272019_0700_07282019_0700.pdf; Viper_Summary_Report_AR and DustTrack_ABLE CONTRACTING_072519_1951_through_07262019_0700.pdf; Viper_Summary_Report_AR and DustTrack_ABLE CONTRACTING_072619_0700_through_07262019_1900.pdf.pdf; Viper_Summary_Report_AR and DustTrack_ABLE CONTRACTING_072619_1900_through_07272019_0700.pdf; Viper_Summary_Report_AR and DustTrack_Able_Contracting_07282019_0700_07292019_0200.pdf

I have attached the water analysis and all the air monitoring data. Air sampling data is still under review. I have included Matt Huyser on the email. He is replacing me as the EPA lead.

Jordan Garrard
On-Scene Coordinator
EPA Region 4
Emergency Response and Removal Branch
Work: 404-562-8642
Cell: 678-644-8648

From: Chandler & Angela Lloyd <ablecontracting29936@gmail.com>
Sent: Friday, August 9, 2019 3:04 PM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Able Contracting

Good afternoon Jordan! May we have the results for the testing y'all completed, please?
Thank you,
Angela

SURFACE WATER RESULTS SUMMARY TABLE
DETECTIONS ONLY
ABLE CONTRACTING FIRE

Parameter	MCL/RSL[1]	ACF-GW-4722		DHEC (max/cont) /EPA (chr/acute)[2]	ACF-SW-DITCH	ACF-SW-POND
	Groundwater			Surface Water		
Metals (µg/L)						
Aluminum	*2,000*	100 U		*87/750*	527	251
Antimony	6	5.0 U		*190/900*	61.0	32.3
Arsenic	10	10.0 U		340/150	554	493
Barium	2,000	5.7		*220/2,000*	175	133
Cadmium	5	1.0 U		0.53/0.10	4.3	3.6
Calcium	NL	27,200		*116,000/NL*	904,000	725,000
Chromium	100	5.0 U		580/28	191	148
Copper	1,300	27.6		3.8/2.9	38.1	20.2
Iron	*1,400*	50.0 U		*1,000/NL*	1,070	300
Lead	15	5.0 U		14/0.54	3.0 J	5.0 U
Magnesium	NL	9,370		*82,000/NL*	83,100	48,900
Manganese	*48*	21.8		*93/1,680*	820	526
Nickel	*40*	2.6 J		150/16	43.2	30.5
Potassium	NL	2,760 J		*53,000/NL*	112,000	75,300
Sodium	NL	10,600		*680,000/NL*	430,000	248,000
Vanadium	NL	5.0 U		*27/79*	36.4	22.7
Zinc	*600*	130		37/37	72.7	24.4
Volatile Organic Compounds (µg/L)						
1,2-Dichloroethane	5	1.0 U		*2,000/8,200*	0.83 J	0.55 J
2-Butanone (MEK)	*1,200*	5.0 U		*22,000/200,000*	71.6	43.2 J+
2-Hexanone	*10*	5.0 U		*99/1,800*	3.5 J	5.0 U
4-Methyl-2-pentanone (MIBK)	*630*	5.0 U		*170/2,200*	9.4 J	5.0 U
Acetone	*1,800*	25.0 U		*1,700/15,000*	325	269 J+
Benzene	5	1.0 U		*160/700*	29.7	21.4
Chloromethane	*19*	0.69 J		NL	2.0 U	1.8
Ethylbenzene	700	1.0 U		*61/550*	6.2	6.0
m&p-Xylene	*400*	2.0 U		*27/240*	2.4 J	1.8 J
Naphthalene	*40*	1.0 U		*21/170*	3.9	2.3
o-Xylene	*400*	1.0 U		*27/240*	1.6 J	1.1
Toluene	1,000	1.0 U		*62/560*	14.5	10.5
Xylene (Total)	10,000	1.0 U		*27/240*	2.0 U	1.1
Semivolatile Organic Compounds (µg/L)						
2,4-Dimethylphenol	*40*	100 U		*15/140*	108 J-	6.0 J
2-Methylphenol(o-Cresol)	*100*	100 U		*67/600*	137 J-	11.1
3&4-Methylphenol(m&p Cresol)	*200*	100 U		*62/560*	82.9 J-	7.9 J
Phenol	*580*	100 UJ		*160/4,700*	67.8 J-	9.8 UJ

Notes:

1 Drinking water values are compared to EPA MCLs. When an MCL is not listed, the EPA RSL is used

2 Surface water values are compared to DHEC Freshwater Aquatic Life levels. When DHEC levels are not listed, EPA Surface Water Screening Values are used

SHAD Reported value exceeds the comparison criteria

Acute Acute exposure

Chr Chronic exposure

Cont Continuous exposure

J The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample, biased high.

J- The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample, biased low.

Max Maximum exposure level

MCL Maximum contaminant level

NL Not listed

RSL Regional Screening Level; Tapwater TR=1E-06, THQ=0.1

U The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).

SURFACE WATER RESULTS SUMMARY TABLE
DETECTIONS ONLY
ABLE CONTRACTING FIRE

UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is estimated.
µg/L	micrograms per liter

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire**

From: **7/25/19 19:51** ***To:*** ***7/26/19 7:00***

Station 155

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	7,362	5,396	0 - 30,618 ppb	49.5 ppb	1,000 ppb
	CO	No	7,362	662	0 - 36 ppm	0.5 ppm	83 ppm
	H_2S	No	7,362	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	7,362	7,362	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	7,362	0	0 - 0%	0%	10%
DustTrak 1	PM-2.5	Moderate	11,564	11,564	2 - 652 µg/m³	13.8 µg/m³	See SOG #: T106

Station 156

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	6,209	315	0 - 1,349 ppb	7.4 ppb	1,000 ppb
	CO	No	6,209	2,943	0 - 41 ppm	5.1 ppm	83 ppm
	H_2S	No	6,209	202	0 - 2.3 ppm	0 ppm	0.5 ppm
	O_2	No	6,209	6,209	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	6,209	0	0 - 0 %	0%	10%
DustTrak 2	PM-2.5	Moderate	14,670	14,670	9 - 438 µg/m³	33.8 µg/m³	See SOG #: T106

Station 157

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	6,741	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	6,741	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	6,741	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,741	6,741	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	6,741	0	0 - 0%	0%	10%
DustTrak 3	PM-2.5	Moderate	8,281	8,281	11 - 216 µg/m³	23.3 µg/m³	See SOG #: T106

Command Post

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	6,476	15	0 - 698 ppb	0.4 ppb	1,000 ppb
	CO	No	6,476	26	0 - 10 ppm	0 ppm	83 ppm
	H_2S	No	6,476	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,476	6,476	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	6,476	0	0 - 0%	0%	10%

Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline levels for airborne chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: ABLE CONTRACTING FIRE

From: **8/2/19** **20:59** ***To:*** ***8/3/19*** ***8:59***

Location 1 (Southeast Corner; Residential Property Line)							
Instrument	**Analyte**	**Period Average Exceedances**	**Number of Readings**	**Number of Detections**	**Concentration Range**	**Period Average**	**Action Level (PEL / RML / 60 min AEGL)**
SPM Flex 1	Phosgene (COCl2)	0	2192	0	0 - 0 ppb	0 ppb	100 ppb / 0.23ppb / 40 ppb

Location 2 (West Side of Pile)							
Instrument	**Analyte**	**Period Average Exceedances**	**Number of Readings**	**Number of Detections**	**Concentration Range**	**Period Average**	**Action Level (PEL / RML / 60 min AEGL)**
SPM Flex 2	Phosgene (COCl2)	0	1337	0	0 - 0 ppb	0 ppb	100 ppb / 0.23ppb / 40 ppb

Location 3 (Upwind; North)							
Instrument	**Analyte**	**Period Average Exceedances**	**Number of Readings**	**Number of Detections**	**Concentration Range**	**Period Average**	**Action Level (PEL / RML / 60 min AEGL)**
SPM Flex 3	Phosgene (COCl2)	0	1844	0	0 - 0 ppb	0 ppb	100 ppb / 0.23ppb / 40 ppb

Notes:

AEGL	Acute Exposure Guideline levels for airborne chemicals (8 hour exposure)
min	Minute
PEL	Permissible exposure limit
ppb	Parts per billion
RML	Removal Management Level
TLV	Threshold limit value

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: ABLE CONTRACTING FIRE

From: **8/3/19 0:00** ***To:*** ***8/4/19 6:59***

Location 1 (Southeast Corner, Residential Property Line)

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL / RML / 60 min AEGL)
SPM Flex 1	Phosgene (COCl2)	3	4337	3	0 - 6 ppb	0 ppb	100 ppb / 0.23ppb / 40 ppb

Location 2 (West Side of Pile)

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL / RML / 60 min AEGL)
SPM Flex 2	Phosgene (COCl2)	0	3267	0	0 - 0 ppb	0 ppb	100 ppb / 0.23ppb / 40 ppb

Location 3 (Upwind, North)

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL / RML / 60 min AEGL)
SPM Flex 3	Phosgene (COCl2)	5	4319	5	0 - 22 ppb	0 ppb	100 ppb / 0.23ppb / 40 ppb

Notes:

AEGL	Acute Exposure Guideline levels for airborne chemicals (8 hour exposure)
min	Minute
PEL	Permissible exposure limit
ppb	Parts per billion
RML	Removal Management Level
TLV	Threshold limit value

Mobile Air Monitoring Summary Tables

Project Name:

From: **8/3/19 12:10** ***To:*** ***8/4/19 7:12***

Location 1

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/60 min AEGL)
MultiRAE Pro	VOC	0	12	0	0 - 0 ppm	0 ppm	1 ppm
	CO	1	12	1	0 - 3 ppm	0.25 ppm	83 ppm

Location 2

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/60 min AEGL)
MultiRAE Pro	VOC	0	12	0	0 - 0 ppm	0 ppm	1 ppm
	CO	1	12	1	0 - 3 ppm	0.25 ppm	83 ppm

Location 3

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/60 min AEGL)
MultiRAE Pro	VOC	2	12	2	0 - 210 ppm	20.8 ppm	1 ppm
	CO	0	12	0	0 - 0 ppm	0 ppm	83 ppm

Location 4

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/60 min AEGL)
MultiRAE Pro	VOC	0	12	1	0 - 10 ppm	0.83 ppm	1 ppm
	CO	0	12	0	0 - 0 ppm	0 ppm	83 ppm

Location 5

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/60 min AEGL)
MultiRAE Pro	VOC	0	12	0	0 - 0 ppm	0 ppm	1 ppm
	CO	0	12	0	0 - 0 ppm	0 ppm	83 ppm

Location 6

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/60 min AEGL)
MultiRAE Pro	VOC	0	12	0	0 - 0 ppm	0 ppm	1 ppm
	CO	0	12	0	0 - 0 ppm	0 ppm	83 ppm

Location 7

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/60 min AEGL)
MultiRAE Pro	VOC	0	12	0	0 - 0 ppm	0 ppm	1 ppm
	CO	0	12	0	0 - 0 ppm	0 ppm	83 ppm

Location 8

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/60 min AEGL)
MultiRAE Pro	VOC	0	12	0	0 - 0 ppm	0 ppm	1 ppm
	CO	0	12	0	0 - 0 ppm	0 ppm	83 ppm

Notes:

AEGL Acute Exposure Guideline levels for airborne chemicals
CO Carbon monoxide
min Minute
PEL Permissible exposure limit
ppm Parter per million
VOC Volatile organic compoud

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Able Contracting Fire

From: **7/27/19** **0700 hours** ***To:*** ***7/28/19*** ***0700 hours***

Location 1						
Instrument	**Analyte**	**Period Average Exceedances**	**Number of Readings**	**Number of Detections**	**Concentration Range**	**Period Av**
AreaRAE 1	VOC	No	11,334	6,623	0 - 2535 ppb	86.3 p
	CO	No	11,334	455	0 - 11 ppm	0.2 p
	H_2S	No	11,334	0	0 - 0 ppm	0 pp
	O_2	No	11,334	11,334	20.9 - 20.9%	20.9
	LEL	No	11,334	0	0 - 0%	0%
DustTrak 1	PM-2.5	Good	41,230	39,154	0 - 498 µg/m³	8.5 µg

Location 2						
Instrument	**Analyte**	**Period Average Exceedances**	**Number of Readings**	**Number of Detections**	**Concentration Range**	**Period Av**
AreaRAE 2	VOC	No	11,166	45	0 - 718 ppb	6.1 pp
	CO	No	11,166	135	0 - 7 ppm	0 pp
	H_2S	No	11,166	4	0 - 0.6 ppm	0 pp
	O_2	No	11,166	11,166	20.9 - 20.9%	20.9
	LEL	No	11,166	0	0 - 0 %	0%
DustTrak 2	PM-2.5	Very Unhealthy	48,763	48,763	8 - 6550 µg/m³	202.6 µ

Location 3						
Instrument	**Analyte**	**Period Average Exceedances**	**Number of Readings**	**Number of Detections**	**Concentration Range**	**Period Av**
AreaRAE 3	VOC	No	11,528	7,621	0 - 3538 ppb	70.6 p
	CO	No	11,528	31	0 - 7 ppm	0 ppr
	H_2S	No	11,528	0	0 - 0 ppm	0 ppr
	O_2	No	11,528	11,528	20.9 - 20.9%	20.9
	LEL	No	11,528	0	0 - 0%	0%
DustTrak 3	PM-2.5	Unhealthy	42,191	42,191	16 - 7890 µg/m³	88.4 µg

min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppm	Parter per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
$\mu g/m^3$	Micrograms per cubic meter
VOC	Volatile organic compoud

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire**

From: **7/25/19 19:51** ***To:*** ***7/26/19 7:00***

Station 155

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	7,362	5,396	0 - 30,618 ppb	49.5 ppb	1,000 ppb
	CO	No	7,362	662	0 - 36 ppm	0.5 ppm	83 ppm
	H_2S	No	7,362	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	7,362	7,362	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	7,362	0	0 - 0%	0%	10%
DustTrak 1	PM-2.5	Moderate	11,564	11,564	2 - 652 µg/m³	13.8 µg/m³	See SOG #: T106

Station 156

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	6,209	315	0 - 1,349 ppb	7.4 ppb	1,000 ppb
	CO	No	6,209	2,943	0 - 41 ppm	5.1 ppm	83 ppm
	H_2S	No	6,209	202	0 - 2.3 ppm	0 ppm	0.5 ppm
	O_2	No	6,209	6,209	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	6,209	0	0 - 0 %	0%	10%
DustTrak 2	PM-2.5	Moderate	14,670	14,670	9 - 438 µg/m³	33.8 µg/m³	See SOG #: T106

Station 157

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	6,741	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	6,741	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	6,741	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,741	6,741	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	6,741	0	0 - 0%	0%	10%
DustTrak 3	PM-2.5	Moderate	8,281	8,281	11 - 216 µg/m³	23.3 µg/m³	See SOG #: T106

Command Post

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	6,476	15	0 - 698 ppb	0.4 ppb	1,000 ppb
	CO	No	6,476	26	0 - 10 ppm	0 ppm	83 ppm
	H_2S	No	6,476	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,476	6,476	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	6,476	0	0 - 0%	0%	10%

Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline levels for airborne chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Able Contracting Fire

From: **7/26/19 7:00** ***To:*** ***7/26/19 18:59***

Location 1

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	7,598	109	0 - 6,319 ppb	7 ppb	1,000 ppb
	CO	No	7,598	529	0 - 19 ppm	0.3 ppm	83 ppm
	H_2S	No	7,598	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	7,598	7,598	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	7,598	0	0 - 0%	0%	10%
DustTrak 1	PM-2.5	Good	25,313	25,310	0 - 220 µg/m³	6.3 µg/m³	See SOG #: T106

Location 2

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	7,795	111	0 - 5,277 ppb	2.4 ppb	1,000 ppb
	CO	No	7,795	148	0 - 13 ppm	0.1 ppm	83 ppm
	H_2S	No	7,795	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	7,795	7,795	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	7,795	0	0 - 0 %	0%	10%
DustTrak 2	PM-2.5	Unhealthy	44,965	44,965	1 - 1260 µg/m³	84.2 µg/m³	See SOG #: T106

Location 3

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	8,496	4,210	0 - 20,802 ppb	45.9 ppb	1,000 ppb
	CO	No	8,496	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	8,496	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	8,496	8,496	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	8,496	0	0 - 0%	0%	10%
DustTrak 3	PM-2.5	Unhealthy for Sensative Groups	38,022	38,022	14 - 1390 µg/m³	52 µg/m³	See SOG #: T106

Location 4

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	7,855	88	0 - 21,572 ppb	4.7 ppb	1,000 ppb
	CO	No	7,855	607	0 - 24 ppm	0.5 ppm	83 ppm
	H_2S	No	7,855	17	0 - 1 ppm	0 ppm	0.5 ppm
	O_2	No	7,855	7,855	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	7,855	0	0 - 0%	0%	10%

Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline levels for airborne chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Able Contracting Fire

From: **7/26/19** **1900 hours** ***To:*** ***7/27/19*** ***0700 hours***

Location 1							
Instrument	**Analyte**	**Period Average Exceedances**	**Number of Readings**	**Number of Detections**	**Concentration Range**	**Period Average**	**Action Level (PEL/TLV/60 min AEGL)**
AreaRAE 1	VOC	No	6,934	4,053	0 - 881 ppb	27.8 ppb	1 ppm
	CO	No	6,934	268	0 - 11 ppm	0.2 ppm	83 ppm
	H_2S	No	6,934	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,934	6,934	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	6,934	0	0 - 0%	0%	10%
DustTrak 1	PM-2.5	Good	36,181	36,175	0 - 417 µg/m³	7.6 µg/m³	See SOG #: T106

Location 2							
Instrument	**Analyte**	**Period Average Exceedances**	**Number of Readings**	**Number of Detections**	**Concentration Range**	**Period Average**	**Action Level (PEL/TLV/60 min AEGL)**
AreaRAE 2	VOC	No	7,164	1,248	0 - 1513 ppb	24.8 ppb	1 ppm
	CO	No	7,164	426	0 - 16 ppm	0.2 ppm	83 ppm
	H_2S	No	7,164	13	0 - 1 ppm	0 ppm	0.5 ppm
	O_2	No	7,164	7,164	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	7,164	0	0 - 0 %	0%	10%
DustTrak 2	PM-2.5	Very Unhealthy	44,566	44,566	10 - 10400 µg/m³	167.8 µg/m³	See SOG #: T106

Location 3							
Instrument	**Analyte**	**Period Average Exceedances**	**Number of Readings**	**Number of Detections**	**Concentration Range**	**Period Average**	**Action Level (PEL/TLV/60 min AEGL)**
AreaRAE 3	VOC	No	7,952	7,952	0 - 920 ppb	31.9 ppb	1 ppm
	CO	No	7,952	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	7,952	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	7,952	7,952	20.9 - 21.1%	20.9%	<19.5 or >23%
	LEL	No	7,952	0	0 - 0%	0%	10%
DustTrak 3	PM-2.5	Unhealthy	39,505	39,505	16 - 2430 µg/m³	57.8 µg/m³	See SOG #: T106

Location 4							
Instrument	**Analyte**	**Period Average Exceedances**	**Number of Readings**	**Number of Detections**	**Concentration Range**	**Period Average**	**Action Level (PEL/TLV/60 min AEGL)**
AreaRAE 4	VOC	No	7,372	219	0 - 112984 ppb	29.2 ppb	1 ppm
	CO	No	7,372	59	0 - 23 ppm	0.1 ppm	83 ppm
	H_2S	No	7,372	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	7,372	7,372	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	7,372	0	0 - 0%	0%	10%

Notes:

- % Percent
- < Less than
- > Greater than
- AEGL Acute Exposure Guideline levels for airborne chemicals
- CO Carbon monoxide
- H_2S Hydrogen Sulfide
- LEL Lower Explosive Level

min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppm	Parter per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
$\mu g/m^3$	Micrograms per cubic meter
VOC	Volatile organic compoud

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Able Contracting Fire

From: **7/28/19 0700 hours** ***To:*** ***7/29/19 0200 hours***

Location 1

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	2,452	1,406	0 - 3,302 ppb	77.7 ppb	1,000 ppb
	CO	No	2,452	26	0 - 6 ppm	0 ppm	83 ppm
	H_2S	No	2,452	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	2,452	2,452	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	2,452	0	0 - 0%	0%	10%
DustTrak 1	PM-2.5	Good	6,341	6,332	0 - 351 μg/m³	8.6 μg/m³	See SOG #: T106

Location 2

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	2,432	1	0 - 119 ppb	0 ppb	1,000 ppb
	CO	No	2,432	3	0 - 4 ppm	0 ppm	83 ppm
	H_2S	No	2,432	1	0 - 0.4 ppm	0 ppm	0.5 ppm
	O_2	No	2,432	2,432	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	2,432	0	0 - 0 %	0%	10%
DustTrak 2	PM-2.5	Unhealthy for Sensitive Groups	7,267	7,267	11 - 363 μg/m³	40.6 μg/m³	See SOG #: T106

Location 3

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	2,449	1,096	0 - 3,200 ppb	36 ppb	1,000 ppb
	CO	No	2,449	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	2,449	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	2,449	2,449	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	2,449	0	0 - 0%	0%	10%
DustTrak 3	PM-2.5	Unhealthy	4,708	4,708	19 - 1060 μg/m³	101.6 μg/m³	See SOG #: T106

Location 4

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	2,434	404	0 - 36,051 ppb	27.5 ppb	1,000 ppb
	CO	No	2,434	95	0 - 19 ppm	0.2 ppm	83 ppm
	H_2S	No	2,434	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	2,434	2,434	20.9 - 21.3%	20.9%	<19.5 or >23%
	LEL	No	2,434	0	0 - 0%	0%	10%

Notes:

- % Percent
- < Less than
- > Greater than
- AEGL Acute Exposure Guideline levels for airborne chemicals
- CO Carbon monoxide
- H_2S Hydrogen Sulfide
- LEL Lower Explosive Level
- min Minute
- O_2 Oxygen
- PEL Permissible exposure limit
- ppm Parts per million
- ppm Parts per million
- PM Particulate matter
- SOG Standard Operating Guidelines
- TLV Threshold limit value
- μg/m³ Micrograms per cubic meter
- VOC Volatile organic compoud

Armstrong, Kathy

From: Garrard, Jordan
Sent: Friday, August 09, 2019 9:44 AM
To: Scott Reynolds
Cc: Huyser, Matthew
Subject: RE: Able PM

Scott, please include Matt Huyser on the distribution list. He is responding to the facility now, since I am going on vacation.

Thanks

Jordan Garrard
On-Scene Coordinator
EPA Region 4
Emergency Response and Removal Branch
Work: 404-562-8642
Cell: 678-644-8648

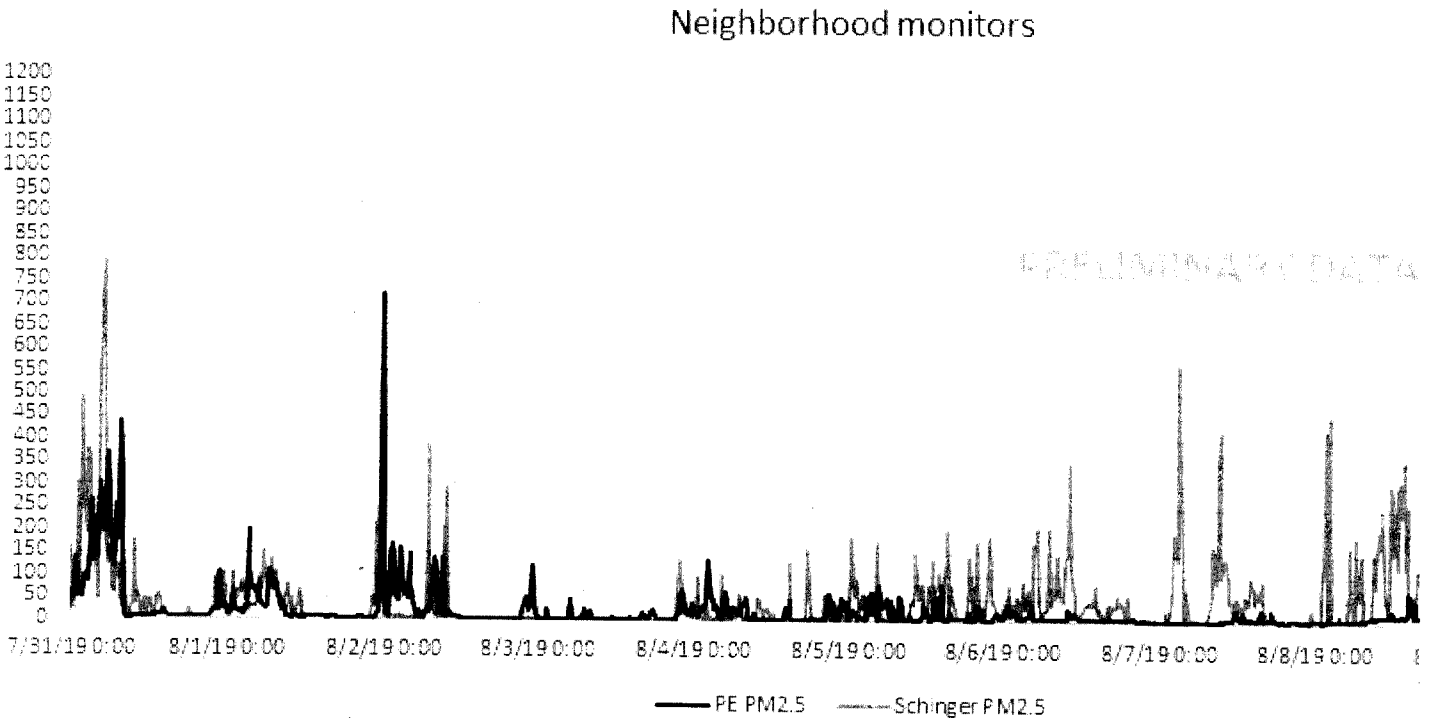
From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Friday, August 9, 2019 9:26 AM
To: thompsrb@dhec.sc.gov
Cc: Frost, Keith <frostrk@dhec.sc.gov>; shealyrg@dhec.sc.gov; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; reecemc@dhec.sc.gov; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 8 Midnight to midnight)

Palmetto Exterminators 14 ug/M3 (Moderate)

Schinger 82 ug/M3 (Unhealthy)

It appears the Palmetto exterminators PM2.5 stopped transmitting data at~6:30AM this morning. PM10 is still.sending data.



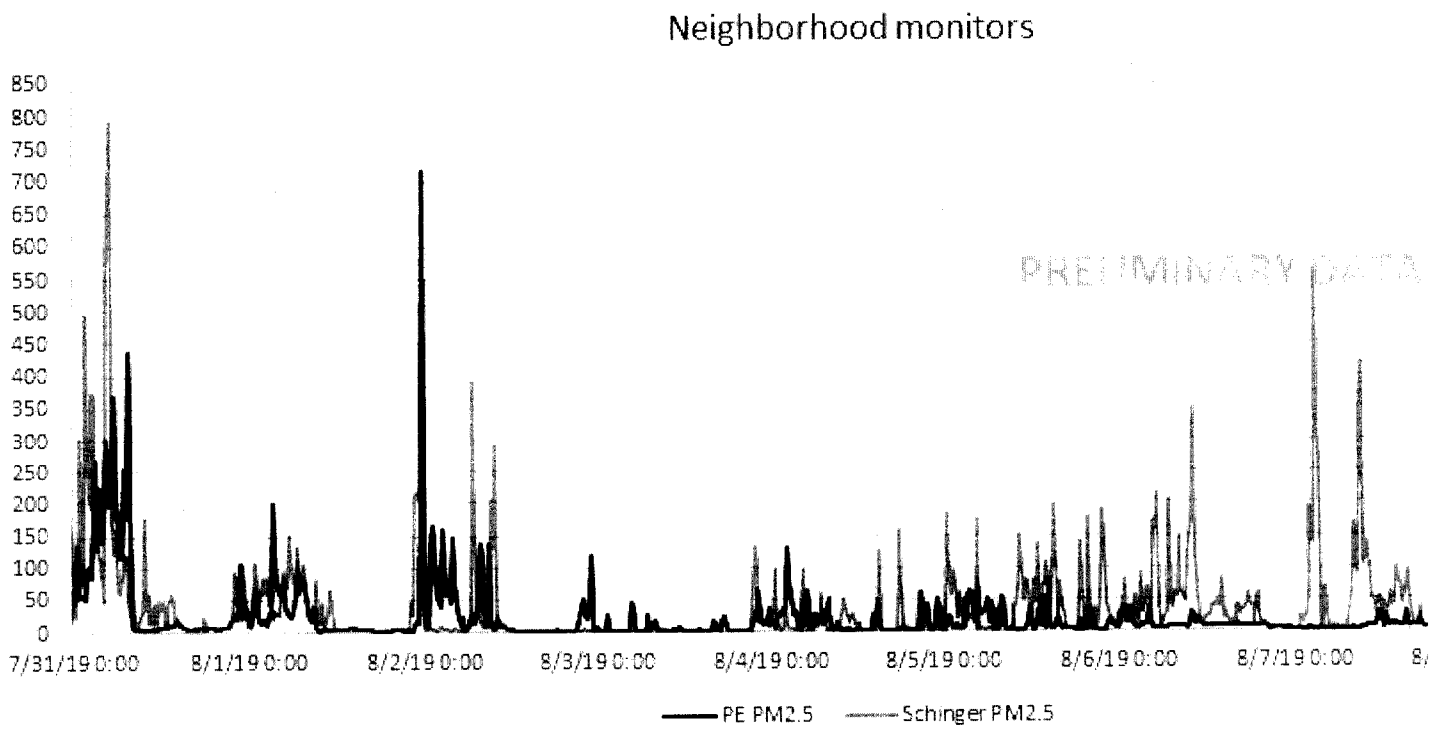
From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Thursday, August 8, 2019 9:18:09 AM
To: Thompson, Rhonda <thompsrb@dhec.sc.gov>
Cc: Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 7 Midnight to midnight)

Palmetto Exterminators 6 ug/M3 (Good)

Schinger 55 ug/M3 (Unhealthy for Sensitive Groups)- but right on the cusp of being classified 'Unhealthy'

A PM10 was deployed to Palmetto Exterminators yesterday to see if it could serve as a surrogate after the planned move of the PM2.5 to Okatie Elementary next week.

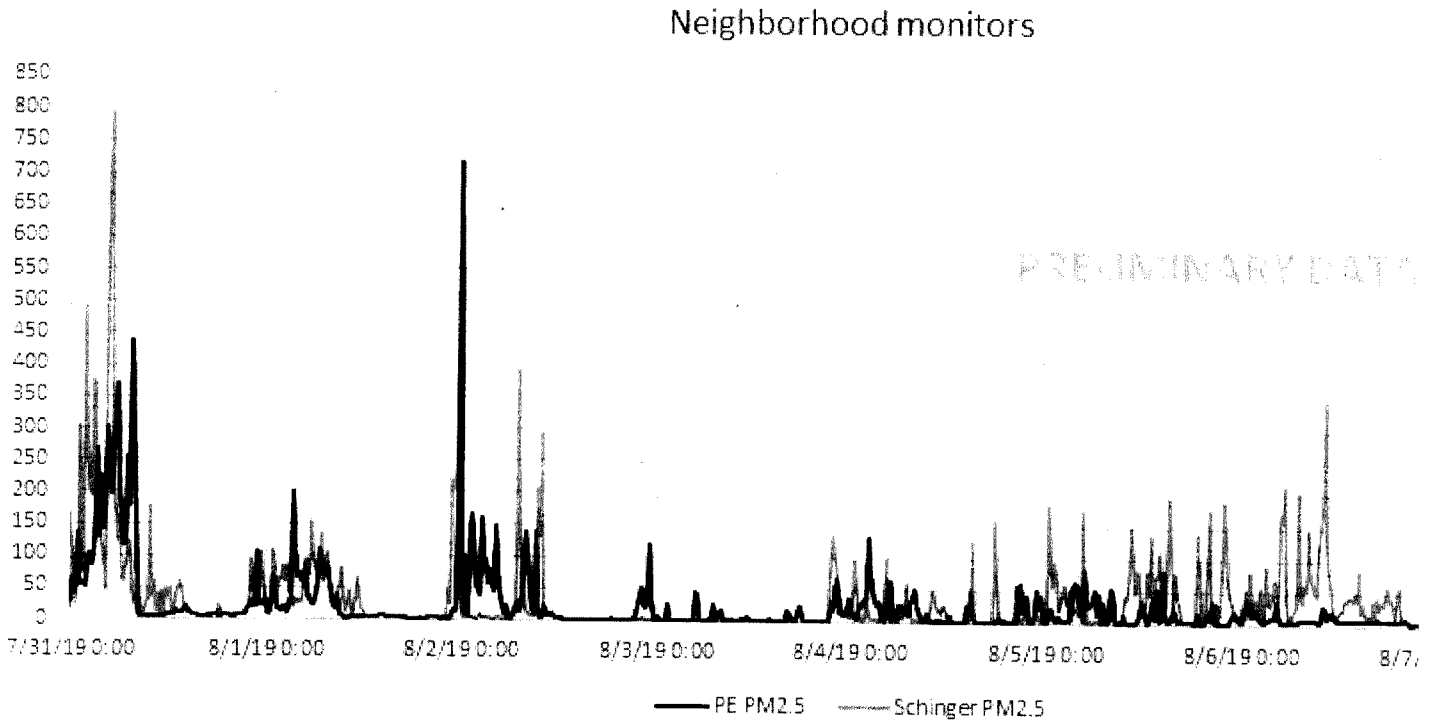


From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Wednesday, August 7, 2019 9:41:43 AM
To: Thompson, Rhonda <thompsrb@dhec.sc.gov>
Cc: Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Re: Able PM

Forgot the graph.

Everybody likes graphs

Right?



From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Wednesday, August 7, 2019 9:11:36 AM
To: Thompson, Rhonda <thompsrb@dhec.sc.gov>
Cc: Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 6 Midnight to midnight)

Palmetto Exterminators 10ug/M3 (Good)

Schinger 46ug/M3 (Unhealthy for Sensitive Groups)

The community has been downwind and current ~8 hour average is ~68 (in the unhealthy range), likely to moderate as the day goes on, but still indicating higher concentrations at night. Winds are predicted to be from the west during extended periods Thursday through late Saturday

---

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Tuesday, August 6, 2019 9:17:31 AM
To: Thompson, Rhonda <thompsrb@dhec.sc.gov>
Cc: Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran)

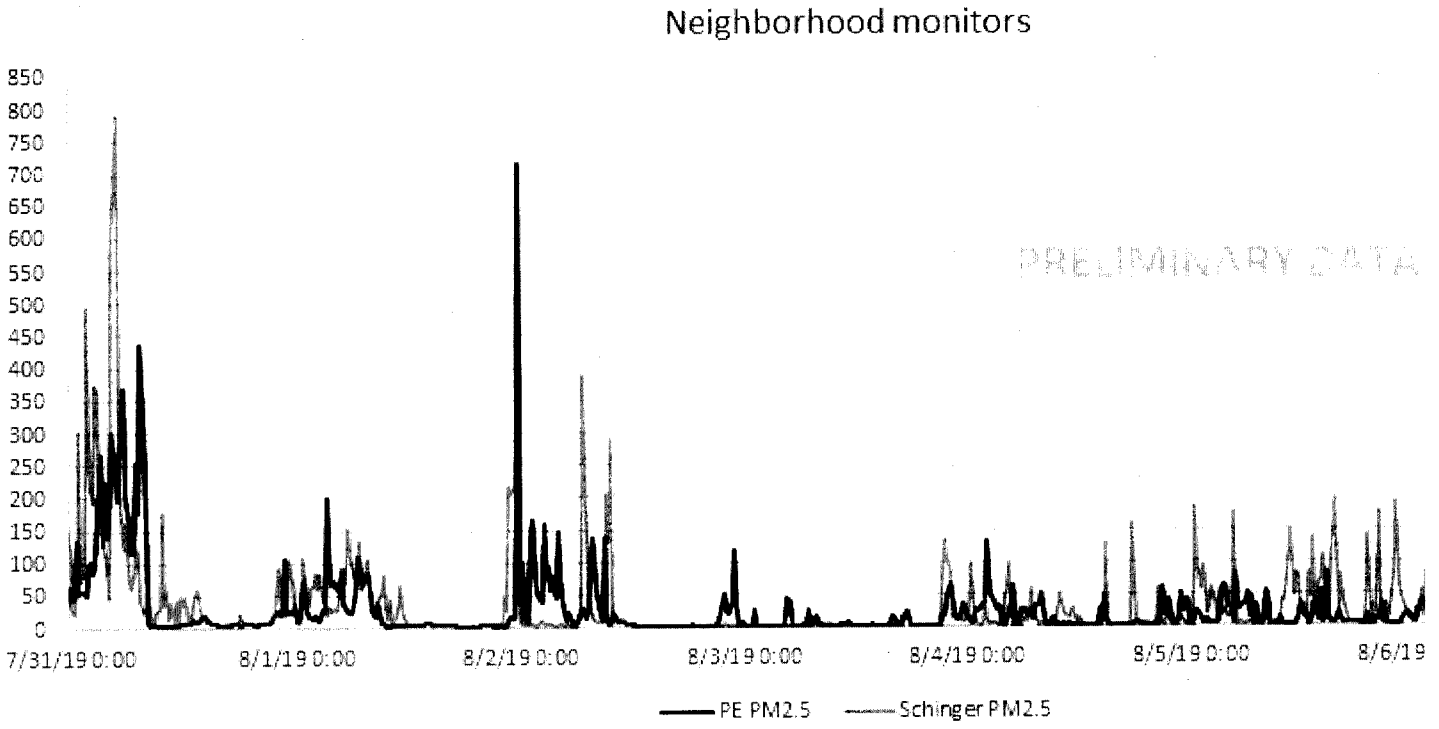
<marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 5 Midnight to midnight)

Palmetto Exterminators 15ug/M3 (Moderate)

Schinger 44ug/M3 (Unhealthy for Sensitive Groups)

The community has been(and continues to be) downwind and has seen elevated concentrations throughout the day - even during rain events . No break in impact during the day..



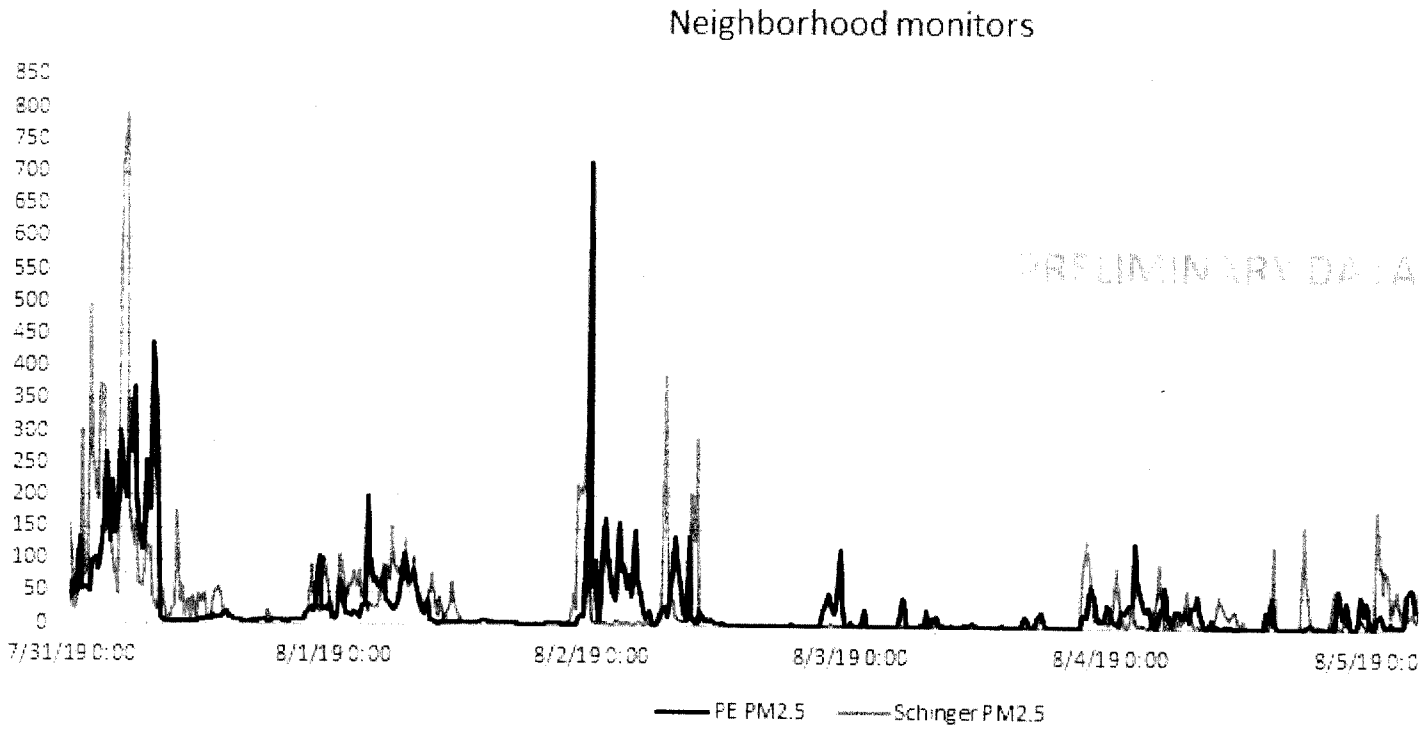
From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Monday, August 5, 2019 9:20:38 AM
To: Thompson, Rhonda <thompsrb@dhec.sc.gov>
Cc: Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran)

<marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Re: Able PM

Yesterday's 24 hour averages (Aug 4 Midnight to midnight)

Palmetto Exterminators 16ug/M3 (Moderate)

Schinger 16ug/M3 (Moderate)



From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Sunday, August 4, 2019 11:02:07 AM
To: Thompson, Rhonda <thompsrb@dhec.sc.gov>
Cc: Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell,

Wendy <BOSWELWM@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Re: Able PM

When there aren't folks on site , rain events may be inferred from the ambient temperature dips . I'd guess short rain events at ~2 and 5pm yesterday.

in particular, at both locations at the same time.

From: Thompson, Rhonda <thompsrb@dhec.sc.gov>
Sent: Sunday, August 4, 2019 9:56:35 AM
To: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Cc: Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Re: Able PM

Did they get rain?

Sent from my iPad

Rhonda B. Thompson, P.E.
Chief, Bureau of Air Quality
South Carolina Department of Health & Environmental Control
thompsrb@dhec.sc.gov
(803)898-4391

On Aug 4, 2019, at 8:55 AM, Reynolds, Scott <REYNOLDS@dhec.sc.gov> wrote:

Yesterday's 24 hour averages (Aug 3 Midnight to midnight)

Palmetto Exterminators 7ug/M3 (Good)

Schinger 8ug/M3 (Good)

Wind still predicted to shift back to from the west(towards community) early Monday

<pastedImage.png>

<pastedImage.png>

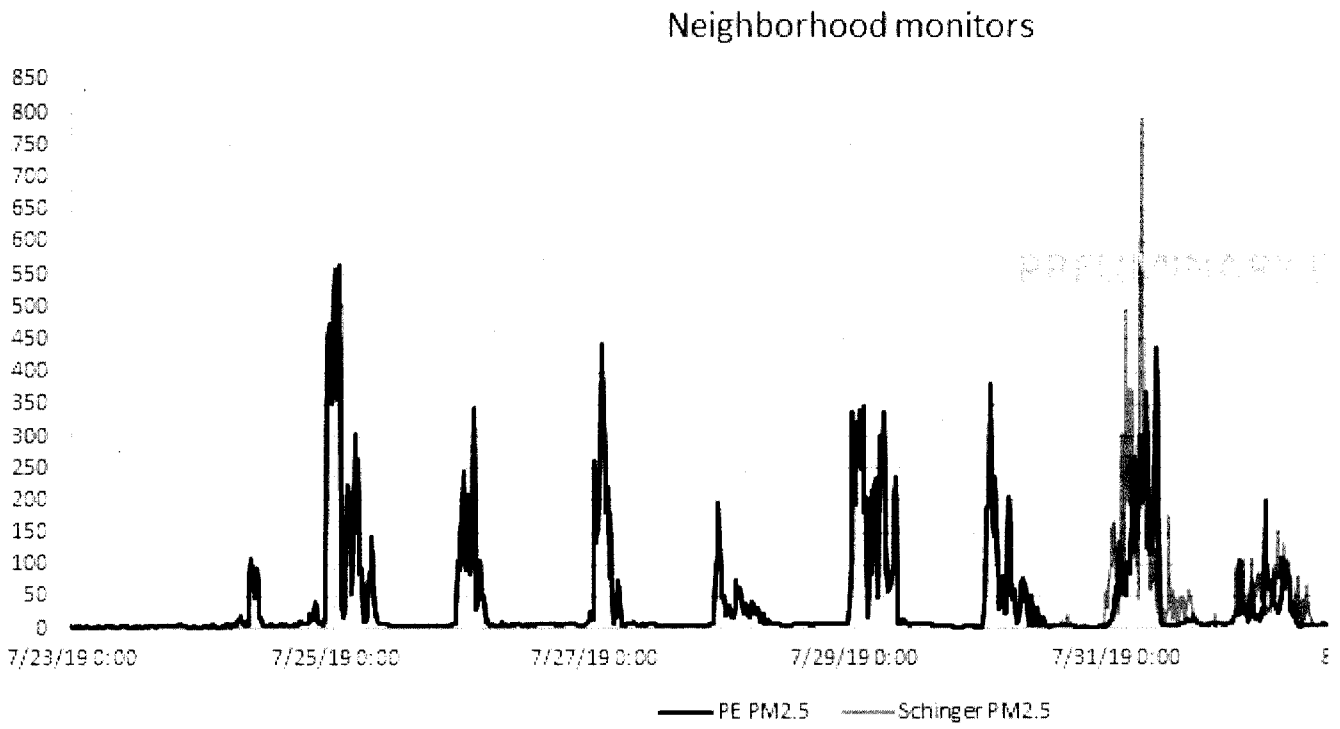
From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Saturday, August 3, 2019 8:31:36 AM
To: Thompson, Rhonda <thompsrb@dhec.sc.gov>; Frost, Keith <frostrk@dhec.sc.gov>; Shealy, Renee <shealyrg@dhec.sc.gov>; Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; Taylor, Monica N. <TAYLORMN@dhec.sc.gov>; Dickman, Jacquelyn S. <DICKMAJS@dhec.sc.gov>; Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>
Cc: Timmerman, Kelsey A. <timmerka@dhec.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Able PM

Yesterday's 24 hour averages (Aug 1 Midnight to midnight)

Palmetto Exterminators 29ug/M3 (Moderate)

Schinger* 17ug/M3 (Moderate)

*Since Noon yesterday the Schinger monitor concentrations have been uncannily low and consistent. 'Tho it's been generally upwind and there's been precip, if someone can put eyes on it to confirm it the particulate inlet appears OK, I'd feel better..


Neighborhood monitors
850
800
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
7/23/19 0:00
7/25/19 0:00
7/27/19 0:00
7/29/19 0:00
7/31/19 0:00
PE PM2.5
Schinger PM2.5

Armstrong, Kathy

From: Garrard, Jordan
Sent: Friday, August 09, 2019 7:51 AM
To: Huyser, Matthew
Cc: John Snyder
Subject: RE: Able - AQI sheet
Attachments: SOGT106_Particulate_Monitoring_Guideline_02232017_final.pdf

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Friday, August 9, 2019 7:48 AM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>
Cc: John Snyder <john.snyder@tetratech.com>
Subject: Able - AQI sheet

Jordan,

On the phone yesterday DHEC mentioned receiving the Idaho AQI numbers. Did you provide the Kevin Eichinger SOG T106 with the AQI number table or the actual Idaho AQI sheet? I can't find the Idaho AQI sheet anywhere and the link is broken now.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

Summary

- This guide is intended to be used for monitoring particulates released from fires. Effects from other potential pollutants and products of combustion are not addressed in this document. Refer to EPA Emergency Response Air Monitoring Guidance Tables, 2012 Edition 3[a] for guidance on other pollutants.
- $PM_{2.5}$ is the preferred metric for fire response particulate monitoring.
- The DataRAM 4 and the DustTrak DRX 8533EP are the standard monitoring instrument for measuring particulate concentrations.
- The E-BAM, available from ERT, is the alternate monitoring instrument when accuracy is a critical factor.
- Instrument accessories may be needed to offset weather variables and provide power during extended monitoring periods.
- Establish monitoring sites downwind of the hot zone and immediately upwind. Monitoring may also be recommended in the hot zone if there is a health risk to response workers.
- Use Table 1 to select the appropriate response action. Community action levels apply to everyone in neighboring areas affected by smoke. Worker action levels apply to response workers at the site.

Introduction

Fire presents a multitude of health and safety hazards as a result of effects on air quality. Smoke is the most visible air pollutant and is composed of Carbon Monoxide (CO), Carbon Dioxide (CO_2), Water Vapor, Particulate Matter (PM), hydrocarbons, organic chemicals, Nitric Oxides (NO_X), and minerals. Smoke can disperse quickly and may present significant health risks for nearby communities. Variables that impact dispersion include wind, temperature, moisture, and topography. Air monitoring guidance for these and other products of combustion are presented in the EPA Emergency Response Air Monitoring Guidance Tables[a].

PM consists of solid and liquid particles suspended in air. PM can readily enter the body through inhalation and can cause both acute and chronic health effects. Particulates will be present in all smoke resulting from a fire, regardless of the fuel source; however, different types of fuels will produce different sizes and concentrations of PM. Heat is also a factor which can effect particulate concentrations. After a fire has been suppressed, particulate concentrations can be higher during the smoldering phase because of less-complete combustion[b].

Most particulates in smoke are between 0.4 - 0.7 micrometers (μm) which is considered respirable. Particulates are typically classified as PM_{10} or $PM_{2.5}$ which refers to the particulate size.

- PM_{10} is defined as "course" particles measuring 10 μm or less in diameter.
- $PM_{2.5}$ is defined as "fine" particles with a diameter equal to or less than 2.5 μm.

It is recommended that monitoring efforts focus on measuring $PM_{2.5}$ during emergency fire responses. The California Air Resource Board states that most smoke particulates are between 0.4 – 0.7 μm, and concludes $PM_{2.5}$ would be a more practical monitoring parameter to use[b]. In 2007, Naeher et al. also indicated that $PM_{2.5}$ was the more suitable particulate monitoring metric [c]. Further, the EPA Air Quality Index (AQI) uses $PM_{2.5}$ in the health rating guide, also suggesting that $PM_{2.5}$ is the more appropriate standard when looking at the health hazards of particulates.

Links to Additional Information:

- Graph of particle size distribution of atmospheric particles
- Graph of particle size from particulate emissions
- Emission Study with graph of particle size distribution

Air Quality Thresholds, Actions and Recommendations

Evacuation and/or protect-in-place procedures should be recommended for areas downwind of or in the visible smoke cloud.

Once instrument readings become available, the concentrations may be an indication of potential exposure. Table 1 (for $PM_{2.5}$) and Table 2 (for PM_{10}) lists the threshold levels for different concentrations and the recommended actions that should be taken to prevent harm to community members and workers/responders at the response site. These actions may include communication with community members, evacuations, and medical monitoring. Consider consulting ATSDR to assist with generating public health statements, factsheets and possible development of a medical monitoring plan.

Criteria listed in the Protective Action Criteria (PAC) were assessed, but the values for particulates were much higher than those used in the AQI[d]. Because of this, the PAC values are not the preferred metric for response action guidance.

Odors and visible air opacity may trigger complaints and concerns in affected areas. Conditions and individual sensitivities can play a significant role in determining the point at which smoke becomes noticeable. If such concerns are presented, monitoring instrument results and Table 1 (for $PM_{2.5}$) and Table 2 (for PM_{10}) recommendations should be used to guide response actions.

TABLE 1: Threshold Levels and Recommended Response Actions for $PM_{2.5}$

$PM_{2.5}$ Threshold Levels ($\mu g/m^3$)				
1 Hr. Avg.[1]	**24 Hr. Avg.[1]**	**Level of Health Concern**	**Meaning**	**Action**
COMMUNITY ACTION LEVELS				
0.0 – 40.0	0.0 – 12.0	Good	Air quality is considered satisfactory, and air pollution poses little or no risk	Implement communication plan [2].
40.1 – 80.0	12.1 - 35.4	Moderate	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive [3] to air pollution.	Issue public announcement about health effects [2]. Stay out of areas with visible smoke.
80.1 – 175.0	35.5 - 55.4	Unhealthy for Sensitive Groups	Members of sensitive groups may experience health effects. The general public is not likely to be affected.	Recommend evacuation or shelter-in-place for sensitive populations [2,4].
175.1 – 300.0	55.5 - 150.4	Unhealthy	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.	Consider closing schools and cancelling outdoor events. Recommend shelter-in-place for affected neighborhoods.
300.1 - 500.0	150.5 - 250.4	Very Unhealthy	Health warnings of emergency conditions. The entire population is more likely to be affected.	Consider closing schools and cancel all outdoor events. Recommend shelter-in-place and/or evacuation for affected neighborhoods.
> 500.0	> 250.5	Hazardous	Health alert: everyone may experience more serious health effects	Recommend closing schools & cancel outdoor events. Recommend closing workplaces and evacuating affected neighborhood.
Source	**Particulates not otherwise regulated/specified ($\mu g/m^3$)** **8 Hr. Avg.**		**Meaning**	**Action**
WORKER ACTION LEVELS				
OSHA PEL	15,000 (total dust) 5,000 (respirable fraction - <10μm)		Safe with use of level D PPE up to this level.	Levels above the 8 hour TWA require the use of level C PPE (use P100 particulate filter). See ERRB P100 – PPE Guidelines for Specific Activities/Tasks and P102 - Respiratory Protection Equipment Selection.
ACGIH TLV	10,000 (inhalable fraction - <100μm) 3,000 (respirable fraction - <10μm)		Safe with use of level D PPE up to this level.	Consider implementing industrial hygiene measures and/or using level C PPE.

[1] Threshold values taken from original EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc for $PM_{2.5}$ (24 hour) and Idaho Department of Environmental Quality AQI for $PM_{2.5}$ (1 hour) taken from http://app.airsis.com/usfs/aqi.asp.

[2] Recommendations from EPA Air Now web site. See Reference E.

[3] People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.

[4] Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air. See Reference E.

TABLE 2: Threshold Levels and Recommended Response Actions for PM_{10}

PM_{10} Threshold Levels ($\mu g/m^3$)[1] 24 Hr. Avg.	Level of Health Concern	Meaning	Action
COMMUNITY ACTION LEVELS			
0.0 – 12.0	Good	None	Implement communication plan [2].
12.1 – 55.0	Moderate	Unusually sensitive[3] people should consider reducing prolonged or heavy exertion.	Issue public announcement about health effects [4].
55.1 – 155.0	Unhealthy for Sensitive Groups	Increasing likelihood of respiratory symptoms and aggravation of lung disease, such as asthma.	Recommend evacuation or shelter-in-place for sensitive populations [2,4].
155.1 – 255.0	Unhealthy	Increased respiratory symptoms and aggravation of lung disease, such as asthma; possible respiratory effects in general population.	Consider closing schools and cancelling outdoor events. Recommend shelter-in-place for affected neighborhoods.
255.1-355.0	Very Unhealthy	Significant increase in respiratory symptoms and aggravation of lung disease, such as asthma; increasing likelihood of respiratory effects in general population.	Consider closing schools and cancel all outdoor events. Recommend shelter-in-place and/or evacuation for affected neighborhoods.
355.1-425.0	Hazardous	Serious risk of respiratory symptoms and aggravation of lung disease, such as asthma; respiratory effects likely in general population.	Recommend closing schools & cancel outdoor events. Recommend closing workplaces and evacuating affected neighborhood.

[1] Threshold values taken from EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc
[2] Recommendations from EPA Air Now web site. See Reference E.
[3] People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
[4] Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air. See Reference E.

Monitoring Instruments and Methods

Region IV Emergency Response, Removal and Prevention Branch (ERRPB) currently uses the DataRAM 4 and the DustTrak DRX 8533EP for particulate monitoring.

The DustTrak DRX 8533EP was added to the Branch inventory in February 2017. The DustTrak uses light scattering measurement similar to the DataRAM 4 but has the ability to both size and mass fractions simultaneously. The unit concurrently provides PM10, PM4, PM2.5, PM1 and Total particulate data without having to change the impactor head. The customized units the Branch maintains have external pumps, and a built in/automatic heater unit that is preset to keep the moisture level below 40%.

The DataRAM 4 has advantages such as portability, an internal power supply, and a large detection range. One of the drawbacks of the DataRAM 4 is that mass concentrations tend to be over-estimated. United States Forestry Service (USFS) studies have shown that the DataRAM 4 estimations are on average 144% higher than actual concentrations[f]. Because of this, the USFS recommends applying a correction factor of 0.39 to instrument readings[f]. The DataRAM 4 is the preferred instrument when portability is important and/or if very high concentrations are expected (i.e. at source).

The E-BAM monitor is available through EPA Environmental Response Team (ERT), and is considered to be the most accurate monitoring instrument available. Some of the drawbacks include reduced portability (heavier, awkward shape), narrow detection range, and it requires an auxiliary power source. The E-BAM is the preferred instrument when accuracy is a critical factor and high concentrations are not expected (i.e. better for measuring fugitive dust concentrations on metals removal sites).

Use of monitoring instruments can also be affected by available resources, weather, and environmental conditions. Accessories and adapters may be required to offset the effects of these variables.

- Heater: A temperature conditioning heater must be used if humidity is > 40%. Without a heater in these conditions, measurements may be biased towards higher readings. Refer to instrument manual for further instruction. These are available for most particulate monitoring instruments.
- Power Generation: Most instruments will run for 15-24 hours on a full battery charge. A generator, solar panel, or auxiliary battery system will likely be needed for equipment without a built-in power supply or for continuous monitoring > 15 hours.
- GFCI: If a power generation system is used, a power strip/surge protector should be used to accommodate other accessories and monitoring equipment. This will also prevent possible electrical damage to expensive equipment.
- Impactor: The DataRAM and DustTrak are used with an impactor attachment which connects to the air intake. This functions as a pre-collector to help offset some of the effects of wind and precipitation. It should be utilized at all times.

TABLE 3. Instruments Available for an EPA Response

Criteria	DataRAM 4	E-BAM	DUSTTRAK DRX 8533EP
Accuracy (% above actual) [1]	144%	1%	Not determined
Detection Range (µg/m³) [2]	0.1 - 400,000	0.1 - 65,000	0.1 - 400,000
Weight (lbs)[2]	13	28 (without battery)	
Setup Time	15 min	15-30 min	15 min
Measurement Method	light scattering	filter tape	90° light scattering
Power Requirements	Re-chargeable internal battery. 24 hr. run time.	Requires AC power source or external DC. Solar option avail.	Dual re-chargeable batteries, 12 hour run time each.
Availability	Regional Readiness Center (6 units)	1-2 days via EPA ERT	Regional Readiness Center (3 units)

[1] based on results from US Forest Service 2006 study *Smoke Particulate Monitors*. See Reference F.
[2] taken from manufacturers specifications.

Table 4. Comparison of Common Particulate Monitors on the Market

Criteria	DataRAM 4000	DataRAM 2000	E-BAM	E-Sampler	DUSTTRAK
Accuracy (% above actual)[1]	144%	15%	1%	13%	217%
Detection Range (µg/m³)[2]	0.1 - 400,000	0.1 - 400,000	0.1 - 65,000	0.1 - 65,000	0.1 - 400,000
Weight (lbs)[2]	13	12	28 (without battery)	12 (without battery)	9 (device only); 38 (with enclosure)
Setup Time	15 min	15 min	15-30 min	15-30 min	Unknown
Measurement Method	light scattering	light scattering	filter tape	light scattering	90-degree light scattering
Power Requirements	Re-chargeable internal battery. 24 hr. run time.	Re-chargeable internal battery. 24 hr. run time.	Requires AC power source or external DC. Solar option	Requires AC power source or external DC. Solar option	Re-chargeable internal battery. 15-24 hr. run time.

[1] based on results from US Sorest Service 2006 study *Smoke Particulate Monitors*. See Reference a.
[2] taken from manufacturers specs

Monitoring Locations

Monitoring for particulates should take place both at the work zone and in surrounding areas where the smoke may travel or accumulate. Consider areas between the release point and sensitive receptors. Temperature, wind, and humidity can affect where smoke travels. As the earth's surface is heated in the afternoon, the atmosphere becomes more unstable when heated air expands. This causes smoke to disperse in a more vertical pattern in the afternoon and early evening. Warm temperatures or major changes in daytime high/low temperatures will cause the smoke to rise higher than in cooler temperatures with a narrow high/low range. As the atmosphere stabilizes overnight and through the morning, smoke will disperse horizontally and settle into low-lying areas and valleys[g].

Wind is a significant factor in smoke dispersion. Unstable atmospheric conditions in the afternoon also increase wind speed which increases the rate and distance of dispersion. Humidity above 80% can cause moisture to condense on smoke particles. This can create a fog type effect which slows and settles smoke. Precipitation can cause a similar effect and slow dispersion. Atmospheric inversions should be taken into consideration when determining monitoring locations and recommending evacuation or protect-in-place zones. An atmospheric inversion occurs when a layer of air that is warmer than the air below traps the surface air in place and prevents dispersion of any pollutants it contains.

Surface structures such as buildings and trees can significantly change air flow direction and cause stagnant air pockets to form. This can trap smoke in small, confined areas and create hot spots with significantly higher particulate concentrations than nearby locations. When monitoring areas which are surrounding the source consider the following:

- Downwind areas will be most impacted by smoke.
- It should be expected that particulate readings at ground level will be higher at night or in the morning than in the afternoon or early evening.

Monitoring at the work zone may be necessary to establish appropriate levels of PPE for response workers. This will also help to determine safe areas to stage response support activities where workers may not be using protective equipment.

When choosing a monitoring site, some additional items should also be considered:

- Availability of power sources will determine what type of power generation is required. The absence of auxiliary power will require more frequent maintenance and may require additional staffing, especially if the monitoring period is > 24 hours.
- Consider security measures (i.e. locked boxes, chains, etc.) if instruments are to be sited in public areas and left unattended.
- Ensure generators or equipment from other activities which may release emissions do not interfere with monitoring stations.
- Power lines or electrical utility areas should be avoided.

Health Effects

PM_{10} and $PM_{2.5}$ are considered to be respirable. Particulates > 10 µm do not typically reach the lungs, but can irritate the eyes, nose, and throat. Although PM_{10} is respirable, $PM_{2.5}$ is inhaled deeper into lung tissue due to their small size (approximately 1/30th the average width of human hair[h]), and thus presents a greater health hazard than larger particulates. PM between 0.1 µm and 1 µm can remain in the atmosphere for days or weeks, meaning there is a potential for long range dispersion from the source.

Smoke and particulate exposure will typically have the largest effect on the respiratory system. Irritation and coughing are common acute symptoms of exposure to particulates. Individuals subject to particulate exposure may first notice irritation of the throat, eyes, and nose. This may be followed by coughing, chest pain, and shortness of breath if exposure continues.

- Acute effects of particulate exposure include irritation of the respiratory system, coughing, and breathing difficulties.
- Chronic effects of particulate exposure include reduced lung function, asthma, lung cancer, chronic bronchitis, cardiovascular disease, premature death, and may cause birth defects[e].

These symptoms can be magnified for sensitive individuals, which can include groups or individuals with pre-existing conditions (e.g.: asthma, heart disease, lung disease), children, the elderly, and pregnant women. Sensitive individuals can experience aggravation of respiratory and cardiovascular systems at lower levels which may not affect non-sensitive individuals[e].

PM can also transport other pollutants which creates additional health concerns. Special consideration and precautions should be made if other pollutants are expected. ATSDR can provide assistance with generating public health statements, factsheets and possible development of a medical monitoring plan.

Reporting

Generate air monitoring summary reports to present data to the Incident Management Team (IMT) during Command, Planning, and Tactical meetings/briefings. Air monitoring summary reports typically group instruments by location and summarize each analyte result with number of readings, number of detections, concentration range, and a time-time weighted average over the period of the report. For particulates, specifically, the air monitoring report typically classifies the reporting period based on the AQI as seen in Table 1 and Table 2.

Develop the reporting schedule around the operational periods established by the IMT, and include sufficient time to review air monitoring summary reports prior to meetings/briefings since they often become the data backing up health-based decisions (e.g. whether to modify/implement evacuation zones or how to advise schools on openings/delayed starts).

References

a. EPA ERTG – *Air Monitoring Guidance Tables* http://www.epaosc.org/sites/0001/files/US%20EPA%20Air%20Tables%20Edition3_FINAL%202.pdf
b. California Air Resource Board. *Wildfire Smoke, A Guide for Public Health Officials*. July 2008. http://www.arb.ca.gov/carpa/toolkit/data-to-mes/wildfire-smoke-guide.pdf
c. Naeher, L.P., Brauer, M., Lipsett, M., Zelikoff, J.T., Simpson, C.D., Koenig, J.Q. and Smith, K.R. 2007. *Woodsmoke Health Effects: A Review*. Inhalation Toxicology. 19: 67–106.
d. US Department of Energy. *Protective Action Criteria* http://www.atlintl.com/doe/teels/teel.html
e. EPA Air Now. *Air Quality Index – A Guide to Air Quality and Your Health.* http://www.airnow.gov/index.cfm?action=aqibasics.aqi
f. USDA Forest Service – Technology Development Program. *Smoke Particulate Monitors: 2006 Update.* December 2006. https://www3.epa.gov/ttnamti1/files/ambient/smoke/ebamrpt.pdf
g. Auburn University. *Smoke Dispersion* http://www.auburn.edu/academic/forestry_wildlife/fire/smoke_guide/smoke_dispersion.htm
h. US Environmental Protection Agency. Fine particle ($PM_{2.5}$) Designations, Frequent Questions. http://www.epa.gov/pmdesignations/faq.htm

Armstrong, Kathy

From: Garrard, Jordan
Sent: Friday, August 09, 2019 7:50 AM
To: Huyser, Matthew
Subject: RE: Able - AQI sheet

Yes we gave them the fire SOG with the AQI table.

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Friday, August 9, 2019 7:48 AM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>
Cc: John Snyder <john.snyder@tetratech.com>
Subject: Able - AQI sheet

Jordan,

On the phone yesterday DHEC mentioned receiving the Idaho AQI numbers. Did you provide the Kevin Eichinger SOG T106 with the AQI number table or the actual Idaho AQI sheet? I can't find the Idaho AQI sheet anywhere and the link is broken now.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, S.W.
ATLANTA, GEORGIA 30303

7/26/19

SUBJ: Notice of Federal Interest

Dear Mr. Chandler Lloyd:

The purpose of this letter is to inform you that a release or threatened release of hazardous substances, pollutants or contaminants for which you may be responsible, has occurred or threatens to occur at the following location:

472 Schinger Ave, Ridgeland, SC 29936

The United States Environmental Protection Agency (EPA) has an interest in this incident and may conclude that a removal action is necessary to clean up or contain the release. A removal action is an action that may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, pollutants or contaminants and includes physical removal and disposal of hazardous substances, pollutants or contaminants. Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), EPA is authorized to address this release or threatened release.

If EPA determines that a removal action is necessary, EPA may request that liable parties conduct the removal action if EPA determines that the liable parties will conduct such action promptly and properly. Liable parties under Section 107 of CERCLA generally include the current owner or operator of the property, anyone who owned or operated at the property when hazardous substances were disposed, generators of hazardous substances disposed of at the site, and transporters of hazardous substances.

[illegible] of the removal action performed by liable parties [illegible] The Our Socks Coordinator for this [illegible] taking any action in [illegible]

If liable parties decline the opportunity to take appropriate action or if EPA determines that liable parties cannot perform the removal action promptly and properly, EPA may conduct the removal action itself. If EPA conducts the removal action, liable parties will be held financially responsible for costs incurred by the EPA as set forth in Section 107 of CERCLA.

You are strongly encouraged to contact an attorney who can advise you of your rights and responsibilities under CERCLA. Should you require further information concerning this matter, please contact the On-Scene Coordinator by telephone at ~~(404) 562-8268~~ 678-694-8648 or you may write to the address below.

~~Kevin Eichinger~~ Jordan Conrad
On-Scene Coordinator
U.S. Environmental Protection Agency
Region 4
ERRB
61 Forsyth Street S.W.
Atlanta, Georgia 30303

Sincerely,

~~Kevin Eichinger~~ Jordan Conrad
On-Scene Coordinator

Receipt and Acknowledgement:

Received by _____ Name _____

Date _____

Printed name _____

Armstrong, Kathy

From: Garrard, Jordan
Sent: Thursday, August 08, 2019 6:23 PM
To: Pinkney, James; Huyser, Matthew
Subject: Able Contracting Fire

James,
OSC Huyser is mobilizing back to Able Contracting facility. He will be conducting additional air monitoring and potential sampling. We are still waiting for validated air data. We have received validated water sampling data. The SCDECH will be looking to us to release the data since we collected it, it asked if we could coordinate any releases with them. I have spoken to our START contractor to get a timeline on when to expect validated data. I know the island packet has been inquiring about the data. The island packet reporter was at a SCDECH meeting today when the site was mentioned. It was said SCDECH was expecting the data today or tomorrow. I have spoken with the reporter earlier in the week and told him we wouldn't release any preliminary or invalidated data.

Jordan Garrard
On Scene Coordinator
EPA Region 4
Garrard.jordan@epa.gov
678-644-8648

Armstrong, Kathy

From: Garrard, Jordan
Sent: Thursday, August 08, 2019 4:16 PM
To: Huyser, Matthew
Subject: ATSDR

I have been referring all medical or symptom questions to Sue Casteel with ATSDR. They do not have the air sample data yet, but have all the particulate air monitoring data and have been speaking to residents about pm2.5

Jordan

Armstrong, Kathy

From: Garrard, Jordan
Sent: Thursday, August 08, 2019 4:16 PM
To: Huyser, Matthew
Subject: ATSDR

I have been referring all medical or symptom questions to Sue Casteel with ATSDR. They do not have the air sample data yet, but have all the particulate air monitoring data and have been speaking to residents about pm2.5

Jordan

Armstrong, Kathy

From: Garrard, Jordan
Sent: Thursday, August 08, 2019 2:55 PM
To: reecemc@dhec.sc.gov; Tisha L. Williams; Frank Edwards; Lisa Wagner; chris.collins2@redcross.org; haley.lawson@redcross.org; David Tedder; afulghum@jaspercountysc.gov; Porter, Henry; Frost, Keith; thompsrb@dhec.sc.gov; Keisler, Van; Blalock, Juli; dickmaj@dhec.sc.gov; John Snyder; Clay Graves; Russell Wells; eturner@emd.sc.gov; Threatt, Richard
Cc: Marshall, Frances (Fran); Marcus, Mike; Scaturo, David M.; Boyce, Lawra; Ellenberg, Kristy E.; Scott Reynolds; shealyrg@dhec.sc.gov; Huyser, Matthew
Subject: RE: Able Construction Work Group - Conference Call 10 am Friday

Matt Huyser's cell 678-427-8829 , huyser.matthew@epa.gov

From: Garrard, Jordan
Sent: Tuesday, August 6, 2019 9:24 AM
To: Reece, Myra <reecemc@dhec.sc.gov>; Tisha L. Williams <tlwilliams@jaspercountysc.gov>; Frank Edwards <fedwards@jaspercountysc.gov>; Lisa Wagner <lwagner@jaspercountysc.gov>; chris.collins2@redcross.org; haley.lawson@redcross.org; David Tedder <dtedder@jaspercountysc.gov>; afulghum@jaspercountysc.gov; Porter, Henry <porterhj@dhec.sc.gov>; Frost, Keith <frostrk@dhec.sc.gov>; thompsrb@dhec.sc.gov; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; dickmaj@dhec.sc.gov; John Snyder <john.snyder@tetratech.com>; Clay Graves <cgraves@jaspercountysc.gov>; Russell Wells <rwells@jaspercountysc.gov>; eturner@emd.sc.gov; Threatt, Richard <threatrl@dhec.sc.gov>
Cc: Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Scaturo, David M. <scaturdm@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Ellenberg, Kristy E. <ellenbke@dhec.sc.gov>; Scott Reynolds <reynolds@dhec.sc.gov>; shealyrg@dhec.sc.gov
Subject: RE: Able Construction Work Group - Conference Call 10 am Friday

Just wanted to give everyone an update on timeline of analytical results. After speaking with the lab, we should receive preliminary phosgene data this evening or tomorrow am. VOC data will not be ready until sometime on Thursday. I still recommend have a conference call on Friday morning to discuss results.

Thanks

Jordan Garrard
On-Scene Coordinator
EPA Region 4
Emergency Response and Removal Branch
Work: 404-562-8642
Cell: 678-644-8648

From: Reece, Myra <reecemc@dhec.sc.gov>
Sent: Thursday, August 1, 2019 6:16 PM
To: Tisha L. Williams <tlwilliams@jaspercountysc.gov>; Frank Edwards <fedwards@jaspercountysc.gov>; Lisa Wagner <lwagner@jaspercountysc.gov>; chris.collins2@redcross.org; haley.lawson@redcross.org; David Tedder <dtedder@jaspercountysc.gov>; afulghum@jaspercountysc.gov; Porter, Henry <porterhj@dhec.sc.gov>; Frost, Keith <frostrk@dhec.sc.gov>; thompsrb@dhec.sc.gov; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli

<blalocje@dhec.sc.gov>; dickmaj@dhec.sc.gov; Garrard, Jordan <Garrard.Jordan@epa.gov>; John Snyder <john.snyder@tetratech.com>; Clay Graves <cgraves@jaspercountysc.gov>; Russell Wells <rwells@jaspercountysc.gov>; eturner@emd.sc.gov; Threatt, Richard <threatrl@dhec.sc.gov>
Cc: Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Scaturo, David M. <scaturdm@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Ellenberg, Kristy E. <ellenbke@dhec.sc.gov>; Scott Reynolds <reynolds@dhec.sc.gov>; shealyrg@dhec.sc.gov
Subject: Able Construction Work Group - Conference Call 10 am Friday

Hi Team! Just a reminder of our 10 am conference call tomorrow morning.....conference line/code highlighted in yellow at the end of the notes below.....talk soon!

DHEC staff: gathering in the SARR conference room

Myra C. Reece

Director of Environmental Affairs
S.C. Dept. of Health & Environmental Control
Office: (803) 898-4102
Mobile: (803) 667-1113
Connect: www.scdhec.gov Facebook Twitter

From: Tisha L. Williams <tlwilliams@jaspercountysc.gov>
Sent: Tuesday, July 30, 2019 10:44 AM
To: Frank Edwards <fedwards@jaspercountysc.gov>; Lisa Wagner <lwagner@jaspercountysc.gov>; chris.collins2@redcross.org <chris.collins2@redcross.org>; haley.lawson@redcross.org <haley.lawson@redcross.org>; David Tedder <dtedder@jaspercountysc.gov>; afulghum@jaspercountysc.gov <afulghum@jaspercountysc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; dickmaj@dhec.sc.gov <dickmaj@dhec.sc.gov>; garrard.jordan@epa.gov <garrard.jordan@epa.gov>; john.snyder@tetratech.com <john.snyder@tetratech.com>; Clay Graves <cgraves@jaspercountysc.gov>; Russell Wells <rwells@jaspercountysc.gov>; eturner@emd.sc.gov <eturner@emd.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>
Subject: Notes From July 29, 2019 Able Construction Work Group - Conference Call

*** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***

All:

In follow up to our telephone conversation this afternoon with the working group, we note the following as our action plan supplementing that of Friday, July 26th:

As background information, DHEC has graphed the data received over the weekend, and is expecting peaks in particulates after midnight. As a result of apparently not having continuous water going to the site, the average levels have increased over time, which raises concerns about health risks. The receipt of more detailed analysis from EPA testing later this week will be helpful in formulating an updated action plan.

The plan for this week:

- **Working Group is still waiting on a contractor to get DHEC a plan and cost for containment and clean-up.**

- **DHEC has contacted their prime contractors with expertise in closing out landfill sites and some experience in extinguishing landfill fires and are attempting to have someone come to the site today.**

- **DHEC will contact the owners representative to advise of the site visit, Russell Wells will be out Point of Contact for that visit.**

Chief Wells will serve as Point of Contact for DHEC and DHEC's Contractor to visit the site and assist them with evaluating a short and long term proposed action plan to extinguish and clean up the site. Emergency Services will visit the site at dusk and at midnight to look for hot spots and apply water as needed. Throughout the day, they will do a visual inspection and will apply water as either a result of those inspections or a call for water by DHEC, who will be monitoring the particulate matter for spikes in the case of a flare up.

- **In Response to the need for Temporary Housing, Haley Lawson contacted Beaufort County Human Service Alliance and requested them to inquire of their resources and they're still waiting on responses from that network.**

- **The working Group noted there were several call complaining over the weekend.**

- **DHEC reports that the Owner says he was working on a proposal to extinguish the fire and clean up the site.**

- **EPA reported that it had completed it's air quality and water quality sampling but does not expect to have any results until late Thursday.**

- **We shared the Media contacts with EPA and DHEC being James Pinckney (EPA) 404-695-5503, and DHEC** media@dhec.sc.gov **or 803-898-7769.**

- **We have Coordinated another Conference Call for Friday August 2, 2019 at 10:00am**

Conference Call Dial-in **(605) 313-5380**
Enter the access code: (b)(6) Personal Privacy

Thank you,

Tisha L. Williams

Administrative Assistant
(843) 717-3690

Jasper County Administrator's Office
Mr. Andrew P. Fulghum
358 Third Avenue
Ridgeland, South Carolina 29936

Jasper County is An Equal Opportunity Employer
TDD 843-726-7519
Special Accommodations Available Upon Request to Individuals with Disabilities

This email message contains confidential and/or privileged information that is intended solely for the addressee. If you have received this message in error, please notify us by return email, and delete it from your system. Reading, copying or disseminating this message is strictly prohibited.

Armstrong, Kathy

From: Garrard, Jordan
Sent: Thursday, August 08, 2019 2:24 PM
To: Huyser, Matthew
Subject: FW: Able Construction Work Group - Conference Call 10 am Friday

This is the mailing list to include SCDECH and Jasper County.

From: Garrard, Jordan
Sent: Tuesday, August 6, 2019 9:24 AM
To: Reece, Myra <reecemc@dhec.sc.gov>; Tisha L. Williams <tlwilliams@jaspercountysc.gov>; Frank Edwards <fedwards@jaspercountysc.gov>; Lisa Wagner <lwagner@jaspercountysc.gov>; chris.collins2@redcross.org; haley.lawson@redcross.org; David Tedder <dtedder@jaspercountysc.gov>; afulghum@jaspercountysc.gov; Porter, Henry <porterhj@dhec.sc.gov>; Frost, Keith <frostrk@dhec.sc.gov>; thompsrb@dhec.sc.gov; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; dickmaj@dhec.sc.gov; John Snyder <john.snyder@tetratech.com>; Clay Graves <cgraves@jaspercountysc.gov>; Russell Wells <rwells@jaspercountysc.gov>; eturner@emd.sc.gov; Threatt, Richard <threatrl@dhec.sc.gov>
Cc: Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Scaturo, David M. <scaturdm@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Ellenberg, Kristy E. <ellenbke@dhec.sc.gov>; Scott Reynolds <reynolds@dhec.sc.gov>; shealyrg@dhec.sc.gov
Subject: RE: Able Construction Work Group - Conference Call 10 am Friday

Just wanted to give everyone an update on timeline of analytical results. After speaking with the lab, we should receive preliminary phosgene data this evening or tomorrow am. VOC data will not be ready until sometime on Thursday. I still recommend have a conference call on Friday morning to discuss results.

Thanks

Jordan Garrard
On-Scene Coordinator
EPA Region 4
Emergency Response and Removal Branch
Work: 404-562-8642
Cell: 678-644-8648

From: Reece, Myra <reecemc@dhec.sc.gov>
Sent: Thursday, August 1, 2019 6:16 PM
To: Tisha L. Williams <tlwilliams@jaspercountysc.gov>; Frank Edwards <fedwards@jaspercountysc.gov>; Lisa Wagner <lwagner@jaspercountysc.gov>; chris.collins2@redcross.org; haley.lawson@redcross.org; David Tedder <dtedder@jaspercountysc.gov>; afulghum@jaspercountysc.gov; Porter, Henry <porterhj@dhec.sc.gov>; Frost, Keith <frostrk@dhec.sc.gov>; thompsrb@dhec.sc.gov; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; dickmaj@dhec.sc.gov; Garrard, Jordan <Garrard.Jordan@epa.gov>; John Snyder <john.snyder@tetratech.com>; Clay Graves <cgraves@jaspercountysc.gov>; Russell Wells <rwells@jaspercountysc.gov>; eturner@emd.sc.gov; Threatt, Richard <threatrl@dhec.sc.gov>
Cc: Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Scaturo, David M. <scaturdm@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Ellenberg, Kristy E. <ellenbke@dhec.sc.gov>; Scott

Reynolds <reynolds@dhec.sc.gov>; shealyrg@dhec.sc.gov
Subject: Able Construction Work Group - Conference Call 10 am Friday

Hi Team! Just a reminder of our 10 am conference call tomorrow morning.....conference line/code highlighted in yellow at the end of the notes below.....talk soon!

DHEC staff: gathering in the SARR conference room

Myra C. Reece

Director of Environmental Affairs
S.C. Dept. of Health & Environmental Control
Office: (803) 898-4102
Mobile: (803) 667-1113
Connect: www.scdhec.gov Facebook Twitter

From: Tisha L. Williams <tlwilliams@jaspercountysc.gov>
Sent: Tuesday, July 30, 2019 10:44 AM
To: Frank Edwards <fedwards@jaspercountysc.gov>; Lisa Wagner <lwagner@jaspercountysc.gov>; chris.collins2@redcross.org <chris.collins2@redcross.org>; haley.lawson@redcross.org <haley.lawson@redcross.org>; David Tedder <dtedder@jaspercountysc.gov>; afulghum@jaspercountysc.gov <afulghum@jaspercountysc.gov>; Reece, Myra <reecemc@dhec.sc.gov>; Porter, Henry <porterhj@dhec.sc.gov>; Frost, Keith <frostrk@dhec.sc.gov>; Thompson, Rhonda <thompsrb@dhec.sc.gov>; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; dickmaj@dhec.sc.gov <dickmaj@dhec.sc.gov>; garrard.jordan@epa.gov <garrard.jordan@epa.gov>; john.snyder@tetratech.com <john.snyder@tetratech.com>; Clay Graves <cgraves@jaspercountysc.gov>; Russell Wells <rwells@jaspercountysc.gov>; eturner@emd.sc.gov <eturner@emd.sc.gov>; Threatt, Richard <threatrl@dhec.sc.gov>
Subject: Notes From July 29, 2019 Able Construction Work Group - Conference Call

*** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***

All:

In follow up to our telephone conversation this afternoon with the working group, we note the following as our action plan supplementing that of Friday, July 26th:

As background information, DHEC has graphed the data received over the weekend, and is expecting peaks in particulates after midnight. As a result of apparently not having continuous water going to the site, the average levels have increased over time, which raises concerns about health risks. The receipt of more detailed analysis from EPA testing later this week will be helpful in formulating an updated action plan.

The plan for this week:

- **Working Group is still waiting on a contractor to get DHEC a plan and cost for containment and clean-up.**

- **DHEC has contacted their prime contractors with expertise in closing out landfill sites and some experience in extinguishing landfill fires and are attempting to have someone come to the site today.**

- **DHEC will contact the owners representative to advise of the site visit, Russell Wells will be out Point of Contact for that visit.**

Chief Wells will serve as Point of Contact for DHEC and DHEC's Contractor to visit the site and assist them with evaluating a short and long term proposed action plan to extinguish and clean up the site. Emergency Services will visit the site at dusk and at midnight to look for hot spots and apply water as needed. Throughout the day, they will do a visual inspection and will apply water as either a result of those inspections or a call for water by DHEC, who will be monitoring the particulate matter for spikes in the case of a flare up.

- **In Response to the need for Temporary Housing, Haley Lawson contacted Beaufort County Human Service Alliance and requested them to inquire of their resources and they're still waiting on responses from that network.**

- **The working Group noted there were several call complaining over the weekend.**

- **DHEC reports that the Owner says he was working on a proposal to extinguish the fire and clean up the site.**

- **EPA reported that it had completed it's air quality and water quality sampling but does not expect to have any results until late Thursday.**

- **We shared the Media contacts with EPA and DHEC being James Pinckney (EPA) 404-695-5503, and DHEC** media@dhec.sc.gov **or 803-898-7769.**

- **We have Coordinated another Conference Call for Friday August 2, 2019 at 10:00am**

Conference Call Dial-in **(605) 313-5380**
Enter the access code: (b)(6) Personal Privacy

Thank you,

Tisha L. Williams
Administrative Assistant
(843) 717-3690

Jasper County Administrator's Office
Mr. Andrew P. Fulghum
358 Third Avenue
Ridgeland, South Carolina 29936

Jasper County is An Equal Opportunity Employer
TDD 843-726-7519
Special Accommodations Available Upon Request to Individuals with Disabilities

This email message contains confidential and/or privileged information that is intended solely for the addressee. If you have received this message in error, please notify us by return email, and delete it from your system. Reading, copying or disseminating this message is strictly prohibited.

Armstrong, Kathy

From: Garrard, Jordan
Sent: Thursday, August 08, 2019 2:22 PM
To: Huyser, Matthew; Franco, Benjamin
Subject: Able Contracting

Current ceiling for START TDD is $90,000. I don't know if it would all fall under Removal Action or Assessment, I don't know how management would classify the sampling that was completed. I have also drafted 2 polreps, which are awaiting mgmt approval.

Jordan

Armstrong, Kathy

From: Garrard, Jordan
Sent: Thursday, August 08, 2019 2:15 PM
To: Huyser, Matthew; Franco, Benjamin
Subject: Able Contracting Fire POCs

Site Attorney – Wilda Cobb

Owner (PRP) – Chandler Lloyd
Able Contracting, 472 Schinger Ave, Ridgeland, SC 29936
843-379-2344 – Office
843-384-2519 – Cell
Ablecontracting29936@gmail.com

Facility Manager – Norm Lamarche – 843-379-2344

Jay Stever (adjacent property owner, pond owner) – [redacted] (b)(6) Personal Privacy

Russell Wells – Deputy Fire Chief Jasper County, 843-263-1316, rwells@jaspercountysc.gov

Jared Stromer – Business Owner, Stromer plumbing (south of facility) – 843-368-8632, nstromer@gmail.com

Scott Reynolds – SCDECH (Air monitoring), 803-898-3305, reynolds@dhec.sc.gov

Keith Frost – Assistant Chief, Bureau of Air Quality, 803-465-1529, keith.frost@dhec.sc.gov

Myra Reece, SCDECH Director of Environmental Affairs, 803-667-1113, reecemc@dhec.sc.gov

Armstrong, Kathy

From: Garrard, Jordan
Sent: Thursday, August 08, 2019 1:39 PM
To: Huyser, Matthew
Subject: Able Contracting

FYI, Wilda is the site attorney, im a typing up a contact list for you.

Jordan

Armstrong, Kathy

From: Garrard, Jordan
Sent: Thursday, August 08, 2019 1:36 PM
To: Huyser, Matthew
Subject: FW: Data summary
Attachments: Draft_Summary Tables Able Contracting_round 2 added.pdf

From: Snyder, John <John.Snyder@tetratech.com>
Sent: Thursday, August 8, 2019 11:32 AM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Data summary

John Snyder, PG, PE | Environmental Engineer
Mobile **+1 (770) 402-9013** | john.snyder@tetratech.com

Tetra Tech | Complex World, Clear Solutions™ | **Tetra Tech** EMI
Raleigh, NC (Cary) | tetratech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Please consider the environment before printing. Read more

TETRA TECH

ABLE CONTRACTING FIRE
AIR SAMPLES
Summary of Detections
DATA HAS NOT BEEN QC'd - NOT FOR PUBLIC DISTRIBUTION

	EPA RMLs	BACKGROUND	STATION 1 (SE Corner)	STATION 2 (SW Corner)	STATION 1 (SE Corner)	STATION 2 (SW Corner)	STATION 1 (SE Corner)	STATION 2 (SW Corner)	STATION 1 (SE Corner)	STATION 2 (SW Corner)
		ACF-AS-BKGD-072819	ACF-AS-RES-AM-072719	ACF-AS-SMOKE-AM-072719	ACF-AS-RES-PM-072719	ACF-AS-SMOKE-PM-072719	ACF-AS-RES-AM-072819	ACF-AS-SMOKE-AM-072819	ACF-AS-RES-PM-072819	ACF-AS-SMOKE-PM-072819
		Sample Volume	*Sample Volume*	*Sample Volume*	*Sample Volume*	*Sample Volume*	*Sample Volume*	*Sample Volume*	*Sample Volume*	*Sample Volume*
		946.3 Liters	*767 Liters*	*896.6 Liters*	*965.3 Liters*	*913.3 Liters*	-	-	-	-
		None detected	None detected	None detected	None detected	None detected	*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*
		537.10 Liters	-	-	-	-	*473.90 Liters*	*603.90 Liters*	*542.50 Liters*	*550.50 Liters*
	0.94	[illegible]	*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*	[illegible]	[illegible]	[illegible]	[illegible]
		516.20 Liters	*410.60 Liters*	*411.80 Liters*	*541.50 Liters*	*549.50 Liters*	-	-	-	-
	22	**4.88**	**1.70**	**2.50**	**3.04**	**6.09**	*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*
		776.6 Liters	*672.6 Liters*	*657.5 Liters*	*744.8 Liters*	*784.6 Liters*	-	-	-	-
	16	**0.55**	**0.77**	**0.52**	**0.5**	**0.48**	*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*
	1.6	**0.11**	**0.13**	**0.25**	**0.13**	**0.11**				
	Not Listed	**52.7**	**0.54**	**55.1**	**48**	**41.3**				
	Not Listed	**0.73**	**0.89**	**0.9**	**1.1**	**0.75**				
	Not Listed	**0.93**	**1.3**	**0.87**	**0.81**	**0.86**				
	Not Listed	**9.6**	**11.2**	**11.5**	**10.4**	**8.5**				
	Not Listed	**12.7**	**15.8**	**16.5**	**14.7**	**12**				
unds (µg/m³)		-	-	-	-	-	-	-	-	-
	97,000	**12**	**8.66**	**7.51**	**10.5**	**16.1**	*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*
	190	**1.85**	**2.17**	**0.892**	**0.99**	**1.63**				
	0.063	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				
	4.1	0.159 U	0.159 U	0.158 U	0.163 U	0.202 U				
	36	**2.52**	**6.46**	**3.4**	**2.5**	**15.1**				
	16	0.275 U	0.276 U	0.274 U	0.282 U	0.277 U				
	6.3	**0.749**	**1.06**	**0.689**	**0.769**	**2.21**				
	2,200	**0.214**	**0.514**	**0.279**	**0.444**	**0.405**				
	47	**0.481**	**0.482**	**0.478**	**0.496**	**0.466**				
	160	0.339 U	0.34 U	0.338 U	0.348 U	0.342 U				
	31,000	0.19 U	0.191 U	0.19 U	0.195 U	**0.276**				
	280	**1.23**	**4.76**	**2.95**	**1.23**	**11.6**				
	3,100	**0.999**	**0.262**	0.25 U	**0.803**	0.253 U				
	56	**0.321**	**0.294**	0.26 U	0.267 U	**0.374**				
	Not Listed	**16.7**	**4.28**	**2.33**	**9.26**	**2.56**				
	220	0.259 U	0.261 U	0.259 U	0.266 U	0.262 U				
	110	**2.07**	**3.36**	**1.12**	**0.768**	**5.86**				
	Not Listed	**0.913**	0.355 U	0.354 U	0.363 U	0.357 U				
	Not Listed	**1.18**	**1.38**	**1.33**	**1.4**	**1.28**				
	Not Listed	**2.33**	**2.4**	**2.38**	**2.41**	**2.36**				
	Not Listed	**0.554**	**0.66**	**0.547**	**0.605**	**0.577**				
	1,300	**2.26**	**0.769**	**0.365**	**0.891**	**1**				
	2,200	**4.05**	**1.55**	**0.647**	**2.37**	**1.43**				
	630	**0.484**	**0.468**	**0.434**	**0.949**	**0.478**				
	Not Listed	0.357 U	**0.838**	**0.421**	0.366 U	**1.06**				
tanone)	16,000	**1.02**	**0.847**	**0.805**	**0.612**	**1.57**				
	9,400	0.302 U	**0.373**	0.302 U	0.31 U	0.305 U				
	2,200	0.304 U	0.305 U	0.303 U	0.312 U	**0.857**				
	1,100	0.264 U	0.265 U	0.264 U	**0.312**	0.267 U				
	1,900	**0.691**	**0.871**	**0.674**	**0.999**	**0.651**				
	8.3	**0.336**	0.39 U	0.388 U	0.398 U	**0.537**				
	Not Listed	**0.99**	**0.353**	0.334 U	0.343 U	**0.562**				
	3,100	**0.629**	0.359 U	0.357 U	0.367 U	0.361 U				
	9,400	**2.91**	**7.88**	**3.99**	**2.96**	**14.2**				
	3,100	**0.348**	**1.71**	**2.13**	**0.446**	**8.66**				
	1,100	0.489 U	0.491 U	0.489 U	**0.736**	0.494 U				
	6,300	0.213 U	**0.472**	**0.373**	0.218 U	**0.796**				
	16,000	**9.82**	**6.48**	**2.62**	**5.08**	**7.6**				
	190	**3.23**	**0.784**	**0.318**	**0.817**	**0.414**				
	190	**0.898**	0.354 U	0.352 U	0.362 U	0.356 U				
	Not Listed	**2.12**	**0.684**	0.342 U	**0.487**	0.346 U				
	310	**6.86**	**2.37**	**0.941**	**2.51**	**1.66**				
	310	**2.75**	**0.95**	**0.362**	**0.916**	**0.759**				
mpounds (µg/m³)		*439.4 Liters*	*486.2 Liters*	*562.5 Liters*	*421.4 Liters*	*438.3 Liters*	-	-	-	-
pounds		None detected	None detected	None detected	None detected	None detected	*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*

Notes:

ACF	Able Contracting Fire
EPA	Environmental Protection Agency
J	The identification of the analyte is acceptable; the reported value is an estimate
µg/m³	Micrograms per cubic meter
NA	Not Analysed
ND	Not Detected
RMLs	Removal Management Levels; Residential Ambient Air, April 2019. (Lower value of carcinogenic/noncarcinogenic listed; TR=1E-04/THQ+3.0)
U	The analyte was not detected at or above the reporting limit
UJ	The analyte was
BOLD	Bolded values
BOLD	Shaded and **bolded** values exceed the April 2019 Residential RMLs

ABLE CONTRACTING FIRE
AIR SAMPLES
Summary of Detections
DATA HAS NOT BEEN QC'd - NOT FOR PUBLIC DISTRIBUTION

RMLs	STATION 1 (SE Corner) ACF-AS-RES-24HRVOC	STATION 2 (West Side) ACF-AS-SMOKE-24HRVOC	STATION 3 (Upwind) ACF-AS-UPWIND-24HRVOC		STATION 1 (SE Corner) ACF-AS-RES-NIGHT	STATION 2 (West Side) ACF-AS-SMOKE-NIGHT	STATION 3 (Upwind) ACF-AS-UPWIND-NIGHT		STATION 1 (SE Corner) ACF-AS-RES-DAY	STATION 2 (West Side) ACF-AS-SMOKE-DAY	STATION 3 (Upwind) ACF-AS-UPWIND-DAY
	Sample Volume	*Sample Volume*	*Sample Volume*		*Sample Volume*	*Sample Volume*	*Sample Volume*		*Sample Volume*	*Sample Volume*	*Sample Volume*
	-	-	-		-	-	-		-	-	-
	Not sampled	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*	*Not sampled*
					623.80 Liters	*556.80 Liters*	*520.80 Liters*		*535.20 Liters*	*542.40 Liters*	*544.80 Liters*
).94	*Not sampled*	*Not sampled*	*Not sampled*		**0.652 J**	[illegible]	**0.501 J**		**0.277 J**	[illegible]	[illegible]
	-	-	-		-	-	-		-	-	-
22	*Not sampled*	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*	*Not sampled*
	-	-	-		-	-	-		-	-	-
16	*Not sampled*	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*	*Not sampled*
1.6											
Listed											
Listed											
Listed											
Listed											
Listed											
	-	-	-		-	-	-		-	-	-
7,000	**6.87**	**14.7**	**5.46**		*Not sampled*	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*	*Not sampled*
190	**1.17**	**3.64**	**0.893**								
.063	[illegible]	[illegible]	[illegible]								
4.1	1.53 U	**0.946**	0.155 U								
36	**2.00**	**26.2**	0.223 U								
16	0.26 U	**0.46**	0.268 U								
6.3	**0.195**	**2.35**	0.151								
,200	**0.448**	**0.736**	**0.262**								
47	**0.523**	**0.497**	**0.491**								
160	0.326 U	**0.748**	0.331 U								
1,000	0.183 U	**0.268**	0.186 U								
280	**3.53**	**13.8**	**2.09**								
,100	0.241 U	**0.319**	0.244 U								
56	0.251 U	**0.584**	0.254 U								
Listed	**2.62**	**3.26**	**1.21**								
220	**0.719**	0.251 U	0.253 U								
110	**1.33**	**8.00**	0.298 U								
Listed	0.341 U	0.342 U	0.346 U								
Listed	**1.42**	**1.41**	**1.39**								
Listed	**2.44**	**2.43**	**2.37**								
Listed	**0.591**	**0.613**	**0.584**								
,300	**0.478**	**1.51**	0.288 U								
,200	**0.849**	**1.71**	**0.28**								
630	**0.432**	**0.41**	**0.305**								
Listed	**0.466**	**1.92**	**0.355**								
5,000	**0.657**	**0.338**	**0.42**								
,400	0.286 U	0.292 U	0.295 U								
,200	0.292 U	**1.4**	0.297 U								
,100	0.254 U	**0.355**	0.258 U								
,900	**0.625**	**0.66**	**0.551**								
8.3	0.373 U	**1.02**	0.379 U								
Listed	0.322 U	**0.957**	0.327 U								
,100	0.344 U	**0.453**	0.349 U								
,400	**2.98**	**21.5**	**0.633**								
,100	**0.842**	**21.2**	0.29 U								
,100	0.471 U	0.473 U	0.478 U								
,300	**0.222**	**1.32**	0.208 U								
5,000	**2.26**	**11.8**	**0.657**								
190	0.336 U	**0.534**	0.341 U								
190	0.339 U	**0.535**	0.344 U								
Listed	**0.332 J**	0.331 U	0.334 U								
310	**0.673**	**2.07**	0.307 U								
310	**0.284**	**0.98**	0.303 U								
	-	-	-		-	-	-		-	-	-
	Not sampled	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*	*Not sampled*

Notes:

ACF	Able Contracting Fire
EPA	Environmental Protection Agency
J	The identification of the analyte is acceptable; the reported value is an estimate
µg/m³	Micrograms per cubic meter
NA	Not Analysed
ND	Not Detected
RMLs	Removal Management Levels; Residential Ambient Air, April 2019. (Lower value of carcinogenic/noncarcinogenic listed; TR=1E-04/THQ+3.0)
U	The analyte was not detected at or above the reporting limit
UJ	The analyte was
BOLD	Bolded values
BOLD	Shaded and bolded values exceed the April 2019 Residential RMLs

Armstrong, Kathy

From: Garrard, Jordan
Sent: Tuesday, July 30, 2019 10:10 AM
To: Kevin.Strohmeier@ky.gov; Huyser, Matthew
Cc: robert.francis@ky.gov; James.McCloud@ky.gov; Cann, Mac (EEC)
Subject: RE: ERNS REPORT FOR 07/26/2019 TO 07/29/2019

Kevin,

We conducted air monitoring for pm10, 2.5 and 1 using the DustTak particulate monitors. We also were using AreaRae Pros for VOCs, H2S, O2, LEL, and CO. We conducted air sampling using Gil air pumps, Air con high volume air samplers, and summa canisters. We has 2 sampling locations and each location required 3 air cons, 2 gil air pumps, and 1 summa to collect the samples. Each analysis required different flow rates and total air volumes, I can get that information for you. The biggest issue we had was getting the air sample media and summas to collect the sample. The labs typically don't keep air sampling media on hand since they expire. For instance formaldhyde and phosgene use chemical specific sorbent tubes instead of cassette filter samples.

Jordan

From: Strohmeier, Kevin (EEC) <kevin.strohmeier@ky.gov>
Sent: Tuesday, July 30, 2019 9:05 AM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Cc: robert.francis@ky.gov; James.McCloud@ky.gov; Cann, Mac (EEC) <mac.cann@ky.gov>
Subject: Fwd: ERNS REPORT FOR 07/26/2019 TO 07/29/2019

Matt and Jordan,

Could you provide a little more detail on the sampling and analysis mentioned in yesterday's ERNS report, please?

"On July 27 and 28, ambient air sampling was conducted at the Site close to the smoke plume, downwind near residences, and upwind. Air samples collected for eight hours through daytime and nighttime. The air samples will be sent off to an analytical laboratory to measure for Asbestos, VOCs, SVOCs, Formaldehyde, Phosgene, and Target Analyte List (TAL) Metals."

Regards,
Kevin

Kevin Strohmeier
502-682-4673

From: Huyser, Matthew [mailto:Huyser.Matthew@epa.gov]

Sent: Monday, July 29, 2019 8:4[illegible] AM

To: R4 ERNS Reports <R4_ERNS_Reports@epa.gov>; R4 ERNS Reports TN <R4_ERNS_Reports_TN@epa.gov>

Subject: ERNS REPORT FOR 07/26/2019 TO 07/29/2019

ERNS REPORT FOR 07/26/2019 TO 07/29/2019

Significant Incidents during this reporting period

NRC# 1253131 – Able Contracting Fire, Ridgeland, Jasper County, SC

Armstrong, Kathy

From: Garrard, Jordan
Sent: Friday, July 26, 2019 6:25 PM
To: Huyser, Matthew
Subject: FW: update summary tables
Attachments: Viper Summary report_AR and DustTrack_ABLE CONTRACTING_072619.pdf

From: Snyder, John <John.Snyder@tetratech.com>
Sent: Friday, July 26, 2019 9:19 AM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: update summary tables

John Snyder, PG, PE | Environmental Engineer
Mobile **+1 (770) 402-9013** | john.snyder@tetratech.com

Tetra Tech | Complex World, Clear Solutions™ | **Tetra Tech** EMI
Raleigh, NC (Cary) | tetratech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Please consider the environment before printing. Read more

TETRA TECH

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire**

From: **7/25/19 19:51** ***To:*** ***7/26/19 7:00***

Station 155

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	7,362	5,396	0 - 30,618 ppb	49.5 ppb	1,000 ppb
	CO	No	7,362	662	0 - 36 ppm	0.5 ppm	83 ppm
	H_2S	No	7,362	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	7,362	7,362	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	7,362	0	0 - 0%	0%	10%
DustTrak 1	PM-2.5	Moderate	11,564	11,564	2 - 652 µg/m³	13.8 µg/m³	See SOG #: T106

Station 156

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	6,209	315	0 - 1,349 ppb	7.4 ppb	1,000 ppb
	CO	No	6,209	2,943	0 - 41 ppm	5.1 ppm	83 ppm
	H_2S	No	6,209	202	0 - 2.3 ppm	0 ppm	0.5 ppm
	O_2	No	6,209	6,209	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	6,209	0	0 - 0 %	0%	10%
DustTrak 2	PM-2.5	Moderate	14,670	14,670	9 - 438 µg/m³	33.8 µg/m³	See SOG #: T106

Station 157

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	6,741	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	6,741	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	6,741	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,741	6,741	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	6,741	0	0 - 0%	0%	10%
DustTrak 3	PM-2.5	Moderate	8,281	8,281	11 - 216 µg/m³	23.3 µg/m³	See SOG #: T106

Command Post

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	6,476	15	0 - 698 ppb	0.4 ppb	1,000 ppb
	CO	No	6,476	26	0 - 10 ppm	0 ppm	83 ppm
	H_2S	No	6,476	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,476	6,476	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	6,476	0	0 - 0%	0%	10%

Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline levels for airborne chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

Armstrong, Kathy

From: Garrard, Jordan
Sent: Thursday, July 25, 2019 2:06 PM
To: Jessica Vickers
Cc: Huyser, Matthew; John Snyder
Subject: Re: Able Fire - air sampling methods

Let's do VOCs as well, let's plan on at least 2 rounds of sampling 4 locations per round

Jordan Garrard
On Scene Coordinator
EPA Region 4
Garrard.jordan@epa.gov
678-644-8648

On Jul 25, 2019, at 1:53 PM, Vickers, Jessica <jessica.vickers@tetratech.com> wrote:

Combining the analyses for Bishop Road Landfill and Bennett Landfill, I come up with the following list of analyses to request:

- VOCs (although I understand we may drop these)
- SVOCs
- Formaldehyde
- Phosgene
- Dioxins/Furans
- Metals (including mercury)
- Asbestos (TEM)
- PM2.5
- Particle size
- Total mass

Please let me know definitively about this list and whether we want to do VOCs, and I'll see about getting sample media sent out to the field.

Jessica A. Vickers | USEPA Region 4 START IV QA Manager/Senior Chemist
Direct. 678.775.3094 **note new phone number**
jessica.vickers@tetratech.com

Tetra Tech | *Complex World, Clear Solutions* ™
Tetra Tech EM Inc | www.tetratech.com | NASDAQ:TTEK
PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Think Green - Not every email needs to be printed

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Thursday, July 25, 2019 12:40 PM
To: Vickers, Jessica <jessica.vickers@tetratech.com>
Cc: Garrard, Jordan <garrard.jordan@epa.gov>
Subject: Able Fire - air sampling methods

⚠ **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠

Below is a list from Dave Mickunas on sampling methodology that would be beneficial.

- Primary focus should be on PAHs which are expected
- Formaldehyde method is also provided below
- Both Dave and SESD recommended considering phthalates, except the TO-13A method doesn't list phthalates so Dave is checking in with a laboratory in CA on phthalates and will respond to me in an hour about their response
- VOCs may still be beneficial for poly-vinyl chloride and benzene so measurement of VOCs shouldn't be completely dismissed
- Dioxins, pesticides, and PCBs are optional

Attached is a COC and report from Bennett Landfill sampling. These samples were taken over the smoke plume. Analyses in the COC is listed below and the report contains the method numbers

- VOCs
- PM2.5 mass
- Total metals
- Particle Size
- Formaldehyde
- Total Mass

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 1:27 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Air Methods

Good Afternoon,

https://www3.epa.gov/ttnamti1/files/ambient/airtox/tocomp99.pdf
VOCs - Method TO-15: Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography Mass Spectrometry (GC/MS)
VOCs - Method TO-17: Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes Compendium Method TO-13A
SVOCs - Method TO-13A: Determination of Polycyclic Aromatic Hydrocarbons (PAHs) in Ambient Air Using Gas Chromatographic/Mass Spectrometry (GC/MS)
Formaldehyde - Method TO-11A: Determination of Formaldehyde in Ambient Air Using Adsorbent Cartridge Followed by High Performance Liquid Chromatography (HPLC)
Pesticides and PCBs - Method TO-10A: Determination Of Pesticides And Polychlorinated Biphenyls In Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed By Gas Chromatographic/Multi-Detector Detention (GC/MD)

Dioxins - Method TO-9A- Determination of Polychlorinated, Polybrominated And Brominated/Chlorinated Dibenzo-p-Dioxins And Dibenzofurans In Ambient Air

PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5515.pdf
PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5506.pdf

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team
109 T.W. Alexander Drive
Mail Code E343-04
Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)
<image001.png>

Armstrong, Kathy

From: Garrard, Jordan
Sent: Thursday, July 25, 2019 11:09 AM
To: Corey CB. Brown
Cc: Otis Halsey; Harper, Greg; Eichinger, Kevin; Huyser, Matthew
Subject: Re: Ridgeland Fire response

5

Jordan Garrard
On Scene Coordinator
EPA Region 4
Garrard.jordan@epa.gov
678-644-8648

> On Jul 25, 2019, at 11:06 AM, Corey Brown <cbrown@bashaservices.com> wrote:
>
> How many AirCon 2 Units?
>
> Corey L. Brown
> Project Manager
> Basha Services, LLC
> Certified 8(a) Contractor
> 2999 Pacific Drive, Suite D
> Norcross, GA 30071
> Direct Office Line: 678-981-8776
> Office: 678-344-1161
> Fax: 678-344-1163
> Mobile: 404-889-2810
> Basha 24-Hour Hotline: 1-855-68-BASHA (1-855-682-2742)
> E-mail: cbrown@bashaservices.com
> Website: http://bashaservices.com
> Twitter: http://twitter.com/#!/Bashaservices
>
>
> -----Original Message-----
> From: Garrard, Jordan <Garrard.Jordan@epa.gov>
> Sent: Thursday, July 25, 2019 11:05 AM
> To: Corey Brown <cbrown@bashaservices.com>
> Cc: Otis Halsey <ohalsey@bashaservices.com>; harper.greg@epa.gov; eichinger.kevin@epa.gov; huyser.matthew@epa.gov
> Subject: Re: Ridgeland Fire response
>
> Kevin will pull the trailer. Matt has the location address, I don't have it.
>

> Jordan Garrard
> On Scene Coordinator
> EPA Region 4
> Garrard.jordan@epa.gov
> 678-644-8648
>
>
>> On Jul 25, 2019, at 11:04 AM, Corey Brown <cbrown@bashaservices.com> wrote:
>>
>> Jordan,
>>
>> Did you need us to mobilize the ER trailer for you?
>>
>> What is the Site Name and Location?
>>
>> Corey L. Brown
>> Project Manager
>> Basha Services, LLC
>> Certified 8(a) Contractor
>> 2999 Pacific Drive, Suite D
>> Norcross, GA 30071
>> Direct Office Line: 678-981-8776
>> Office: 678-344-1161
>> Fax: 678-344-1163
>> Mobile: 404-889-2810
>> Basha 24-Hour Hotline: 1-855-68-BASHA (1-855-682-2742)
>> E-mail: cbrown@bashaservices.com
>> Website: http://bashaservices.com
>> Twitter: http://twitter.com/#!/Bashaservices
>>
>>
>> -----Original Message-----
>> From: Garrard, Jordan <Garrard.Jordan@epa.gov>
>> Sent: Thursday, July 25, 2019 11:03 AM
>> To: Corey Brown <cbrown@bashaservices.com>; Otis Halsey <ohalsey@bashaservices.com>; harper.greg@epa.gov; eichinger.kevin@epa.gov; huyser.matthew@epa.gov
>> Subject: Ridgeland Fire response
>>
>>
>> Corey,
>>
>> I'm going to need the Er trailer, an arearae pro rDk, 3 dustraks, links and gateways for the dustraks, air con samplers and horiba.
>>
>> Jordan Garrard
>> On Scene Coordinator
>> EPA Region 4
>> Garrard.jordan@epa.gov

>> 678-644-8648
>>

Armstrong, Kathy

From: Garrard, Jordan
Sent: Thursday, July 25, 2019 11:05 AM
To: Corey CB. Brown
Cc: Otis Halsey; Harper, Greg; Eichinger, Kevin; Huyser, Matthew
Subject: Re: Ridgeland Fire response

Kevin will pull the trailer. Matt has the location address, I don't have it.

Jordan Garrard
On Scene Coordinator
EPA Region 4
Garrard.jordan@epa.gov
678-644-8648

> On Jul 25, 2019, at 11:04 AM, Corey Brown <cbrown@bashaservices.com> wrote:
>
> Jordan,
>
> Did you need us to mobilize the ER trailer for you?
>
> What is the Site Name and Location?
>
> Corey L. Brown
> Project Manager
> Basha Services, LLC
> Certified 8(a) Contractor
> 2999 Pacific Drive, Suite D
> Norcross, GA 30071
> Direct Office Line: 678-981-8776
> Office: 678-344-1161
> Fax: 678-344-1163
> Mobile: 404-889-2810
> Basha 24-Hour Hotline: 1-855-68-BASHA (1-855-682-2742)
> E-mail: cbrown@bashaservices.com
> Website: http://bashaservices.com
> Twitter: http://twitter.com/#!/Bashaservices
>
>
> -----Original Message-----
> From: Garrard, Jordan <Garrard.Jordan@epa.gov>
> Sent: Thursday, July 25, 2019 11:03 AM
> To: Corey Brown <cbrown@bashaservices.com>; Otis Halsey <ohalsey@bashaservices.com>; harper.greg@epa.gov; eichinger.kevin@epa.gov; huyser.matthew@epa.gov
> Subject: Ridgeland Fire response

>
>
> Corey,
>
> I'm going to need the Er trailer, an ırearae pro rDk, 3 dustraks, links and gateways for the dustraks, air con samplers and horiba.
>
> Jordan Garrard
> On Scene Coordinator
> EPA Region 4
> Garrard.jordan@epa.gov
> 678-644-8648
>

Armstrong, Kathy

From: Garrard, Jordan
Sent: Thursday, July 25, 2019 11:03 AM
To: Corey CB. Brown; ohalsey@bashaservices.com; Harper, Greg; Eichinger, Kevin; Huyser, Matthew
Subject: Ridgeland Fire response

Corey,

I'm going to need the Er trailer, an arearae pro rDk, 3 dustraks, links and gateways for the dustraks, air con samplers and horiba.

Jordan Garrard
On Scene Coordinator
EPA Region 4
Garrard.jordan@epa.gov
678-644-8648

Armstrong, Kathy

From: Huss, Eric <Eric.Huss@tetratech.com>
Sent: Wednesday, August 14, 2019 9:03 PM
To: Huyser, Matthew
Cc: chris.jones@tetratech.com; John Snyder
Subject: Viper summary report with charts for 08-14-19-DAY
Attachments: Viper Summary report_Able Fire_AR and DustTrack-20190814-DAY.pdf

Hi Matt,

Here is todays Viper Summary Report. Sorry for the delay but the MCP lost internet. I finally gave up and connected with my phone.

Thank you,
Eric

Eric Huss | Environmental Engineer

28 Hasty Point Rd.
Port Wentworth, GA 31407
Cell 610-348-6959

eric.huss@tetratech.com

Tetra Tech | Complex World, Clear Solutions™

www.tetratech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

From: Huss, Eric
Sent: Wednesday, August 14, 2019 12:28
To: Huyser, Matthew <huyser.matthew@epa.gov>
Cc: Jones, Chris <chris.jones@tetratech.com>; Snyder, John <John.Snyder@tetratech.com>
Subject: Re: Viper summary report with charts for 08-13-19-NIGHT-Rev.1

Matt,

Here is the revised Viper report with the EBAM and Grace Costal data in it. Now that the Report has been reformatted to report the EBAM data the report should be completed sooner in the future.

Thank you,
Eric

Eric Huss | Environmental Engineer
28 Hasty Point Rd.
Port Wentworth, GA 31407
Cell 610-348-6959
eric.huss@tetratech.com
Tetra Tech | Complex World, Clear Solutions™
www.tetratech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

From: Huss, Eric
Sent: Wednesday, August 14, 2019 09:33
To: Huyser, Matthew <huyser.matthew@epa.gov>
Cc: Jones, Chris <chris.jones@tetratech.com>; Snyder, John <John.Snyder@tetratech.com>
Subject: Re: Viper summary report with charts for 08-13-19-DAY

Hello Matt,

Here is partial report for last night. As I mentioned, I am working on reconfiguring report to include EBAM data and to import manually collected DustTrak data. I will submit a revised report once I have completed updates.

Thank you,
Eric

Eric Huss | Environmental Engineer
28 Hasty Point Rd.
Port Wentworth, GA 31407
Cell 610-348-6959
eric.huss@tetratech.com
Tetra Tech | Complex World, Clear Solutions™
www.tetratech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Tuesday, August 13, 2019 21:10
To: Huss, Eric <Eric.Huss@tetratech.com>
Cc: Jones, Chris <chris.jones@tetratech.com>; Snyder, John <John.Snyder@tetratech.com>
Subject: RE: Viper summary report with charts for 08-13-19-DAY

⚠ **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠

Looks good. Well done and thanks!

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Huss, Eric <Eric.Huss@tetratech.com>
Sent: Tuesday, August 13, 2019 7:53 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Cc: chris.jones@tetratech.com; John Snyder <john.snyder@tetratech.com>
Subject: Viper summary report with charts for 08-13-19-DAY

Hello Matt,

Here is the Viper summary report with tables for 08-13-19-DAY.

Thank you,
Eric

Eric Huss | Environmental Engineer
28 Hasty Point Rd.
Port Wentworth, GA 31407
Cell 610-348-6959
eric.huss@tetratech.com
Tetra Tech | Complex World, Clear Solutions™
www.tetratech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name:

From: **8/14/19** **7:00** ***To:*** ***8/14/19*** ***18:58***

SE Corner of Alida Construction

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	723	14	0 - 272 ppb	2 ppb	1,000 ppb
	CO	No	723	14	0 - 5 ppm	0.1 ppm	83 ppm
	H_2S	No	723	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	723	723	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	723	0	0 - 0%	0%	10%

Pressure Collection

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 1	PM-2.5	Moderate	2,164	2,164	11 - 54 μg/m³	23.9 μg/m³	See SOG #: T106

On Site, Immediately West of Pile

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	713	13	0 - 948 ppb	4.3 ppb	1,000 ppb
	CO	No	713	60	0 - 23 ppm	0.4 ppm	83 ppm
	H_2S	No	713	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	713	713	20.4 - 20.9%	20.6%	<19.5 or >23%
	LEL	No	713	0	0 - 0 %	0%	10%

Short Cut Road

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 2	PM-2.5	Moderate	2,026	1,842	0 - 287 μg/m³	18.5 μg/m³	See SOG #: T106

Alida Construction, Downwind, Thickness of Pile

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	717	2	0 - 176 ppb	0.3 ppb	1,000 ppb
	CO	No	717	4	0 - 16 ppm	0 ppm	83 ppm
	H_2S	No	717	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	717	717	20.5 - 20.9%	20.8%	<19.5 or >23%
	LEL	No	717	0	0 - 0%	0%	10%

Grace Coastal Church

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 3	PM-2.5	Moderate	545	545	10 - 83 μg/m³	23.3 μg/m³	See SOG #: T106

Pleasant Experiences

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	681	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	681	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	681	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	681	681	19.4 - 21.4%	20.5%	<19.5 or >23%
	LEL	No	681	0	0 - 0%	0%	10%

San Clay

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 1	PM-2.5	Moderate	591	414	0 - 192 μg/m³	19.1 μg/m³	See SOG #: T106

Bradley Hill Apartments

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 2	PM-2.5	Moderate	737	538	0 - 146 μg/m³	20.6 μg/m³	See SOG #: T106

EPA Mobile Command Post

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 3	PM-2.5	Moderate	521	373	0 - 200 μg/m³	27 μg/m³	See SOG #: T106

Notes:

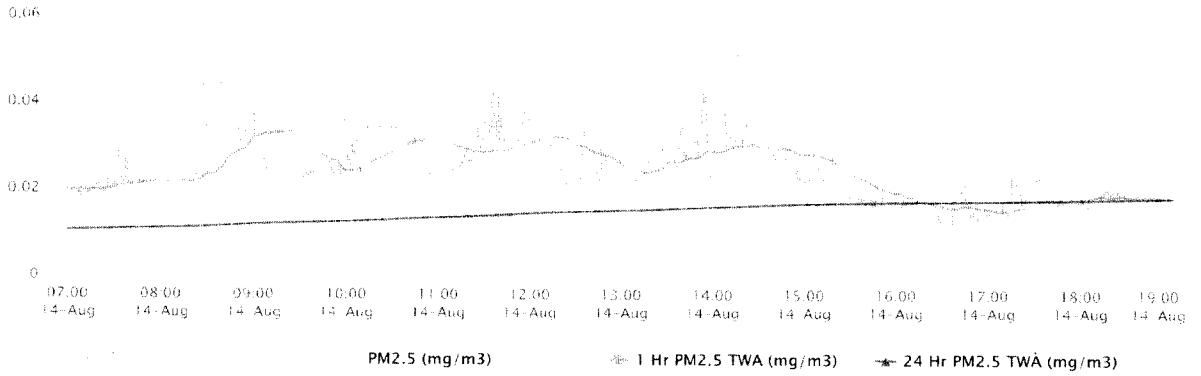
%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline levels for airborne chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
μg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

Threshold Values and Air Quality Index Categories for PM2.5

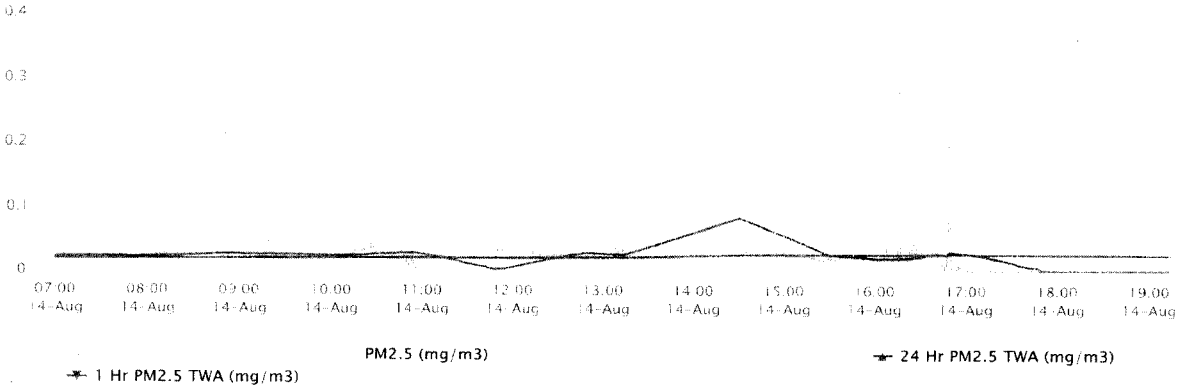
Level of Health Concern	Particulate Matter ≤2.5 microns measured in µg/m3		Interpretation
	1 hour average	24 hour average	
Good	0.0-40.0	0.0-12.0	Air quality is considered satisfactory, and air pollution poses little or no risk
Moderate	**40.1-80.0**	**12.1-35.4**	**Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.**
Unhealthy for Sensitive groups	80.1-175.0	35.5-55.4	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	175.1-300.0	55.5-150.4	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	300.1-500.0	150.5-250.4	Health warnings of emergency conditions. The entire population is more likely to be affected.
Hazardous	>500.0	>250.5	Health alert: everyone may experience more serious health effects

- Threshold values taken from original EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc for PM2.5 (24 hour) and Idaho Department of Environmental Quality AQI for PM2.5 (1 hour) taken from http://app.airsis.com/usfs/aqi.asp.
- Recommendations are from the EPA Air Now web site.
- People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
- Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air.

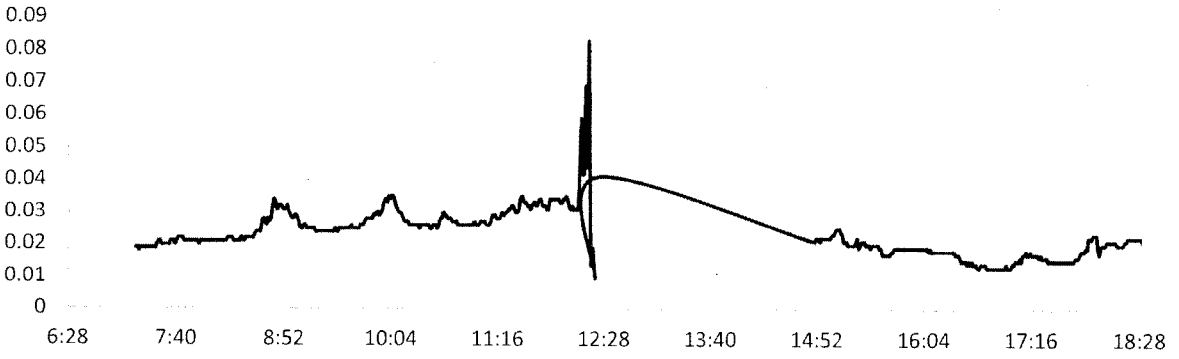
8/14/19 DAY Data for DustTrak 1 ($PM_{2.5}$) - Peacock Collision



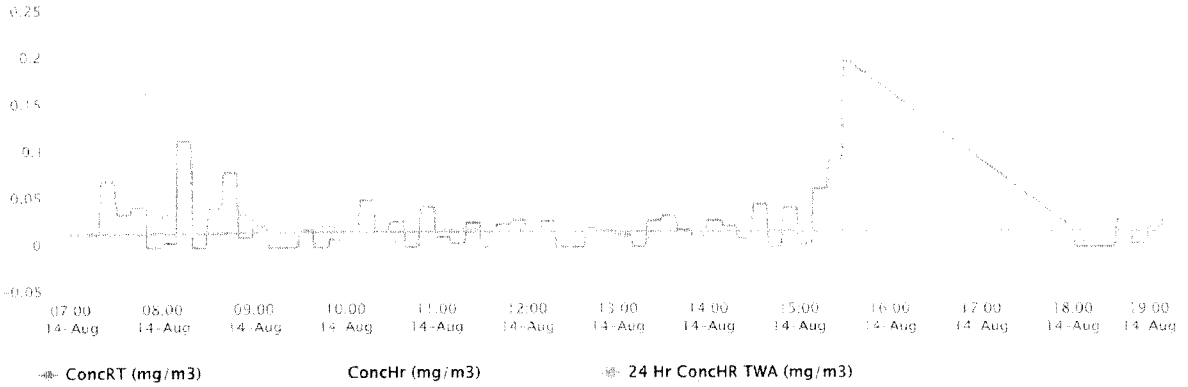
8/14/19 DAY Data for DustTrak 2 ($PM_{2.5}$) – Short Cut Road



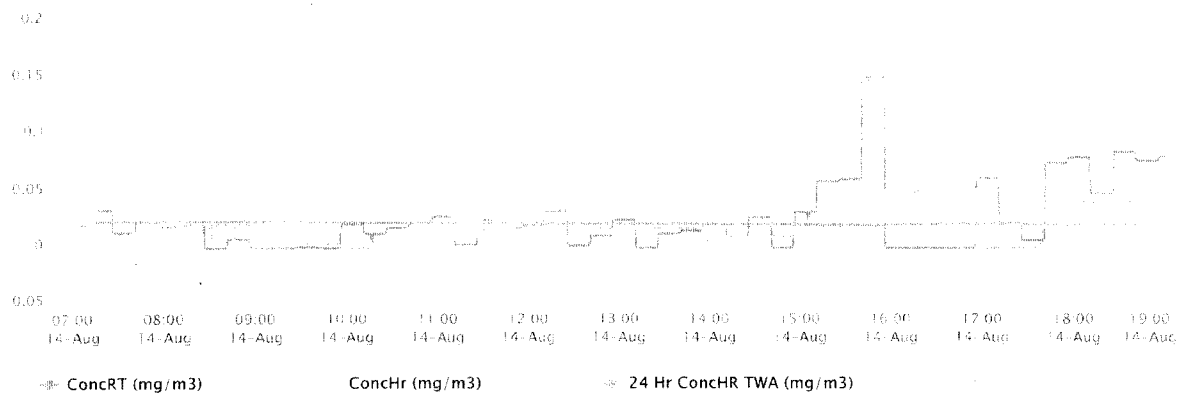
8/14/19 DAY Data for DustTrak 3 ($PM_{2.5}$) – Grace Costal Church



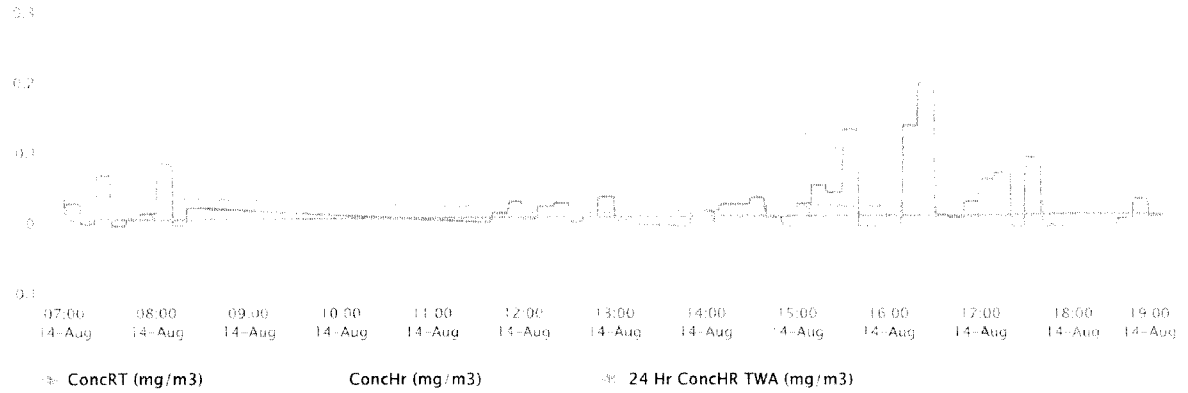
8/14/19 DAY Data for EBAM 1 (ConcRT) – Sun City



8/14/19 DAY Data for EBAM 2 (ConcRT) – Brooke Mill Apartments



8/14/19 DAY Data for EBAM 3 (ConcRT) – EPA Mobile Command Post



Armstrong, Kathy

From: Huss, Eric <Eric.Huss@tetratech.com>
Sent: Wednesday, August 14, 2019 4:56 PM
To: Huyser, Matthew
Subject: Fw: Able Contracting Debris Pile Fire HASP
Attachments: Able Contracting Debris Pile Fire_HASP_Draper_Approved_07252019.pdf; Able Contracting Debris Pile Fire_HASP_Draper.doc

Here is our original HASP.

Thank you,
Eric

Eric Huss | Environmental Engineer

28 Hasty Point Rd.
Port Wentworth, GA 31407
Cell 610-348-6959

eric.huss@tetratech.com

Tetra Tech | Complex World, Clear Solutions™

www.tetratech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

From: Draper, Chris <chris.draper@tetratech.com>
Sent: Thursday, July 25, 2019 12:33
To: Snyder, John <John.Snyder@tetratech.com>; Huss, Eric <Eric.Huss@tetratech.com>; Williams, Josiah <Josiah.Williams@tetratech.com>
Cc: Reed, Angel <Angel.Reed@tetratech.com>
Subject: Able Contracting Debris Pile Fire HASP

Travel safely, team! Call as needed.

Chris Draper | Safety Manager
Direct: **+1 (615) 969-1334** | chris.draper@tetratech.com

Tetra Tech | Complex World, Clear Solutions™
tetratech.com | NASDAQ:TTEK

Please consider the environment b fore printing. Read More.

This message, including any attachments, may include privileg d, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and ma be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

TETRA TECH

LEVEL 2 HEALTH AND SAFETY PLAN

Site Name: Able Contracting Material Recovery Center Fire	**Site Contact:** John Snyder	**Telephone:** 770-402-9013
Location: 472 Schinger Ave, Ridgeland, South Carolina 29936	**Client Contact:** Jordan Garrard	**Telephone:** 678-644-8648
EPA ID No. NA	**Prepared By:** Chris Draper	**Date Prepared:** 07/25/2019
Project No. TBD	**Dates of Activities:** 07/25/2019 thru unknown date	**Emergency Response** ☒ Yes ☐ No

Objectives:

- Conduct air monitoring
- Collect air, water, and soil samples as necessary
- Provide support as necessary

Site Type: *Check as many as applicable.*

☒ Active	☒ Landfill	☐ Inner-City
☐ Inactive	☐ Railroad	☐ Rural
☒ Secured	☐ Residential	☐ Remote
☐ Unsecured	☐ Industrial	☐ Other (*specify*)

Project Scope of Work and Site Background

Okatie, S.C.-based Able Contracting Inc., a recycling business classified by the state as a "recovered material processing facility," is home to a nearly 90-foot trash pile made of wood, cardboard, plastic and other construction debris. The pile has been intermittently smoldering and is alleged to contain asbestos.

Tetra Tech has been tasked to conduct emergency response activities to ensure the protection of human health and the environment, including but not limited to air monitoring, written and photo documentation of emergency response activities, and possibly sampling.

Health and Safety Approver Comments or Additional Instructions: See attached Asbestos ATSDR ToxFacts and Particulate Guide.

Always use the buddy system when conducting reconnaissance and monitoring. Stay clear and in visual contact with heavy equipment operators. Always use the buddy system when conducting reconnaissance and monitoring. Stay clear and in visual contact with heavy equipment operators.

The level D, C, B VOC action levels (in ppm) for benzene that has been confirmed by UltraRAE or colorimetric tube are: 0 – 1.0; >1.0 – 200; and > 200, for level D, C & B, respectively. For unknown (benzene is NOT detected) level D, C, B VOC action levels (in ppm) are: 0 – 5 ppm; >5 – 50; and >50, respectively.

Avoid low-lying areas and places where vapors could accumulate and NEVER without air monitoring. Evacuate the area immediately at 10% LEL and 1.0 ppm VOCs.

Personal floatation devices are required within 15' of water over 3' deep or that is swiftly moving. EPA particulate guide included. Type 2 personal floatation device required when within 15 feet of water that is greater than 3 feet deep or that is swiftly moving. Type II or better PFDs are required within 15' of water that is >3' deep or that is swiftly moving.

Health and Safety Plan Approver Signature: Chris Draper

Date: ***APPROVED***
By Chris Draper at 12:31 pm, Jul 25, 2019

Note: A minimum of two persons with appropriate training and medical surveillance must be on site for any fieldwork subject to Level 2 HASP requirements.
Note: A detailed site sketch or figure may be included on Page 10 of 12.

Initial Isolation and Protective Action Distances (for emergency response operations only): Follow local response agency implemented evacuation and work zone limits

Establishment of Work Zones; including exclusion, contamination reduction, and support zones; is required for ALL HAZWOPER projects. . For heavy equipment (i.e. drilling operations), exclusions zone will established around each equipment or drilling location based on site conditions and or noise levels (DCN 2-04, Hearing Conservation Program) at drilling operations (i.e. a circular exclusion zone based on noise levels >85 dbA from the drill rig or a minimum of 20 feet around the rig, whichever is greater). Or zones will be delineated using cones, barrier tape or similar visual indicators.

Wind Speed and Direction (Approach from upwind)		Temperature (°F)	Relative Humidity (%)	Probability of Precipitation (%)	Weather Forecast (such as partly cloudy, snow, etc.)
Speed (mph): 0-2	**From Direction:** N	37 Low – 64 High	45	0	Sunny

On-Site Supplies: ☒ First Aid Kit ☒ Fire Extinguisher ☐ Air Horn ☐ Oral Thermometer ☐ Noise Dosimeter

Known or Anticipated Site Hazards or Concerns: (Hazards covered by existing Safe Work Practices are listed on the next page)

☐ Railroad Right-of-Way (stay >50 ft from centerline)	☒ Overhead utilities	☐ Energized electrical systems
☐ Onsite laboratory	☒ Buried Utilities	☒ Portable hand tool use
☒ Explosion or fire hazard	☐ Surface or underground storage tanks	☐ Portable electrical tool use
☒ Oxygen deficiency	☒ General slips, trips, falls	☐ Machine guarding
☐ Unknown or poorly characterized chemical hazards	☒ Uneven, muddy, rugged terrain	☐ Portable fire extinguisher use
☒ Inorganic chemicals	☐ Lift (man lift, cherry picker) use	☐ Driving commercial vehicles
☒ Organic chemicals	☐ Industrial truck (forklift) use	☐ Driving personal vehicles
☐ Chemical warfare materiel	☐ Wood or metal ladder use	☐ Scientific diving operations
☐ Compressed Gas Cylinders	☐ Dangerous goods shipped by air	☐ Injury and Illness Prevention Program (California only)
☒ Asbestos	☐ Elevated work (over 6' high)	☐ Ergonomics (California only)
☒ Respirable particulates	☒ Heavy equipment use or operation	☐ Work in strip or shaft mines
☐ Respirable silica	☐ Construction work	☐ Client-specific safety requirements (attach to HASP)
☐ Blasting and explosives	☐ Excavation or trenching	☐ ATV use
☐ Non-ionizing radiation (lasers, radiofrequencies, UV)	☐ Benching, shoring, bracing	☐ Methamphetamine lab
☐ Ionizing radiation (alpha, beta, gamma, etc.)	☐ Scaffold use	☒ Working over or near water
☒ Heat stress	☒ High noise	☐ Mold
☐ Cold stress	☐ Grinding operations	☒ Biological hazards

Explosion or Fire Potential: ☒ High ☐ Medium ☐ Low ☐ Unknown

Chemical Products Tetra Tech EM Inc. Will Use or Store On Site: (Attach a Material Safety Data Sheet [MSDS] for each item.)

- ☒ Alconox or Liquinox
- ☒ Hydrochloric acid (HCl)
- ☒ Nitric acid (HNO_3)
- ☐ Sodium hydroxide (NaOH)
- ☒ Calibration gas (Methane)
- ☒ Calibration gas (Isobutylene)
- ☐ Calibration gas (Pentane)
- ☒ Calibration gas (4-gas mixture)
- ☒ Hydrogen gas
- ☐ Household bleach (NaOCl)
- ☐ Sulfuric acid (H_2SO_4)
- ☐ Hexane
- ☐ Isopropyl alcohol
- ☒ HazCat Kit
- ☐ Mark I Kits (*number?*) _____
- ☒ Potable water (eyewash/drench)

WARNING: Eyewash solution shall be readily available on ALL projects where corrosives (acids or bases) are used, including sample preservatives

Applicable Safety Programs and Safe Work Practices (SWP). Attach to HASP:

- ☐ DCN 4-03 Demolition and Decontamination
- ☐ DCN 4-05 Trenching and Excavation Safety
- ☐ DCN 4-08 Asbestos Protection Program
- ☐ DCN 4-09 Haulage and Earth Moving
- ☐ DCN 4-10 Lead Protection Program
- ☒ SWP DCN 5-01 General Safe Work Practices
- ☒ SWP DCN 5-02 General Safe Work Practices HAZWOPER
- ☐ SWP DCN 5-03 Safe Work Practices for Office Employees
- ☐ SWP DCN 5-04 Safe Drilling Practices
- ☐ SWP DCN 5-05 Safe Direct Push (GeoProbe) Practices
- ☐ SWP DCN 5-06 Working Over or Near Water
- ☒ SWP DCN 5-07 Use of Heavy Equipment
- ☐ SWP DCN 5-08 Special Site Hazards (Firearms, Remote Sites, Mines, aircraft, etc.)
- ☐ SWP DCN 5-09 Safe Electrical Work Practices
- ☐ SWP DCN 5-10 Fall Protection Practices
- ☐ SWP DCN 5-11 Portable Ladder Safety
- ☐ SWP DCN 5-12 Drum and Container Handling Practices
- ☒ SWP DCN 5-13 Flammable Hazards and Ignition Sources
- ☒ SWP DCN 5-14 Spill and Discharge Control Practices
- ☒ SWP DCN 5-15 Heat Stress
- ☐ SWP DCN 5-16 Cold Stress
- ☒ SWP DCN 5-17 Biohazards
- ☒ SWP DCN 5-19 Safe Lifting Procedures
- ☐ SWP DCN 5-22 Hydrographic Data Collection
- ☐ SWP DCN 5-23 Permit-Required Confined Space Entry Practices
- ☐ SWP DCN 5-24 Non-Permit-Required Confined Space Entry Practices
- ☒ SWP DCN 5-26 Prevention of Sun Exposure
- ☒ SWP DCN 5-27 Respirator Cleaning Practices
- ☒ SWP DCN 5-28 Safe Use Practices for Use of Respirators
- ☒ SWP DCN 5-47 Spill Prevention and Clean-Up
- ☒ SWP DCN 5-51 Hand Tools
- ☐ SWP DCN 5-30 Laboratory Soil Testing Safe Work Practices

Tasks Performed At Job Site that are <u>NOT</u> Covered by SWPs

NOTE: Many AHA's can be found on the Health & Safety intranet site at: http://home.ttemi.com/C18/Activity%20Hazard%20Analysis%20Document/default.aspx

Attach Activity Hazard Analysis (AHA) for each non-covered task

- ☒ Site Documentation – Observation of Excavation Operations Near Heavy Equipment (see end of document)
- ☒ AreaRAE & Viper Linc Battery Change Out
- ☒ Air Sampling for Asbestos. Including ABS, personal, and clearance
- ☒ Soil Sampling (Augering)

Tetra Tech Employee Training and Medical Requirements:

Basic Training and Medical

- ☒ Initial 40 Hour Training
- ☒ 8-Hour Supervisor Training (one-time)
- ☒ Current 8-Hour Refresher Training
- ☒ Current Medical Clearance (including respirator use)
- ☒ Current First Aid Training
- ☒ Current CPR Training
- ☒ Current Respirator Fit-Test

Other Specific Training and Medical Surveillance Requirements

- ☐ Confined Space Training
- ☐ Level A Training
- ☐ Radiation Training
- ☐ OSHA 10-hour Construction Safety Training
- ☐ OSHA 30-hour Construction Safety Training
- ☒ Asbestos Awareness Training
- ☐ Asbestos B-Reader X-Ray
- ☐ Blood Lead Level and ZPP Pre, during and Post-Project
- ☐ Urinary Arsenic Level Pre and Post-Project
- ☐ Other _____
- ☐ Other _____

Materials Present or Suspected at Site	Highest Observed Concentration (specify units and sample medium)	Exposure Limit (specify ppm or mg/m³)	IDLH Level (specify ppm or mg/m³)	Primary Hazards of the Material (explosive, flammable, corrosive, toxic, volatile, radioactive, biohazard, oxidizer, or other)	Symptoms and Effects of Acute Exposure	Photoionization Potential (eV)
Particulates		Good (8-hr avg): 0-22 ug/m3 Moderate (8-hr avg): 23-50 ug/m3 Unhealthy,sensitive grps (8-hr avg): 51-79 ug/m3				
Asbestos	Unknown	PEL/REL/TVL = 0.1 fibers per cubic cm; >5 micrometers in length NOTE: 1.0 fiber per cubic cm for 30-minute excursion level [Skin] Hazard ☒	CARC	CARC	Asbestosis (chronic exposure), dyspnea, interstitial fibrosis, restricted pulmonary function, finger clubbing, irritation eyes, CARC	N/A
Hydrogen Sulfide	Unknown	PEL = C 20 ppm 50 ppm [10-minute maximum peak] REL = C 10 ppm (15 mg/m3) [10-minute]	100 ppm	Toxic; Colorless gas with a strong odor of rotten eggs.	irritation eyes, respiratory system; apnea, coma, convulsions; conjunctivitis, eye pain, lacrimation (discharge of tears), photophobia (abnormal visual intolerance to light), corneal vesiculation; dizziness, headache, lassitude (weakness, exhaustion), irritability, insomnia; gastrointestinal disturbance; liquid: frostbite	10.46
Phosgene	Unknown	PEL = 0.1 mg/m3 REL = 0.1 mg/m3	2 ppm	Toxic	Irritation eyes; dry burning throat; vomiting ; cough, foamy sputum, breathing difficulty, chest pain, cyanosis; liquid: frostbite	11.55
Carbon Monoxide	Unknown	PEL = 50 ppm REL = 35 ppm (30-min)	1,200 ppm	Toxic	Headache, tachypnea, nausea, lassitude, dizziness, confusion, hallucinations; cyanosis; depressed S-T segment of electrocardiogram, angina, cyncope	14.01
Hydrogen Chloride	Unknown	PEL = 5 ppm (C) REL = 5 ppm (C)	50 ppm	Toxic, corrosive	Irritation nose, throat, larynx; cough, choking; dermatitis; solution: eye, skin burns; liquid: frostbite; in animals: laryngeal spasm; pulmonary edema	12.74
Styrene	Unknown	PEL = 100 ppm REL = 50 ppm (ST 100)	700 ppm	Toxic	Irrigation eyes, nose, respiratory system; headache, lassitude, dizziness, confusion, malaise (vague feeling of discomfort), drowsiness, unsteady gait; narcosis; defatting dermatitis; possible liver injury; reproductive effects	8.4
Specify Information Sources: NIOSH Pocket Guide to Hazardous Chemicals, July 2016						

Note: In the Exposure Limit column, include Ceiling (C) and Short-Term Exposure Limits (STEL) if they are available. Also, use the following short forms and abbreviations to complete the table above.

IDLH = Immediately dangerous to life or health
mg/m³ = Milligram per cubic meter
NA = Not available

PEL = Permissible exposure limit
ppm = Part per million
REL = Recommended exposure limit
TLV = Threshold limit value
ug/m3 = microgram per cubic meter

Note: If no contingency level of protection is selected, all employees covered under this plan must evacuate the immediate site area if air contaminant levels require upgrading PPE. Level A field work requires a Level 3 HASP. This information is available on the chemical hazards page of this HASP.

Field Activities Covered Under this HASP:

Task Description	Level of Protection[1] Primary	Level of Protection[1] Contingency	Date of Activities
1 Conduct air monitoring	☐ A ☐ B ☐ C ☒ D	☐ A ☐ B ☒ C ☐ D	Begin 07/25/2019
2 Collect samples (soil and/or sediment – see separate AHAs), if necessary	☐ A ☐ B ☐ C ☒ D	☐ A ☐ B ☒ C ☐ D	Begin 07/25/2019
3 Site entry	☐ A ☐ B ☐ C ☒ D	☐ A ☐ B ☒ C ☐ D	Begin 07/25/2019
4	☐ A ☐ B ☐ C ☐ D	☐ A ☐ B ☐ C ☐ D	

Site Personnel and Responsibilities (include subcontractors):

Employee Name and Office Code / Location	Task(s)	Responsibilities
John Snyder	1, 2, 3	• Project Manager: Manages the overall project, makes site safety coordinator (SSC) aware of pertinent project developments and plans, and maintains communications with client as necessary. Additionally, for projects lasting longer than one consecutive week on-site, the PM is responsible for conducting one field audit using Form AF-1.
John Snyder	1, 2, 3	• Field Team Leader: Directs field activities, makes site safety coordinator (SSC) aware of pertinent project developments and plans, and maintains communications with the Project Manager and the client as necessary
John Snyder	1, 2, 3	• Site Safety Coordinator (SSC): Ensures that appropriate personal protective equipment (PPE) is available, enforces proper use of PPE by on-site personnel and subcontractors; suspends investigative work if personnel are or may be exposed to an immediate health hazard; implements and enforces the HASP; identifies and controls site hazards when possible; communicates site hazards to all personnel; and reports any deviations observed from anticipated conditions described in the health and safety plan to the health and safety representative.
Eric Huss	1, 2,3	• Alternate Site Safety Coordinator (if any)
Josiah Williams	1, 2, 3	• Field Personnel: Completes tasks as directed by the project manager, field team leader, and SSC, and follows the HASP and all SWPs and guidelines established in the Tetra Tech, Inc., Health and Safety Manual. • Tetra Tech-hired subcontractor personnel on site (a subcontract SSC MUST be identified by name): Completes tasks as outlined in the project scope of work in accordance with the contract. Participates in all Tetra Tech on-site safety meetings and follows all procedures and guidelines established in this HASP, as well as the company health and safety plan and program.

Note. See next page for details on levels of protection

NOTE: Contingency level of protection section should be completed only if the upgraded level of protection is immediately available at the job site. If no contingency level of protection is denoted, all employees covered under this HASP must evacuate the immediate site area if air contaminant levels would require an upgrade of PPE.

Protective Equipment: (Indicate type or material as necessary for each task.)

Task	Primary Level of Protection (A,B,C,D)	PPE Component Description (Primary)	Contingency Level of Protection (A, B, C, D)	PPE Component Description (Contingency)
1	D	Respirator type: NA Cartridge type (if applicable): NA CPC material: NA Glove material(s): Nitrile (if needed) Boot material: Steel-toed Other: hard hat, safety glasses, safety vest, hearing protection as needed near heavy equipment or loud operations	C	Respirator type: SCOTT AV3000 Cartridge type (if applicable): P100 multi CPC material: Tyvek Glove material(s): Nitrile Boot material: Butyl Rubber over leather steel-toed Other: Hard hat, safety vest
2	D	Respirator type: NA Cartridge type (if applicable): NA CPC material: NA Glove material(s): Nitrile (if needed) Boot material: Steel-toed Other: hard hat, safety glasses, safety vest, hearing protection as needed near heavy equipment or loud operations	C	Respirator type: SCOTT AV3000 Cartridge type (if applicable): P100 multi CPC material: Tyvek Glove material(s): Nitrile Boot material: Butyl Rubber over leather steel-toed Other: Hard hat, safety vest
3	D	Respirator type: NA Cartridge type (if applicable): NA CPC material: NA Glove material(s): Nitrile (if needed) Boot material: Steel-toed Other: hard hat, safety glasses, safety vest, hearing protection as needed near heavy equipment or loud operations	C	Respirator type: SCOTT AV3000 Cartridge type (if applicable): P100 multi CPC material: Tyvek Glove material(s): Nitrile Boot material: Butyl Rubber over leather steel-toed Other: Hard hat, safety vest
4		Respirator type: Cartridge type (if applicable): CPC material: Glove material(s): Boot material: Other:		Respirator type: Cartridge type (if applicable): CPC material: Glove material(s): Boot material: Other:
5		Respirator type: Cartridge type (if applicable): CPC material: Glove material(s): Boot material: Other:		Respirator type: Cartridge type (if applicable): CPC material: Glove material(s): Boot material: Other:

Respirator Notes:
Respirator cartridges may only be used for a maximum time of 8 hours or one work shift, whichever is less, and must be discarded at that time. For job sites with organic vapors, respirator cartridges may be used as described in this note as long as the concentration is less than 200 parts per million (ppm), the boiling point is greater than 70 °Celsius, and the relative humidity is less than 85 percent. If any of these levels are exceeded, a site-specific respirator cartridge change-out schedule must be developed and included in the HASP using Tetra Tech Form RP-2 (Respiratory Hazard Assessment Form)

Notes:
All levels of protection must include eye, head, and foot protection.
CPC = Chemical protective clothing
Thermoluminescent Dosimeter (TLD) Badges must be worn during all field activities on sites with radiation hazards. TLDs must be worn under CPC.

Monitoring Equipment: All monitoring equipment on site must be calibrated before and after each use and results recorded in the site logbook

Instrument (Check all required)	Task	Instrument Reading	Action Guideline	Comments
☒ Combustible gas indicator model:	☒ 1	0 to 10% LEL	Monitor; evacuate if confined space	
	☐ 2			
	☒ 3	10 to 25% LEL	Potential explosion hazard; notify SSC	
	☐ 4			
	☐ 5	>25% LEL	Explosion hazard; interrupt task; evacuate site; notify SSC	
☒ Oxygen meter model:	☒ 1	>23.5% Oxygen	Potential fire hazard; evacuate site	
	☐ 2			
	☒ 3	23.5 to 19.5% Oxygen	Oxygen level normal	
	☐ 4			
	☐ 5	<19.5% Oxygen	Oxygen deficiency; interrupt task; evacuate site; notify SSC	
☐ Radiation survey meter model:	☒ 1	Normal background	Proceed	Annual exposure not to exceed 1,250 mrem per quarter Background reading must be taken in an area known to be free of radiation sources.
	☐ 2			
	☒ 3	Two to three times background	Notify SSC	
	☐ 4			
	☐ 5	>Three times background	Radiological hazard; interrupt task; evacuate site; notify RSO	
☒ Photoionization detector model: ☐ 11.7 eV ☒ 10.6 eV ☐ 10.2 eV ☐ 9.8 eV ☐ Other (specify): _____	☒ 1	Any response above background to 5 ppm above background	Level B is recommended Level C[a] may be acceptable	These action levels are for unknown gases or vapors. After the contaminants are identified, action levels should be based on the specific contaminants involved.
	☐ 2			
	☒ 3	> 5 to 500 ppm above background	Level B	
	☐ 4			
	☐ 5	> 500 ppm above background	Level A	
☐ Flame ionization detector model:	☒ 1	Any response above background to 5 ppm above background	Level B is recommended Level C[a] may be acceptable	These action levels are for unknown gases or vapors. After the contaminants are identified, action levels should be based on the specific contaminants involved.
	☐ 2			
	☒ 3	>5 to 500 ppm above background	Level B	
	☐ 4			
	☐ 5	>500 above background	Level A	
☒ Detector tube models: Styrene	☒ 1	Specify: < 2 the PEL > 2 the PEL	Specify: Remove from area. Upgrade respiratory protection to B	The action level for upgrading the level of protection is one-half of the contaminant=s PEL. If the PEL is reached, evacuate the site and notify a safety specialist
	☐ 2			
	☒ 3			
	☐ 4			
	☐ 5			
☒ Single Point Monitor	☒ 1	Specify: Phosgene	Specify: Remove from area. Upgrade Respiratory protection to C	
	☐ 2			
	☐ 3			
	☐ 4			
	☐ 5			

Notes:
eV= electron volt LEL=Lower explosive limit mrem=Millirem PEL=Permissible exposure limit ppm=Part per million
a. Level B is required when chemical hazards are present, but are uncharacterized. Level C may be acceptable for certain tasks in some situations. If you are uncertain, consult your RSO.

Project-Specific Industrial Hygiene Requirements

OSHA-Regulated Chemicals*:

Check any present on the job site in any medium (air, water, soil)

- ☐ No chemicals below are located on the job site
- ☐ Friable Asbestos
- ☐ Silica, crystalline
- ☐ alpha-Napthylamine
- ☐ Methyl chloromethyl ether
- ☐ 3,3'-Dichlorobenzidine (and its salts)
- ☐ bis-Chloromethyl ether
- ☐ beta-Napthylamine
- ☐ Benzidine
- ☐ 4-Aminodiphenyl
- ☐ Ethyleneimine
- ☐ beta-Propiolactone
- ☐ 2-Acetylaminoflourene
- ☐ 4-Dimethylaminoazobenzene
- ☐ N-nitrosomethylamine
- ☒ Vinyl chloride
- ☐ Inorganic arsenic
- ☐ Lead
- ☐ Chromium (VI)
- ☐ Cadmium
- ☐ Benzene
- ☐ Coke oven emissions
- ☐ 1,2-Dibromo-3-chloropropane
- ☐ Acrylonitrile
- ☐ Ethylene oxide
- ☐ Formaldehyde
- ☐ Methylenedianiline
- ☐ 1,3-Butadiene
- ☐ Methylene chloride

* NOTE: Many states, including California and New Jersey, have chemical-specific worker protection requirements and standards for many chemicals and known or suspected carcinogens.

Emergency Contacts:	**Telephone No.**
WorkCare and Incident Intervention	888.449.7787, or 800.455.6155
Tetra Tech EMI 24-hour Anonymous Hazard Reporting Line	866.383.8070
U.S. Coast Guard National Response Center	800.424.8802
InfoTrac	800.535.5053
Poison Control	800.222.1222
Fire department	911
Police department	911

Personnel Call-Down List:

Job Title or Position:	**Name**	**Cell Phone:**
Regional Safety Officer	Chris Draper	615.969.1334
Project Manager:	John Snyder	770-402-9013
Field Team Leader:	John Snyder	770-402-9013
Site Safety Coordinator (SSC):	John Snyder	770-402-9013
Subcontractor SSC:	NA	

Medical and Site Emergencies:

Signal a site or medical emergency with three blasts of a loud horn (car horn, fog horn, or similar device). Site personnel should evacuate to the area of safe refuge designated on the site map.

Hospital Name:	Coastal Carolina Hospital: Emergency Room
Address:	1000 Medical Center Dr, Hardeeville, SC 29927
General Phone:	(843) 784-8000
Emergency Phone:	911
Ambulance Phone:	911

Hospital called to verify emergency services are offered? YES ☒ NO ☐

Step-by-step Route to Hospital: (see Page 11 of 12 for route map):

Note: This page must be posted on site.

Decontamination Procedures

The site safety coordinator overseas implementation of project decontamination procedures and is responsible for ensuring they are effective.

Personnel Decontamination

Level D Decon - ☐ Wet ☒ Dry

Level C Decon - ☐ Wet ☒ Dry

Level B Decon – Briefly outline the level B decontamination methods to be used on a separate page attached to this HASP.

Level A Decon – A Level 3 HASP is required. Notify your regional health and safety representative and health and safety director.

Equipment Decontamination

All tools, equipment, and machinery from the Exclusion Zone (hot) or Contamination Reduction Zone (warm) are decontaminated in the CRZ before they are removed to the Support Zone (cold). Equipment decontamination procedures are designed to minimize the potential for hazardous skin or inhalation exposure, cross-contamination, and chemical incompatibilities.

Respirator Decontamination

Respirators are decontaminated in compliance with SWP 5-27 and should be included with this HASP.

Waste Handling for Decontamination

Procedures for decontamination waste disposal meet all applicable local, state, and federal regulations.

Decontamination Equipment

- ☐ Washtubs
- ☒ Buckets
- ☒ Scrub brushes
- ☐ Pressurized sprayer
- ☐ Detergent [Luminox]
- ☐ Solvent [Type]
- ☐ Household bleach solution

  Concentration/Dilution: _____
- ☒ Deionized water
- ☒ Disposable sanitizer wipes
- ☐ Facemask sanitizer powder
- ☐ Wire brush
- ☒ Spray bottle
- ☐ Tubs / pools
- ☐ Banner/barrier tape
- ☒ Plastic sheeting
- ☐ Tarps and poles
- ☒ Trash bags
- ☐ Trash cans
- ☒ Duct tape
- ☒ Paper towels
- ☒ Folding chairs
- ☐ Other

Emergency Response Planning

During the pre-work briefing and daily tailgate safety meetings, all on-site employees will be trained in the provisions of emergency response planning, site communication systems, and site evacuation routes.

In the event of an emergency that necessitates evacuation of a work task area or the site, the following procedures will take place.

- The Tetra Tech SSC will contact all nearby personnel using the on-site communications to advise the personnel of the emergency.
- The personnel will proceed along site roads to a safe distance upwind from the hazard source.
- The personnel will remain in that area until the SSC or an authorized individual provides further instructions.

In the event of a severe spill or a leak, site personnel will follow the procedures listed below.

- Evacuate the affected area and relocate personnel to an upwind location.
- Inform the Tetra Tech SSC, a Tetra Tech office, and a site representative immediately.
- Locate the source of the spill or leak, and stop the flow if it is safe to do so.
- Begin containment and recovery of spilled or leaked materials.
- Notify appropriate local, state, and federal agencies.

In the event of severe weather, site personnel will follow the procedures listed below.

- Site work shall not be conducted during severe weather, including high winds and lightning.
- In the event of severe weather, stop work, lower any equipment (drill rigs) and evacuate the affected area.
- Severe weather may cause heat or cold stress. Refer to SWPs 5-15 and 5-16 for information on both.

All work-related incidents must be reported. According to TtEMI's reporting procedures, for non-emergency incidents you should:

- Notify WorkCare and Incident Intervention at 888.449.7787, or 800.455.6155
- Notify your Project Manager or Regional Safety Officer (RSO) via phone immediately.
- Complete a "Tetra Tech Incident Report" (Form IR) within 24 hours and send it to your RSO. If an injury or illness has occurred, the Form IR-A and the WorkCare HIPAA form must be completed at the same time the Form IR is completed.

Site Map

Capitol Materials Coastal
472 Schinger Avenue
Schinger Ave
Ironman Welding
Carolina Morning
Firewood
Mackinlay Way
Schinger Ave
Terminix
Google

Hospital Route Map

15 min (10.1 miles)

via US-278 W

Fastest route, the usual traffic

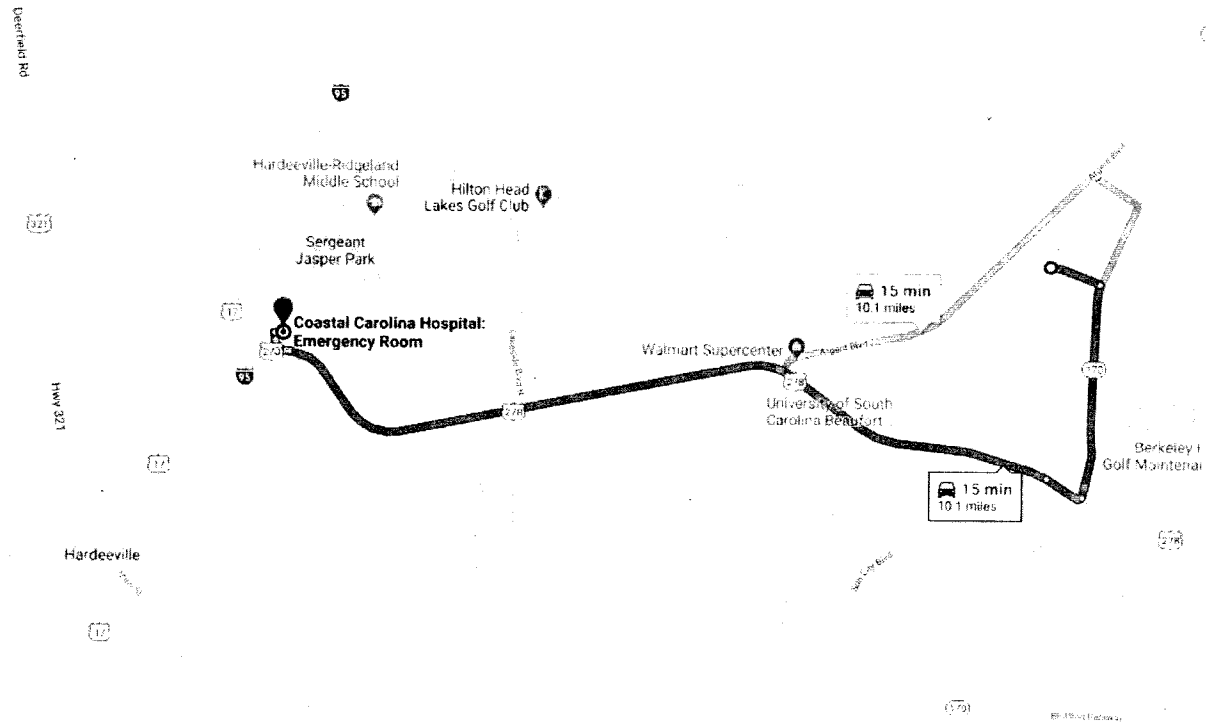
472 Schinger Ave

Ridgeland, SC 29936

- Head east on Schinger Ave toward Browns Cove Rd N
- Turn right onto SC-170 W
- Turn right onto the U.S. 278/Savannah ramp
- Merge onto US-278 W
- Turn right onto I-95 Frontage Rd/Medical Center Dr/Red Dam Rd/State Rd S-27-422
- Turn right
- Turn left
  - Destination will be on the right

Coastal Carolina Hospital: Emergency Room

[redacted]



Note: A dry-run should be conducted to establish a physical location associated with the map included in the HASP. Verbal verification from the hospital emergency room should also be obtained to ensure that the hospital will accept chemically contaminated patients.

APPROVAL AND SIGN-OFF FORM

Project No.: _____

I have read, understood, and agree with the information set forth in this Health and Safety Plan and will follow the direction of the Site Safety Coordinator (SSC) as well as procedures and guidelines established in the Tetra Tech, Inc., Health and Safety Manual. I understand the training and medical requirements for conducting field work and have met these requirements.

Tetra Tech has prepared this plan solely for the purpose of the health and safety protection of Tetra Tech employees. Subcontractors, visitors, and others at the site, while required to read and follow the provisions outlined in this plan at a minimum, should refer to their safety program for specific information related to their health and safety protection.

Name	Company / Agency / Organization	Signature	Date

I have read, understood, and agree with the information set forth in this Health and Safety Plan and comply with and will enforce this HASP, as well as procedures and guidelines established in the Tetra Tech, Inc., Health and Safety Manual.

Name	Project-Specific Position	Signature	Date
John Snyder	Project Manager		
John Snyder	Field Team Leader		
John Snyder	Site Safety Coordinator		
	Subcontractor SSC		

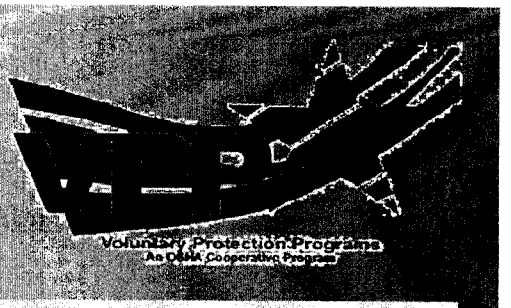
Tetra Tech has prepared this plan solely for the purpose of the health and safety protection of Tetra Tech employees. Subcontractors, visitors, and others at the site, while required to read, acknowledge and follow the provisions outlined in this plan at a minimum, should refer to their safety program for specific information related to health and safety.

Note: Use Additional sheets as necessary to ensure that all personnel sign and affirm this document.

TETRA TECH

Safety Excellence

VOLUNTARY PROTECTION PROGRAM



Management Leadership

Lead by example. Good managers recognize the benefits of a strong safety program and ensure that their personnel and subcontractors have the right tools, equipment, and attitude to work safely.

Some areas where effective management leadership for safety can be demonstrated include:

- Provide visible safety leadership - start meetings with a safety topic, integrate safety into planning, scheduling, and budgeting processes, take personal action to resolve safety issues.
- Become involved in incident reporting, investigation, corrective action - share lessons learned.
- Include subcontractors in your safety program and oversee their work.

Employee Involvement

Get involved! Take personal action and work directly with your supervisor daily to identify, control, or eliminate potential safety hazards.

Other ways to become involved in the safety program and improve work conditions include:

- Initiate hazard reports to identify hazards, suggest improvements, and recognize safe behaviors
- Participate in safety meetings and worksite safety inspections (daily, weekly, monthly, and quarterly)
- Participate in incident reports, investigations, corrective actions, and Lessons Learned

Worksite Analysis

The process of identifying and evaluating potential hazards is a critical element in achieving zero incidents and creating low risk and hazard-free work areas.

Worksite analysis methods used to identify and evaluate potential hazards include:

- Safety inspections (daily, weekly, monthly, and quarterly)
- Develop or review safe work procedures, AHA's, and the HASP
- Monitoring for air quality, heat stress, noise, ergonomics and other job hazards

Hazard Prevention and Control

Eliminating hazards from your job, preventing new hazards, and controlling known hazards are fundamental parts of the projects safety program.

Important points include:

- Control hazards by:
  - Installing and maintaining ***Engineering Controls***
  - Following ***Administrative/Work Practice Controls*** (HASP, AHAs, and safe work practices)
  - Specifying and wearing ***Personal Protective Equipment*** where needed
- Perform integrated safety reviews for new or modified work tasks
- Consult with qualified medical and safety professionals as needed

Safety and Health Training

Effective safety training is an important element in incident prevention. Remember, if you are unfamiliar with the work or feel that you don't have the necessary training, speak up and notify your team leader or project manager.

Safety training methods that may be used at the project include:

- New employee orientation, including HASP and task-specific training
- Project meetings, daily briefings, and/or task briefings
- Lessons learned and monthly safety communications

Name Signature

TETRA TECH EM INC.

HEA) .TH AND SAFETY PLAN AMENDMENT

Site Name: _____

Amendment Date: _____

Purpose or Reason for Amendment: _____

_____

_____

Required Additional Safe Work Practices or Activity Hazard Analyses: _____

_____

Required Changes in PPE: _____

_____

_____

Action Level Changes: _____

_____

_____

_____

_____

AMENDMENT APPROVAL

RSO or Designee	_____ Name	_____ Signature	_____ Date
Site Safety Coordinator	_____ Name	_____ Signature	_____ Date

Date presented during daily site safety meeting: _____

TETRA TECH, INC.

FIELD AUDIT CHECKLIST

Project Name: _____ Project No.: _____

Field Location: _____ Completed by: _____

Project Manager: _____ Site Safety Coordinator: _____

General Items		In Compliance?		
Health and Safety Plan Requirements		Yes	No	NA
1	Approved health and safety plan (HASP) on site or available			
2	Names of on-site personnel recorded in field logbook or daily log			
3	HASP compliance agreement form signed by all on-site personnel			
4	Material Safety Data Sheets on site or available			
5	Designated site safety coordinator physically present on jobsite			
6	Daily tailgate safety meetings conducted and documented on Form HST-2			
7	Documentation available proving compliance with HASP requirements for medical examinations, fit testing, and training (including subcontractors)			
8	HASP onsite matches scope of work being conducted			
9	Emergency evacuation plan in place and hospital located			
10	Exclusion, decontamination, and support zones delineated and enforced			
11	HASP attachments present onsite (VPP sheet, audit checklist, AHA, etc.)			
12	Illness and injury prevention program reports completed (California only)			
Emergency Planning				
13	Emergency telephone numbers posted			
14	Emergency route to hospital posted			
15	Local emergency providers notified of site activities			
16	Adequate safety equipment inventory available			
17	First aid provider and supplies available			
18	Eyewash solution available when corrosive chemicals are present			
Air Monitoring				
19	Monitoring equipment specified in HASP available and in working order			
20	Monitoring equipment calibrated and calibration records available			
21	Personnel know how to operate monitoring equipment and equipment manuals available on site			
22	Environmental and personnel monitoring performed as specified in HASP			

Safety Items		In Compliance?		
Personal Protection		Yes	No	NA
23	Splash suit, if required			
24	Chemical protective clothing, if required			
25	Safety glasses or goggles (always required)			
26	Gloves, if required			
27	Overboots, if required			
28	Hard hat (always required)			
29	High visibility vest, if required			
30	Hearing protection, if required			
31	Full-face respirator, if required			
Instrumentation				
32	Combustible gas meter and calibration notes			
33	Oxygen meter and calibration notes			
34	Organic vapor analyzer and calibration notes			
Supplies				
35	Decontamination equipment and supplies			
35	Fire extinguishers			
37	Spill cleanup supplies			
Corrective Action Taken During Audit:				

Note: NA = Not applicable

Auditor's Signature

Site Safety Coordinator's Signature

Date

Tetra Tech, Inc.

ACTIVITY HAZARD ANALYSIS (AHA)

Tetra Tech EM Inc.

Site Documentation & Observation of Excavation Operations Near Heavy Equipment

Task Description

This Activity Hazard Analysis (AHA) applies to observation and documentation of site activities involving operation of heavy equipment, including back-filling and site restoration activities. It has been developed and approved by the Tetra Tech (Tt) Health and Safety Representative and is applicable to ALL Tt and contractor personnel involved in this activity. The AHA contains potential hazards posed by each major step in this task, lists procedures to control hazards, and presents required safety equipment, inspections, and training.

Hazards		Actions
Task Steps Observe Near Heavy Equipment	• Exposure to chemicals of concern • Open excavations • Slips, trips, and falls • Heat stress • Biological hazards • Excessive noise • Heavy lifting • Sun Exposure • Heavy equipment	**Critical Safety Procedures and Controls** • Follow appropriate safe work practices for field work (SWP 5-1) and HAZWOPER (SWP 5-2); • Wear prescribed PPE; Inspect, don and use PPE specified in the HASP, including hardhats, safety glasses, steel-toed boots, Class 2 safety vests and hearing protection • Sample dust to ensure that PPE levels and dust control measures are adequate; • Limit access to work area; • AT NO TIME are Tetra Tech personnel authorized to enter open excavations; • Follow DCN 4-05, Trenching and Excavation Safety; • Keep site areas clean and free of debris; • Follow SWP 5-15 for heat stress; • Keep out or limit time in grassy and wooded areas; use insect repellent as necessary; • Follow Hearing Conservation Program (DCN 2-4); wear hearing protection in areas >85 dB; use rule of thumb and wear hearing protection whenever you have to raise your voice to be heard and understood from 2 feet away; • Follow Safe Lifting Practices (SWP 5-19); • Follow Prevention of Sun Exposure (SWP 5-26); wear hats and sunscreen as needed to limit sun exposure; • Follow Working Near Heavy Equipment (SWP 5-7); keep away from heavy equipment; be aware of the swing radius of equipment; and ensure eye contact is made with the operator before approaching machinery • Conduct air monitoring as necessary and adhere to action levels presented in the HASP • Delineate the area using caution tape, signage, etc. and prohibit unauthorized entry.

		• Visually inspect the area for slippery spots or debris and correct if found. • Wear steel-toed, non-skid boots in accordance with Tetra Tech EMI policy • Use proper lifting techniques (lift with legs not back)
Equipment to be Used • Level D PPE, , including hardhats, safety glasses, steel-toed boots, Class 2 safety vests and hearing protection • First aid kit & eye wash	**Inspection Requirements** • Inspect all PPE for proper operations, wear and defects • Ensure any air monitoring equipment is properly calibrated and functioning properly	**Training Requirements** • See HASP; no extra training requirements.

Tetra Tech, Inc.

ACTIVITY HAZARD ANALYSIS (AHA)

Tetra Tech EM Inc.

Soil Sampling

Task Description

This Activity Hazard Analysis (AHA) applies to collection of grab soil samples. It has been developed and approved by the Health & Safety Department. The AHA contains potential hazards posed by each major step in this task, lists appropriate controls, and presents required safety equipment, inspections, and training.

Hazards		Actions
Task Steps	**Potential Hazards**	**Critical Safety Procedures and Controls**
Set up equipment at sampling location	SLIP/TRIP/FALL	• Visually inspect the area for slippery spots or debris and correct if found • Wear steel-toed, non-skid boots in accordance with Tetra Tech EMI policy
	BACK STRAIN/SPRAIN	• Use proper lifting techniques (lift with legs not back)
Dig to appropriate depth with appropriate tools NOTE: Employees may NOT enter open excavations to retrieve soil samples. Samples MUST be collected from excavator buckets or by other remote means.	SLIP/TRIP/FALL	• Wear steel-toed, non-skid boots in accordance with Tetra Tech EMI policy
	BACK STRAIN/SPRAIN	• Use proper digging techniques. Use care if resistance is encountered. Do not strain or overexert to advance the shovel. Consider a different sampling location is possible. • If using a hand-auger. Use care if resistance is encountered. Do not strain to turn and advance the auger. Consider a different sampling location is possible.
	HAND INJURY	• Wear gloves when digging or hand-auguring
	HEAVY EQUIMENT	• Wear high-visibility vests at all times • Maintain contact with operator and ensure that the operator is aware of your position at all times

	HIGH NOISE	• Use appropriate hearing protective devices near heavy equipment
Extract Soil	EMPLOYEE EXPOSURE	• Wear safety glasses and nitrile gloves • Emergency eyewash is required when sampling corrosive materials or using corrosive preservatives • Plastic sheeting can be used to kneel upon while collecting samples
Fill sample bottles with sample material, load coolers and IDW (if appropriate) into vehicle	LACERATION	• Handle all glass containers carefully • Have a first aid kit on-site available for small cuts • Dispose of all broken shards immediately
Store sample containers in coolers and load onto vehicles	SLIP/TRIP/FALL BACK STRAIN/SPRAIN	• Ensure all debris has been removed from the path of travel • Use proper lifting techniques, including obtaining help with heavy coolers
Equipment to be Used • Level D PPE (steel-toed boots, safety glasses, nitrile gloves) • Class 2 safety vest if in areas of vehicle traffic or heavy equipment operation • First Aid Kit • Eyewash • Disposable scoop • Hand Auger • Shovel • Appropriate bottle ware and preservative	**Inspection Requirements** • Inspect area prior to sampling • Conduct utility locating and marking as required prior to intrusive activities	**Training Requirements** • Safe Lifting Procedures • Personal Protective Equipment • Hazardous Waste Operations and Emergency Response (40-hour and current 8-hour update) • CPR/First Aid (one employee on-site must have current CPR/First Aid training) • As required in accordance with policy and/or sampling and analysis plan

Tetra Tech, Inc.

ACTIVITY HAZARD ANALYSIS (AHA)

Tetra Tech EM Inc.

AreaRAE & Viper Linc Battery Change Out

Task Description

This Activity Hazard Analysis (AHA) applies to the task listed above. It has been developed and approved by the Director of Health and Safety for Tetra Tech EMI. The AHA contains potential hazards posed by each major step in this task, lists procedures to control hazards, and presents required equipment (including safety equipment), inspections, and training. The hazard controls listed below are specific to this task.

Battery change out of deployed AreaRAEs is occurring as needed in the field. Field personnel have vehicle access to each of the AreaRAE locations foot traffic for this task is very minimal. APRs are carried with personnel throughout this change out task in the event they are needed to donn for emergency escape purposes. Tools required to conduct battery change out include a phillipshead screwdriver.

Hazards		Actions
Task Steps	**Potential Hazards**	**Critical Safety Procedures and Controls**
Gather equipment and PPE needed	none	Ensure that APR is appropriate size, in working condition, and have appropriate cartridges in place and personal 5-gas monitor. Also ensure all other ppe required is utilized (i.e. gloves, steel toed boots, etc.). Ensure that phillipshead screwdriver is in good working condition.
Vehicle deployment to each AreaRAE location	Airborne chemical exposure (butadiene, HF, Styrene, NaOH, and MIBK. Fire, Explosion	Maintain contact with air monitoring control base to ensure zones to be entered are not indicating hazardous atmosphere. Monitor reading on 5-gas detector. Only authorized personnel allowed for entry into area. Keep emergency rescue APR in hand.
Battery Change out	Airborne chemical exposure (butadiene, HF, Styrene, NaOH, and MIBK. Fire, Explosion	Maintain contact with air monitoring control base to ensure zones to be entered are not indicating hazardous atmosphere. Monitor reading on 5-gas detector. Only authorized personnel allowed for entry into area. Keep emergency rescue APR in hand.
Equipment to be Used	**Inspection Requirements**	**Training Requirements**
Phillipshead Screwdriver APRs	Visual inspect of phillipshead screwdriver, visual inspection of APR, ensure proper cartridges in place, and qualitative fit	Compliant Qualitative Respirator Fit Test Appropriate AreaRAE equipment training

	test.	

Tetra Tech, Inc.

ACTIVITY HAZARD ANALYSIS (AHA)

Tetra Tech EM Inc.

Creek Sediment Sampling

Task Description

This Activity Hazard Analysis (AHA) applies to the task listed above. It has been developed and approved by the Tetra Tech EMI Health and Safety Department. The AHA contains potential hazards posed by each major step in this task, lists procedures to control hazards, and presents required equipment (including safety equipment), inspections, and training. The hazard controls listed below are specific to this task.

Hazards		Actions
Task Steps Identify weather and water conditions prior to conducting water operations	**Potential Hazards** IMPROPER PPE	**Critical Safety Procedures and Controls** • Determine type of personal protective equipment (PPE) necessary to conduct water operations. • For water and air temperatures greater than 45 degrees Fahrenheit (°F), Tetra Tech personnel must wear weather appropriate Level D PPE and Type III personal flotation device (PFD). • For water and air temperatures less than 45 °F, Tetra Tech personnel must wear an anti-exposure suit and Type III PFD or a combination anti-exposure suit with built-in PFD. • For water and air temperatures split between 45 °F, Tetra Tech site manager will evaluate weather and water conditions to determine the appropriate PPE for sampling operations.
Ensure personnel have received the proper health and safety training prior to conducting sampling activities	IMPROPER TRAINING	• Ensure all personnel involved in sampling operations have been briefed on the Cold Weather Water Operations AHA and this AHA. • Ensure all personnel involved in sampling operations have reviewed the Tetra Tech Site Specific Health and Safety Plan and applicable Safe Work Practices.
Coordinate water operations and meeting location with appropriate personnel	LACK OF COORDINATION AND COMMUNICATION IMPROPER PPE	• Ensure sampling team is comprised of a minimum of two personnel. • Define roles of sampling team members prior to collecting samples. • Inspect all PPE prior to use to ensure it is not damaged.
Launch area	LACK OF OR IMPROPER USE OF PPE	• Tetra Tech personnel must wear a Type III PFD when working within 15 feet of a body of water. • Ensure vessel has proper safety equipment for employee rescue operations (i.e. throw rope, ring buoy, first aid kit, etc.). Ensure Tetra Tech personnel have "boat bag" with

		appropriate safety equipment on board during sampling operations.
	SLIPS, TRIPS, AND FALLS	• Survey launch area prior to entering. Avoid uneven and slick surfaces if possible. Use the "buddy system" to enter the vessel and to load equipment.
Conducting sampling operations	LACK OF OR IMPROPER USE OF PPE	• Tetra Tech site manager will determine the appropriate PPE for conducting surface water sampling operations. Tetra Tech personnel must wear a Type III PFD when working within 15 feet of a body of water. • Ensure appropriate safety gear (i.e. throw rope, ring buoy, first aid kit, etc.) is easily accessible for employee rescue operations. Ensure Tetra Tech personnel have "boat bag" with appropriate safety equipment on board during sampling operations.
	SLIPS, TRIPS, AND FALLS	• Ensure all personnel are properly seated while boat is in motion to each sampling location. Ensure all personnel maintain at least three points of contact with the boat when approaching dangerous situations (i.e. holding on to side of boat with at least one hand while properly seated). • Ensure personnel have positioned themselves in a manner that allow for stable footing and easy movement while collecting samples.
	LACK OF COORDINATION AND COMMUNICATION	• Ensure personnel collecting samples communicate with each team member prior to making any movements not involved with sample collection.
	FALLING INTO WATER WHILE COLLECTING SAMPLES	• Turn to float on your back and keep feet elevated. Extend retrieval device to the person in the water. Pull person toward and into boat. Monitor person for shock/hypothermia. If person displays symptoms of hypothermia, contact 911 or take to the nearest medical facility for treatment. Proceed to the nearest dock/rally point. Immediately place person in a heated vehicle and changed into dry clothes. Conduct first aid, transport to medic or awaiting ambulance. • Report incident to Tetra Tech Site Safety Coordinator and TVA safety department immediately.
Complete water operations	SLIPS, TRIPS, AND FALLS	• Upon reaching shore, ensure vessel is not running or moving. Avoid uneven and slick surfaces if possible. Use "buddy system" to exit the vessel and to unload equipment.
	DAMAGED PPE	• Inspect all equipment and PPE upon return to site office.
Equipment to be Used • Trimble GeoExplorer • Hard hat	**Inspection Requirements** • Ensure battery is charged	**Training Requirements** • 40-hour HAZWOPER • General Safe Work Practices HAZWOPER

• High visibility safety vest • Steel-toed boots • Safety glasses with side shields • Type III PFD • Anti-exposure suit depending on weather conditions	• Inspect all PPE, PFDs, and exposure suits prior to use • Ensure boat bag has all required safety equipment	• Working Over or Near Water • Working Near Heavy Equipment • Cold/Heat Stress • Cold Weather Water Operations AHA • Creek Surface Water AHA

Tetra Tech, Inc.

ACTIVITY HAZARD ANALYSIS (AHA)

Tetra Tech, Inc.

Air Sampling for Asbestos. Including ABS, personal, and clearance

Task Description

This Activity Hazard Analysis (AHA) applies to the task listed above. It has been developed and approved by the Health & Safety Department. The AHA contains potential hazards posed by each major step in this task, lists procedures to control hazards, and presents required equipment (including safety equipment), inspections, and training. The hazard controls listed below are specific to this task.

Hazards		Actions
Task Steps	**Potential Hazards**	**Critical Safety Procedures and Controls**
Mobilize to site	Motor vehicle accident Remote access	Carry list of emergency numbers Have hospital route map in vehicle Alleviate all potential driving distractions Have access to map showing streets and significant features in and around the site
Initial assessment	Slip/Trip/Fall Employee Exposure Tracking contaminants away from spill area High Noise Heavy lifting Struck-by	Visually inspect the area for slippery spots or debris and correct if found Wear proper PPE, including air purifying respirator with P100 cartridges, steel-toed boots, hardhat, and Tyvek coverall, and Class 2 or better high-visibility safety vest Calibrate sampling equipment prior to entry Establish decontamination zone and always process through decon prior to exiting the exclusion zone or contaminated area to ensure contaminants are not tracked away from the spill area Wear hearing protection if there is loud noise due to demolition/abatement or other machinery or noise sources Follow SWP 5-19; Use proper lifting techniques (lift with legs not back) Wear hard hats, safety vests, and eye protection while in areas of active demolition. Be aware of your surroundings
Collect air sample	Slip/Trip/Fall Exposure to contaminants Caught on High Noise Heavy lifting Struck-by	Visually inspect the area for slippery spots or debris and correct if found Wear proper PPE, including APR If a personal sample is being collected, ensure that the sample train is secured to ensure that it is not caught on and torn away or damaged while by any protruding objects, operating equipment, etc. Wear hearing protection if there is loud noise due to demolition/abatement or other machinery or noise sources Follow SWP 5-19; Use proper lifting techniques (lift with legs not back) Wear hard hats, safety vests, and eye protection while in areas of active demolition. Be aware of your surroundings
Equipment to be Used Level D/C, including air purifying respirator with P100 cartridges, steel-toed boots, hardhat, and Tyvek coverall, and Class 2 or better high-visibility safety vest	**Inspection Requirements** Ensure that all sampling equipment is calibrated and functioning properly	**Training Requirements** Initial 40 hour HAZWOPER training 8-hour supervisor Current 8-hour refresher Current medical clearance (including respirator use)

Sample pump and sample train with media Calibration equipment First aid kit Eyewash	Inspect all respiratory protective equipment and PPE prior to donning and use	Current first aid and CPR Current respirator fit-test Asbestos Inspector/supervisor/project monitor (as required by jurisdiction) Air sampling equipment-specific training Asbestos awareness

Tetra Tech, Inc.

ACTIVITY HAZARD ANALYSIS (AHA)

Tetra Tech EM Inc.

Surface Water Quality Measurement

Task Description

This Activity Hazard Analysis (AHA) applies to the task listed above. It has been developed and approved by the Tetra Tech EMI Health and Safety Department. The AHA contains potential hazards posed by each major step in this task, lists procedures to control hazards, and presents required equipment (including safety equipment), inspections, and training. The hazard controls listed below are specific to this task.

Hazards		Actions
Task Steps	**Potential Hazards**	**Critical Safety Procedures and Controls**
Identify weather and water conditions prior to conducting water operations	LACK OF COMMUNICATION IMPROPER PPE	• Verify weather and water conditions. • Determine type of personal protective equipment (PPE) necessary to conduct water operations. • For water and air temperatures greater than 45 degrees Fahrenheit (°F), Tetra Tech personnel must wear weather appropriate Level D PPE and Type II (minimum) PFD. • For water and air temperatures less than 45 °F, Tetra Tech personnel must wear an anti-exposure suit and Type III PFD or a combination anti-exposure suit with built-in PFD. • For water and air temperatures split between 45 °F, Tetra Tech site manager will evaluate weather and water conditions to determine the appropriate PPE for sampling operations.
Ensure personnel have received the proper health and safety training prior to conducting sampling activities	IMPROPER TRAINING	• Ensure all personnel involved review the HASP, this AHA, and SWP 5-06, *Working Over or Near Water*, as well as familiarity with equipment, instruments and PPE to be used.. • Ensure all personnel involved in have been briefed on the Cold Weather Water Operations when water is < 45F. • Ensure all personnel involved in sampling operations have reviewed the applicable sections of the Site Wide Safety and Health Plan and any client-specific requirements when applicable.
Coordinate and select water quality measurement location, depths and parameters with client	LACK OF COORDINATION AND COMMUNICATION	• Coordinate with appropriate client personnel for availability to conduct water operations and to determine appropriate locations, depths, and parameters. • Supply personnel emergency contact phone numbers for Tetra Tech personnel involved in operations and establish a procedure for checking-in with the PM and/or client at completion.

	IMPROPER PPE	• Ensure water quality measurement team is comprised of a minimum of two persons. • Define roles of sampling team members prior to collecting samples. • Ensure working radios and/or cell phones are available and that the phone number and location of emergency services (hospital) are available to the field team. • Inspect all PPE prior to use to ensure it is not damaged.
Mobilize to water quality measurement location (includes provisions for boat ops)	LACK OF OR IMPROPER USE OF PPE SLIPS, TRIPS, AND FALLS	• Tetra Tech personnel must wear a Type III PFD when working within 15 feet of a body of water and follow SWP 5-06. • Speak with boat pilot to ensure vessel has property safety equipment for employee rescue operations (i.e. throw rope, ring buoy, first aid kit, etc.). Ensure Tetra Tech personnel have appropriate safety equipment on board during sampling operations. • Survey launch and/or sampling area prior to launching and boarding vessel. Avoid steep, uneven and slick surfaces if possible. Use the "buddy system" to enter the vessel and to load equipment.
Conducting water quality measurement	LACK OF OR IMPROPER USE OF PPE EXPOSURE TO SITE CONTAMINANTS SLIPS, TRIPS, AND FALLS BIOLOGICAL HAZARDS LACK OF COORDINATION AND COMMUNICATION DREDGES AND HEAVY EQUIPMENT ON BARGES	• Tetra Tech site manager will determine the appropriate PPE for conducting water quality measurement operations. Tetra Tech personnel must wear a Type II PFD when working within 15 feet of a body of water that is >3' deep or that is swiftly moving. • Ensure appropriate safety gear (i.e. throw rope, ring buoy, first aid kit, etc.) is easily accessible for employee rescue operations. Ensure Tetra Tech personnel have appropriate safety equipment on board during operations. • Ensure all personnel are properly seated while boat is in motion to each sampling location. Ensure all personnel maintain at least three points of contact with the boat when approaching dangerous situations (i.e. holding on to side of boat with at least one hand while properly seated when approaching dredge lines, wakes, etc.). • Ensure personnel have positioned themselves in a manner that allow for stable footing and easy movement while collecting water quality monitoring results. • Be alert for snakes and other wildlife, as well as of signs of fish kills, dead or stressed vegetation and other signs of possible contamination. • Ensure personnel collecting samples or conducting water quality monitoring communicate with each team member prior to making any movements not involved with sample collection or monitoring. • Maintain a distance of at least 40 yards from dredges, heavy equipment on barges, discharge lines, and anchor lines, if possible

	CROSSING OVER DREDGE LINES FALLING INTO WATER	• Inform boat pilot of visible or submerged dredge lines in the path of the boat. Ensure all personnel are properly seated and sampling equipment is secure. Ensure boat pilot crosses over dredge lines at a low rate of speed to reduce shock of the contact. Ensure all personnel maintain at least three points of contact with the boat when approaching dangerous situations (i.e. holding on to side of boat with at least one hand while properly seated when approaching dredge lines, wakes, etc.). • Turn to float on your back and keep feet elevated. Extend retrieval device to the person in the water. Pull person toward and into boat or shore. Monitor person for shock/hypothermia. If person displays symptoms of hypothermia, contact 911 or take to the nearest medical facility for treatment. Proceed to the nearest dock/rally point. Immediately place person in a heated vehicle and changed into dry clothes. Conduct first aid, transport to medic or awaiting ambulance. • Report incident to Tetra Tech Site Safety Coordinator and client immediately.
Complete water quality measurement operations	SLIPS, TRIPS, AND FALLS DAMAGED PPE	• Upon reaching shore, ensure vessel is not running or moving. Avoid steep, uneven and slick surfaces if possible. Use "buddy system" to exit the vessel and to unload equipment. • Inspect all equipment and PPE upon return to site office.
Equipment to be Used • Water Quality Monitor • Trimble GeoExplorer or similar GPS • Hard hat • High visibility safety vest • Steel-toed boots • Safety glasses with side shields • Type II PFD • Nitrile or cold water, chemical-resistant gloves • Anti-exposure suit depending on weather conditions	**Inspection Requirements** • Conduct calibration and battery check before use • Ensure battery is charged • Inspect all PPE, PFDs, and exposure suits prior to use • Ensure all required safety equipment is properly functioning and readily available	**Training Requirements** • 40-hour HAZWOPER • Site Specific Orientation • General Safe Work Practices HAZWOPER • SWP 5-06, Working Over or Near Water • Working Near Heavy Equipment (if applicable) • Cold/Heat Stress • Cold Weather Water Operations AHA (< 45F) •

PARTICULITE MATTER FACT SHEET

¶

AQI Category (AQI Values)	$PM_{2.5}$ or PM_{10} Levels (µg/m$_3$, 1-to 3-hr avg.)	$PM_{2.5}$ or PM_{10} Levels (µg/m^3, 8-hr avg.)	$PM_{2.5}$ or PM_{10} Levels (µg/m^3, 24-hr avg.)	Visibility – Arid Conditions (miles)	Recommended Actions
Good (0 to 50)	0 – 38	0 - 22	0 - 15	≥ 10	Implement communication plan if smoke event forecast
Moderate (51 to 100)	39 - 88	23 - 50	16 – 35	6 – 9	-Issue press releases to advise public about health effects and symptoms and ways to reduce exposure -Distribute information about exposure avoidance
Unhealthy for Sensitive Groups (101 to 150)	89 – 138	51 – 79	36 – 65	3 – 5	-If smoke event projected to be prolonged, evaluate and notify possible sites for cleaner air shelters -If smoke event projected to be prolonged, prepare evacuation plans -Individuals who have asthma or another lung disease or heart disease should consider wearing a particulate respirator when outside.
Unhealthy (151 to 200)	139 - 351	80 – 200	66 – 150	1.5 – 2.5	-Consider "Smoke Day" for schools (i.e., no school that day), possibly based on school environment and travel considerations -Consider canceling public events, based on public health and travel considerations. -All individuals should consider wearing a particulate respirator when the AQI is 151 or higher when outside
Very Unhealthy (201 to 300)	352 – 526	201 – 300	151 – 250	1 – 1.25	-Consider closing some or all schools (However, newer schools with a central air cleaning filter may be more protective than older, leakier homes. See "Closures", below) -Cancel outdoor events (e.g., concerts and competitive sports)
Hazardous (> 300)	> 526	>300	>250	≤3/4	-Close Schools -Cancel outdoor events (e.g., concerts and competitive sports) -Consider closing workplaces not essential to public health -If PM level projected to continue to remain high for a prolonged time, consider evacuation of sensitive populations

Notes:

1. These 1- and 8-hr $PM_{2.5}$ levels are estimated using the 24-hr breakpoints of the $PM_{2.5}$ Air Quality Index included in the February 7, 2007 issue paper (http://www.epa.gov/airnow/aqi_issue_paper_020707.pdf) by dividing the 24-hr concentrations by the following ratios: 8-hr ratio is 0.7, 1-hr ratio is 0.4. Visibility is based on 1-hr values. If only PM_{10} measurements are available during smoky conditions, it can be assumed that the PM_{10} is composed primarily of fine particles ($PM_{2.5}$), and that therefore the AQI and associated cautionary statements and advisories for $PM_{2.5}$ may be used. This assumption is reflected in the column headings.
2. This table was adapted from Table 3, page 31 of Wildfire Smoke: A Guide for Public Health Officials, July 2008
3. Based on New Mexico Department of Health's "Recommended Actions During Smoke Events"

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

ASBESTOS
CAS # 1332-21-4

Division of Toxicology ToxFAQs™ September 2001

This fact sheet answers the most frequently asked health questions (FAQs) about asbestos. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, individual susceptibility and personal habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to asbestos usually occurs by breathing contaminated air in workplaces that make or use asbestos. Asbestos is also found in the air of buildings that are being torn down or renovated. Asbestos exposure can cause serious lung problems and cancer. This substance has been found at 83 of the 1,585 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is asbestos?

Asbestos is the name given to a group of six different fibrous minerals (amosite, chrysotile, crocidolite, and the fibrous varieties of tremolite, actinolite, and anthophyllite) that occur naturally in the environment. Asbestos minerals have separable long fibers that are strong and flexible enough to be spun and woven and are heat resistant. Because of these characteristics, asbestos has been used for a wide range of manufactured goods, mostly in building materials (roofing shingles, ceiling and floor tiles, paper products, and asbestos cement products), friction products (automobile clutch, brake, and transmission parts), heat-resistant fabrics, packaging, gaskets, and coatings. Some vermiculite or talc products products may contain asbestos.

What happens to asbestos when it enters the environment?

Asbestos fibers can enter the air or water from the breakdown of natural deposits and manufactured asbestos products. Asbestos fibers do not evaporate into air or dissolve in water. Small diameter fibers and particles may remain suspended in the air for a long time and be carried long distances by wind or water before settling down. Larger diameter fibers and particles tend to settle more quickly.

Asbestos fibers are not able to move through soil. Asbestos fibers are generally not broken down to other compounds and will remain virtually unchanged over long periods.

How might I be exposed to asbestos?

We are all exposed to low levels of asbestos in the air we breathe. These levels range from 0.00001 to 0.0001 fibers per milliliter of air and generally are highest in cities and industrial areas.

People working in industries that make or use asbestos products or who are involved in asbestos mining may be exposed to high levels of asbestos. People living near these industries may also be exposed to high levels of asbestos in air

Asbestos fibers may be released into the air by the disturbance of asbestos-containing material during product use, demolition work, building or home maintenance, repair, and remodeling. In general, exposure may occur only when the asbestos-containing material is disturbed in some way to release particles and fibers into the air.

Drinking water may contain asbestos from natural sources or from asbestos-containing cement pipes.

How can asbestos affect my health?

Asbestos mainly affects the lungs and the membrane that surrounds the lungs. Breathing high levels of asbestos fibers for a long time may result in scar-like tissue in the lungs and in the pleural membrane (lining) that surrounds the lung. This disease is called asbestosis and is usually found in workers exposed to asbestos, but not in the general public. People with asbestosis have difficulty breathing, often a cough, and in severe cases heart enlargement. Asbestosis is a serious disease and can eventually lead to disability and death.

Breathing lower levels of asbestos may result in changes called plaques in the pleural membranes. Pleural plaques can occur in workers and sometimes in people living in areas with high environmental levels of asbestos. Effects on breathing from pleural plaques alone are not usually serious, but higher exposure can lead to a thickening of the pleural membrane that may restrict breathing.

How likely is asbestos to cause cancer?

The Department of Health and Human Services (DHHS), the World Health Organization (WHO), and the EPA have determined that asbestos is a human carcinogen.

It is known that breathing asbestos can increase the risk of cancer in people. There are two types of cancer caused by exposure to asbestos: lung cancer and mesothelioma. Mesothelioma is a cancer of the thin lining surrounding the lung (pleural membrane) or abdominal cavity (the peritoneum). Cancer from asbestos does not develop immediately, but shows up after a number of years. Studies of workers also suggest that breathing asbestos can increase chances of getting cancer in other parts of the body (stomach, intestines, esophagus, pancreas, and kidneys), but this is less certain. Early identification and treatment of any cancer can increase an individual's quality of life and survival.

Cigarette smoke and asbestos together significantly increase your chances of getting lung cancer. Therefore, if you have been exposed to asbestos you should stop smoking. This may be the most important action that you can take to improve your health and decrease your risk of cancer.

How can asbestos affect children?

We do not know if exposure to asbestos will result in birth defects or other developmental effects in people. Birth defects have not been observed in animals exposed to asbestos.

It is likely that health effects seen in children exposed to high levels of asbestos will be similar to the effects seen in adults.

How can families reduce the risk of exposure to asbestos?

Materials containing asbestos that are not disturbed or deteriorated do not, in general, pose a health risk and can be left alone. If you suspect that you may be exposed to asbestos in your home, contact your state or local health department or the regional offices of EPA to find out how to test your home and how to locate a company that is trained to remove or contain the fibers.

Is there a medical test to show whether I've been exposed to asbestos?

Low levels of asbestos fibers can be measured in urine, feces, mucus, or lung washings of the general public. Higher than average levels of asbestos fibers in tissue can confirm exposure but not determine whether you will experience any health effects.

A thorough history, physical exam, and diagnostic tests are needed to evaluate asbestos-related disease. Chest x-rays are the best screening tool to identify lung changes resulting from asbestos exposure. Lung function tests and CAT scans also assist in the diagnosis of asbestos-related disease.

Has the federal government made recommendations to protect human health?

In 1989, EPA banned all new uses of asbestos; uses established before this date are still allowed. EPA established regulations that require school systems to inspect for damaged asbestos and to eliminate or reduce the exposure by removing the asbestos or by covering it up. EPA regulates the release of asbestos from factories and during building demolition or renovation to prevent asbestos from getting into the environment.

EPA has proposed a concentration limit of 7 million fibers per liter of drinking water for long fibers (lengths greater than or equal to 5 μm). The Occupational Safety and Health Administration has set limits of 100,000 fibers with lengths greater than or equal to 5 μm per cubic meter of workplace air for 8-hour shifts and 40-hour work weeks.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2001. Toxicological Profile for Asbestos. Update. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

TETRA TECH

LEVEL 2 HEALTH AND SAFETY PLAN

Site Name: Able Contracting Material Recovery Center Fire	**Site Contact:** John Snyder	**Telephone:** 770-402-9013
Location: 472 Schinger Ave, Ridgeland, South Carolina 29936	**Client Contact:** Jordan Garrard	**Telephone:** 678-644-8648
EPA ID No. NA	**Prepared By:** Chris Draper	**Date Prepared:** 07/25/2019
Project No. TBD	**Dates of Activities:** 07/25/2019 thru unknown date	**Emergency Response** ☒ Yes ☐ No

Objectives:

- Conduct air monitoring
- Collect air, water, and soil samples as necessary
- Provide support as necessary

Site Type: *Check as many as applicable.*

☒ Active	☒ Landfill	☐ Inner-City
☐ Inactive	☐ Railroad	☐ Rural
☒ Secured	☐ Residential	☐ Remote
☐ Unsecured	☐ Industrial	☐ Other (*specify*)

Project Scope of Work and Site Background

Okatie, S.C.-based Able Contracting Inc., a recycling business classified by the state as a "recovered material processing facility," is home to a nearly 90-foot trash pile made of wood, cardboard, plastic and other construction debris. The pile has been intermittently smoldering and is alleged to contain asbestos.

Tetra Tech has been tasked to conduct emergency response activities to ensure the protection of human health and the environment, including but not limited to air monitoring, written and photo documentation of emergency response activities, and possibly sampling.

Health and Safety Approver Comments or Additional Instructions: See attached Asbestos ATSDR ToxFacts and Particulate Guide.

Always use the buddy system when conducting reconnaissance and monitoring. Stay clear and in visual contact with heavy equipment operators. Always use the buddy system when conducting reconnaissance and monitoring. Stay clear and in visual contact with heavy equipment operators.

The level D, C, B VOC action levels (in ppm) for benzene that has been confirmed by UltraRAE or colorimetric tube are: 0 – 1.0; >1.0 – 200; and > 200, for level D, C & B, respectively. For unknown (benzene is NOT detected) level D, C, B VOC action levels (in ppm) are: 0 – 5 ppm; >5 – 50; and >50, respectively.

Avoid low-lying areas and places where vapors could accumulate and NEVER without air monitoring. Evacuate the area immediately at 10% LEL and 1.0 ppm VOCs.

Personal floatation devices are required within 15' of water over 3' deep or that is swiftly moving. EPA particulate guide included. Type 2 personal floatation device required when within 15 feet of water that is greater than 3 feet deep or that is swiftly moving. Type II or better PFDs are required within 15' of water that is >3' deep or that is swiftly moving.

Health and Safety Plan Approver Signature: **Date:**

Note: A minimum of two persons with appropriate training and medical surveillance must be on site for any fieldwork subject to Level 2 HASP requirements.
Note: A detailed site sketch or figure may be included on Page 10 of 12.

Initial Isolation and Protective Action Distances (for emergency response operations only): Follow local response agency implemented evacuation and work zone limits

Establishment of Work Zones; including exclusion, contamination reduction, and support zones; is required for ALL HAZWOPER projects. . For heavy equipment (i.e. drilling operations), exclusions zone will established around each equipment or drilling location based on site conditions and or noise levels (DCN 2-04, Hearing Conservation Program) at drilling operations (i.e. a circular exclusion zone based on noise levels >85 dbA from the drill rig or a minimum of 20 feet around the rig, whichever is greater). Or zones will be delineated using cones, barrier tape or similar visual indicators.

Wind Speed and Direction (Approach from upwind)		Temperature (°F)	Relative Humidity (%)	Probability of Precipitation (%)	Weather Forecast (such as partly cloudy, snow, etc.)
Speed (mph): 0-2	**From Direction:** N	37 Low – 64 High	45	0	Sunny

On-Site Supplies: ☒ First Aid Kit ☒ Fire Extinguisher ☐ Air Horn ☐ Oral Thermometer ☐ Noise Dosimeter

Known or Anticipated Site Hazards or Concerns: (Hazards covered by existing Safe Work Practices are listed on the next page)

☐ Railroad Right-of-Way (stay >50 ft from centerline)	☒ Overhead utilities	☐ Energized electrical systems
☐ Onsite laboratory	☒ Buried Utilities	☒ Portable hand tool use
☒ Explosion or fire hazard	☐ Surface or underground storage tanks	☐ Portable electrical tool use
☒ Oxygen deficiency	☒ General slips, trips, falls	☐ Machine guarding
☐ Unknown or poorly characterized chemical hazards	☒ Uneven, muddy, rugged terrain	☐ Portable fire extinguisher use
☒ Inorganic chemicals	☐ Lift (man lift, cherry picker) use	☐ Driving commercial vehicles
☒ Organic chemicals	☐ Industrial truck (forklift) use	☐ Driving personal vehicles
☐ Chemical warfare materiel	☐ Wood or metal ladder use	☐ Scientific diving operations
☐ Compressed Gas Cylinders	☐ Dangerous goods shipped by air	☐ Injury and Illness Prevention Program (California only)
☒ Asbestos	☐ Elevated work (over 6' high)	☐ Ergonomics (California only)
☒ Respirable particulates	☒ Heavy equipment use or operation	☐ Work in strip or shaft mines
☐ Respirable silica	☐ Construction work	☐ Client-specific safety requirements (attach to HASP)
☐ Blasting and explosives	☐ Excavation or trenching	☐ ATV use
☐ Non-ionizing radiation (lasers, radiofrequencies, UV)	☐ Benching, shoring, bracing	☐ Methamphetamine lab
☐ Ionizing radiation (alpha, beta, gamma, etc.)	☐ Scaffold use	☒ Working over or near water
☒ Heat stress	☒ High noise	☐ Mold
☐ Cold stress	☐ Grinding operations	☒ Biological hazards

Explosion or Fire Potential: ☒ High ☐ Medium ☐ Low ☐ Unknown

Chemical Products Tetra Tech EM Inc. Will Use or Store On Site: (Attach a Material Safety Data Sheet [MSDS] for each item.)

- ☒ Alconox or Liquinox
- ☒ Hydrochloric acid (HCl)
- ☒ Nitric acid (HNO_3)
- ☐ Sodium hydroxide (NaOH)
- ☒ Calibration gas (Methane)
- ☒ Calibration gas (Isobutylene)
- ☐ Calibration gas (Pentane)
- ☒ Calibration gas (4-gas mixture)
- ☒ Hydrogen gas
- ☐ Household bleach (NaOCl)
- ☐ Sulfuric acid (H_2SO_4)
- ☐ Hexane
- ☐ Isopropyl alcohol
- ☒ HazCat Kit
- ☐ Mark I Kits (*number?*) _____
- ☒ Potable water (eyewash/drench)

WARNING: Eyewash solution shall be readily available on ALL projects where corrosives (acids or bases) are used, including sample preservatives

Applicable Safety Programs and Safe Work Practices (SWP). Attach to HASP:

- ☐ DCN 4-03 Demolition and Decontamination
- ☐ DCN 4-05 Trenching and Excavation Safety
- ☐ DCN 4-08 Asbestos Protection Program
- ☐ DCN 4-09 Haulage and Earth Moving
- ☐ DCN 4-10 Lead Protection Program
- ☒ SWP DCN 5-01 General Safe Work Practices
- ☒ SWP DCN 5-02 General Safe Work Practices HAZWOPER
- ☐ SWP DCN 5-03 Safe Work Practices for Office Employees
- ☐ SWP DCN 5-04 Safe Drilling Practices
- ☐ SWP DCN 5-05 Safe Direct Push (GeoProbe) Practices
- ☐ SWP DCN 5-06 Working Over or Near Water
- ☒ SWP DCN 5-07 Use of Heavy Equipment
- ☐ SWP DCN 5-08 Special Site Hazards (Firearms, Remote Sites, Mines, aircraft, etc.)
- ☐ SWP DCN 5-09 Safe Electrical Work Practices
- ☐ SWP DCN 5-10 Fall Protection Practices
- ☐ SWP DCN 5-11 Portable Ladder Safety
- ☐ SWP DCN 5-12 Drum and Container Handling Practices
- ☒ SWP DCN 5-13 Flammable Hazards and Ignition Sources
- ☒ SWP DCN 5-14 Spill and Discharge Control Practices
- ☒ SWP DCN 5-15 Heat Stress
- ☐ SWP DCN 5-16 Cold Stress
- ☒ SWP DCN 5-17 Biohazards
- ☒ SWP DCN 5-19 Safe Lifting Procedures
- ☐ SWP DCN 5-22 Hydrographic Data Collection
- ☐ SWP DCN 5-23 Permit-Required Confined Space Entry Practices
- ☐ SWP DCN 5-24 Non-Permit-Required Confined Space Entry Practices
- ☒ SWP DCN 5-26 Prevention of Sun Exposure
- ☒ SWP DCN 5-27 Respirator Cleaning Practices
- ☒ SWP DCN 5-28 Safe Use Practices for Use of Respirators
- ☒ SWP DCN 5-47 Spill Prevention and Clean-Up
- ☒ SWP DCN 5-51 Hand Tools
- ☐ SWP DCN 5-30 Laboratory Soil Testing Safe Work Practices

Tasks Performed At Job Site that are NOT Covered by SWPs

NOTE: Many AHA's can be found on the Health & Safety intranet site at: http://home.ttemi.com/C18/Activity%20Hazard%20Analysis%20Doc um/default.aspx

Attach Activity Hazard Analysis (AHA) for each non-covered task

- ☒ Site Documentation – Observation of Excavation Operations Near Heavy Equipment (see end of document)
- ☒ AreaRAE & Viper Linc Battery Change Out
- ☒ Air Sampling for Asbestos. Including ABS, personal, and clearance
- ☒ Soil Sampling (Augering)

Tetra Tech Employee Training and Medical Requirements:

Basic Training and Medical

- ☒ Initial 40 Hour Training
- ☒ 8-Hour Supervisor Training (one-time)
- ☒ Current 8-Hour Refresher Training
- ☒ Current Medical Clearance (including respirator use)
- ☒ Current First Aid Training
- ☒ Current CPR Training
- ☒ Current Respirator Fit-Test

Other Specific Training and Medical Surveillance Requirements

- ☐ Confined Space Training
- ☐ Level A Training
- ☐ Radiation Training
- ☐ OSHA 10-hour Construction Safety Training
- ☐ OSHA 30-hour Construction Safety Training
- ☒ Asbestos Awareness Training
- ☐ Asbestos B-Reader X-Ray
- ☐ Blood Lead Level and ZPP Pre, during and Post-Project
- ☐ Urinary Arsenic Level Pre and Post-Project
- ☐ Other _____
- ☐ Other _____

Materials Present or Suspected at Site	Highest Observed Concentration (specify units and sample medium)	Exposure Limit (specify ppm or mg/m³)	IDLH Level (specify ppm or mg/m³)	Primary Hazards of the Material (explosive, flammable, corrosive, toxic, volatile, radioactive, biohazard, oxidizer, or other)	Symptoms and Effects of Acute Exposure	Photoionization Potential (eV)
Particulates		Good (8-hr avg): 0-22 ug/m3 Moderate (8-hr avg): 23-50 ug/m3 Unhealthy,sensitive grps (8-hr avg): 51-79 ug/m3				
Asbestos	Unknown	PEL/REL/TVL = 0.1 fibers per cubic cm; >5 micrometers in length NOTE: 1.0 fiber per cubic cm for 30-minute excursion level [Skin] Hazard ☒	CARC	CARC	Asbestosis (chronic exposure), dyspnea, interstitial fibrosis, restricted pulmonary function, finger clubbing, irritation eyes, CARC	N/A
Hydrogen Sulfide	Unknown	PEL = C 20 ppm 50 ppm [10-minute maximum peak] REL = C 10 ppm (15 mg/m3) [10-minute]	100 ppm	Toxic; Colorless gas with a strong odor of rotten eggs.	irritation eyes, respiratory system; apnea, coma, convulsions; conjunctivitis, eye pain, lacrimation (discharge of tears), photophobia (abnormal visual intolerance to light), corneal vesiculation; dizziness, headache, lassitude (weakness, exhaustion), irritability, insomnia; gastrointestinal disturbance; liquid: frostbite	10.46
Phosgene	Unknown	PEL = 0.1 mg/m3 REL = 0.1 mg/m3	2 ppm	Toxic	Irritation eyes; dry burning throat; vomiting ; cough, foamy sputum, breathing difficulty, chest pain, cyanosis; liquid: frostbite	11.55
Carbon Monoxide	Unknown	PEL = 50 ppm REL = 35 ppm (30-min)	1,200 ppm	Toxic	Headache, tachypnea, nausea, lassitude, dizziness, confusion, hallucinations; cyanosis; depressed S-T segment of electrocardiogram, angina, cyncope	14.01
Hydrogen Chloride	Unknown	PEL = 5 ppm (C) REL = 5 ppm (C)	50 ppm	Toxic, corrosive	Irritation nose, throat, larynx; cough, choking; dermatitis; solution: eye, skin burns; liquid: frostbite; in animals: laryngeal spasm; pulmonary edema	12.74
Styrene	Unknown	PEL = 100 ppm REL = 50 ppm (ST 100)	700 ppm	Toxic	Irrigation eyes, nose, respiratory system; headache, lassitude, dizziness, confusion, malaise (vague feeling of discomfort), drowsiness, unsteady gait; narcosis; defatting dermatitis; possible liver injury; reproductive effects	8.4
Specify Information Sources: NIOSH Pocket Guide to Hazardous Chemicals, July 2016						

Note: In the Exposure Limit column, include Ceiling (C) and Short-Term Exposure Limits (STEL) if they are available. Also, use the following short forms and abbreviations to complete the table above.

IDLH = Immediately dangerous to life or health
mg/m³ = Milligram per cubic meter
NA = Not available

PEL = Permissible exposure limit
ppm = Part per million
REL = Recommended exposure limit
TLV = Threshold limit value
ug/m3 = microgram per cubic meter

Note: If no contingency level of protection is selected, all employees covered under this plan must evacuate the immediate site area if air contaminant levels require upgrading PPE. Level A field work requires a Level 3 HASP. This information is available on the chemical hazards page of this HASP.

Field Activities Covered Under this HASP:

Task Description	Level of Protection[1] Primary	Level of Protection[1] Contingency	Date of Activities
1 Conduct air monitoring	☐ A ☐ B ☐ C ☒ D	☐ A ☐ B ☒ C ☐ D	Begin 07/25/2019
2 Collect samples (soil and/or sediment – see separate AHAs), if necessary	☐ A ☐ B ☐ C ☒ D	☐ A ☐ B ☒ C ☐ D	Begin 07/25/2019
3 Site entry	☐ A ☐ B ☐ C ☒ D	☐ A ☐ B ☒ C ☐ D	Begin 07/25/2019
4	☐ A ☐ B ☐ C ☐ D	☐ A ☐ B ☐ C ☐ D	

Site Personnel and Responsibilities (include subcontractors):

Employee Name and Office Code / Location	Task(s)	Responsibilities
John Snyder	1, 2, 3	• Project Manager: Manages the overall project, makes site safety coordinator (SSC) aware of pertinent project developments and plans, and maintains communications with client as necessary. Additionally, for projects lasting longer than one consecutive week on-site, the PM is responsible for conducting one field audit using Form AF-1.
John Snyder	1, 2, 3	• Field Team Leader: Directs field activities, makes site safety coordinator (SSC) aware of pertinent project developments and plans, and maintains communications with the Project Manager and the client as necessary
John Snyder	1, 2, 3	• Site Safety Coordinator (SSC): Ensures that appropriate personal protective equipment (PPE) is available, enforces proper use of PPE by on-site personnel and subcontractors; suspends investigative work if personnel are or may be exposed to an immediate health hazard; implements and enforces the HASP; identifies and controls site hazards when possible; communicates site hazards to all personnel; and reports any deviations observed from anticipated conditions described in the health and safety plan to the health and safety representative.
Eric Huss	1, 2,3	• Alternate Site Safety Coordinator (if any)
Josiah Williams	1, 2, 3	• Field Personnel: Completes tasks as directed by the project manager, field team leader, and SSC, and follows the HASP and all SWPs and guidelines established in the Tetra Tech, Inc., Health and Safety Manual. • Tetra Tech-hired subcontractor personnel on site (a subcontract SSC MUST be identified by name): Completes tasks as outlined in the project scope of work in accordance with the contract. Participates in all Tetra Tech on-site safety meetings and follows all procedures and guidelines established in this HASP, as well as the company health and safety plan and program.

Note. See next page for details on levels of protection

NOTE: Contingency level of protection section should be completed only if the upgraded level of protection is immediately available at the job site. If no contingency level of protection is denoted, all employees covered under this HASP must evacuate the immediate site area if air contaminant levels would require an upgrade of PPE.

Protective Equipment: (Indicate type or material as necessary for each task.)

Task	Primary Level of Protection (A,B,C,D)	PPE Component Description (Primary)	Contingency Level of Protection (A, B, C, D)	PPE Component Description (Contingency)
1	D	Respirator type: NA Cartridge type (if applicable): NA CPC material: NA Glove material(s): Nitrile (if needed) Boot material: Steel-toed Other: hard hat, safety glasses, safety vest, hearing protection as needed near heavy equipment or loud operations	C	Respirator type: SCOTT AV3000 Cartridge type (if applicable): P100 multi CPC material: Tyvek Glove material(s): Nitrile Boot material: Butyl Rubber over leather steel-toed Other: Hard hat, safety vest
2	D	Respirator type: NA Cartridge type (if applicable): NA CPC material: NA Glove material(s): Nitrile (if needed) Boot material: Steel-toed Other: hard hat, safety glasses, safety vest, hearing protection as needed near heavy equipment or loud operations	C	Respirator type: SCOTT AV3000 Cartridge type (if applicable): P100 multi CPC material: Tyvek Glove material(s): Nitrile Boot material: Butyl Rubber over leather steel-toed Other: Hard hat, safety vest
3	D	Respirator type: NA Cartridge type (if applicable): NA CPC material: NA Glove material(s): Nitrile (if needed) Boot material: Steel-toed Other: hard hat, safety glasses, safety vest, hearing protection as needed near heavy equipment or loud operations	C	Respirator type: SCOTT AV3000 Cartridge type (if applicable): P100 multi CPC material: Tyvek Glove material(s): Nitrile Boot material: Butyl Rubber over leather steel-toed Other: Hard hat, safety vest
4		Respirator type: Cartridge type (if applicable): CPC material: Glove material(s): Boot material: Other:		Respirator type: Cartridge type (if applicable): CPC material: Glove material(s): Boot material: Other:
5		Respirator type: Cartridge type (if applicable): CPC material: Glove material(s): Boot material: Other:		Respirator type: Cartridge type (if applicable): CPC material: Glove material(s): Boot material: Other:

Respirator Notes:
Respirator cartridges may only be used for a maximum time of 8 hours or one work shift, whichever is less, and must be discarded at that time. For job sites with organic vapors, respirator cartridges may be used as described in this note as long as the concentration is less than 200 parts per million (ppm), the boiling point is greater than 70 °Celsius, and the relative humidity is less than 85 percent. If any of these levels are exceeded, a site-specific respirator cartridge change-out schedule must be developed and included in the HASP using Tetra Tech Form RP-2 (Respiratory Hazard Assessment Form)

Notes:
All levels of protection must include eye, head, and foot protection.
CPC = Chemical protective clothing
Thermoluminescent Dosimeter (TLD) Badges must be worn during all field activities on sites with radiation hazards. TLDs must be worn under CPC.

Monitoring Equipment: All monitoring equipment on site must be calibrated before and after each use and results recorded in the site logbook

Instrument (Check all required)	Task	Instrument Reading	Action Guideline	Comments
☒ Combustible gas indicator model:	☒ 1 ☐ 2 ☒ 3 ☐ 4 ☐ 5	0 to 10% LEL	Monitor; evacuate if confined space	
		10 to 25% LEL	Potential explosion hazard; notify SSC	
		>25% LEL	Explosion hazard; interrupt task; evacuate site; notify SSC	
☒ Oxygen meter model:	☒ 1 ☐ 2 ☒ 3 ☐ 4 ☐ 5	>23.5% Oxygen	Potential fire hazard; evacuate site	
		23.5 to 19.5% Oxygen	Oxygen level normal	
		<19.5% Oxygen	Oxygen deficiency; interrupt task; evacuate site; notify SSC	
☐ Radiation survey meter model:	☒ 1 ☐ 2 ☒ 3 ☐ 4 ☐ 5	Normal background	Proceed	Annual exposure not to exceed 1,250 mrem per quarter Background reading must be taken in an area known to be free of radiation sources.
		Two to three times background	Notify SSC	
		>Three times background	Radiological hazard; interrupt task; evacuate site; notify RSO	
☒ Photoionization detector model: ☐ 11.7 eV ☒ 10.6 eV ☐ 10.2 eV ☐ 9.8 eV ☐ Other (specify): _____	☒ 1 ☐ 2 ☒ 3 ☐ 4 ☐ 5	Any response above background to 5 ppm above background	Level B is recommended Level C[a] may be acceptable	These action levels are for unknown gases or vapors. After the contaminants are identified, action levels should be based on the specific contaminants involved.
		> 5 to 500 ppm above background	Level B	
		> 500 ppm above background	Level A	
☐ Flame ionization detector model:	☒ 1 ☐ 2 ☒ 3 ☐ 4 ☐ 5	Any response above background to 5 ppm above background	Level B is recommended Level C[a] may be acceptable	These action levels are for unknown gases or vapors. After the contaminants are identified, action levels should be based on the specific contaminants involved.
		>5 to 500 ppm above background	Level B	
		>500 above background	Level A	
☒ Detector tube models: Styrene	☒ 1 ☐ 2 ☒ 3 ☐ 4 ☐ 5	Specify: < 2 the PEL > 2 the PEL	Specify: Remove from area. Upgrade respiratory protection to B	The action level for upgrading the level of protection is one-half of the contaminant=s PEL. If the PEL is reached, evacuate the site and notify a safety specialist
☒ Single Point Monitor	☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	Specify: Phosgene	Specify: Remove from area. Upgrade Respiratory protection to C	

Notes:
eV= electron volt LEL=Lower explosive limit mrem=Millirem PEL=Permissible exposure limit ppm=Part per million
a. Level B is required when chemical hazards are present, but are uncharacterized. Level C may be acceptable for certain tasks in some situations. If you are uncertain, consult your RSO.

Project-Specific Industrial Hygiene Requirements

OSHA-Regulated Chemicals*:

Check any present on the job site in any medium (air, water, soil)

- ☐ No chemicals below are located on the job site
- ☐ Friable Asbestos
- ☐ Silica, crystalline
- ☐ alpha-Napthylamine
- ☐ Methyl chloromethyl ether
- ☐ 3,3'-Dichlorobenzidine (and its salts)
- ☐ bis-Chloromethyl ether
- ☐ beta-Napthylamine
- ☐ Benzidine
- ☐ 4-Aminodiphenyl
- ☐ Ethyleneimine
- ☐ beta-Propiolactone
- ☐ 2-Acetylaminoflourene
- ☐ 4-Dimethylaminoazobenzene
- ☐ N-nitrosomethylamine
- ☒ Vinyl chloride
- ☐ Inorganic arsenic
- ☐ Lead
- ☐ Chromium (VI)
- ☐ Cadmium
- ☐ Benzene
- ☐ Coke oven emissions
- ☐ 1,2-Dibromo-3-chloropropane
- ☐ Acrylonitrile
- ☐ Ethylene oxide
- ☐ Formaldehyde
- ☐ Methylenedianiline
- ☐ 1,3-Butadiene
- ☐ Methylene chloride

* NOTE: Many states, including California and New Jersey, have chemical-specific worker protection requirements and standards for many chemicals and known or suspected carcinogens.

Emergency Contacts:

	Telephone No.
WorkCare and Incident Intervention	888.449.7787, or 800.455.6155
Tetra Tech EMI 24-hour Anonymous Hazard Reporting Line	866.383.8070
U.S. Coast Guard National Response Center	800.424.8802
InfoTrac	800.535.5053
Poison Control	800.222.1222
Fire department	911
Police department	911

Personnel Call-Down List:

Job Title or Position:	Name	Cell Phone:
Regional Safety Officer	Chris Draper	615.969.1334
Project Manager:	John Snyder	770-402-9013
Field Team Leader:	John Snyder	770-402-9013
Site Safety Coordinator (SSC):	John Snyder	770-402-9013
Subcontractor SSC:	NA	

Medical and Site Emergencies:

Signal a site or medical emergency with three blasts of a loud horn (car horn, fog horn, or similar device). Site personnel should evacuate to the area of safe refuge designated on the site map.

Hospital Name:	Coastal Carolina Hospital: Emergency Room
Address:	1000 Medical Center Dr, Hardeeville, SC 29927
General Phone:	(843) 784-8000
Emergency Phone:	911
Ambulance Phone:	911

Hospital called to verify emergency services are offered? YES ☒ NO ☐

Step-by-step Route to Hospital: (see Page 11 of 12 for route map):

Note: This page must be posted on site.

Decontamination Procedures

The site safety coordinator overseas implementation of project decontamination procedures and is responsible for ensuring they are effective.

Personnel Decontamination

Level D Decon - ☐ Wet ☒ Dry

Level C Decon - ☐ Wet ☒ Dry

Level B Decon – Briefly outline the level B decontamination methods to be used on a separate page attached to this HASP.

Level A Decon – A Level 3 HASP is required. Notify your regional health and safety representative and health and safety director.

Equipment Decontamination

All tools, equipment, and machinery from the Exclusion Zone (hot) or Contamination Reduction Zone (warm) are decontaminated in the CRZ before they are removed to the Support Zone (cold). Equipment decontamination procedures are designed to minimize the potential for hazardous skin or inhalation exposure, cross-contamination, and chemical incompatibilities.

Respirator Decontamination

Respirators are decontaminated in compliance with SWP 5-27 and should be included with this HASP.

Waste Handling for Decontamination

Procedures for decontamination waste disposal meet all applicable local, state, and federal regulations.

Decontamination Equipment

- ☐ Washtubs
- ☒ Buckets
- ☒ Scrub brushes
- ☐ Pressurized sprayer
- ☐ Detergent [Luminox]
- ☐ Solvent [Type]
- ☐ Household bleach solution

  Concentration/Dilution: _____
- ☒ Deionized water
- ☒ Disposable sanitizer wipes
- ☐ Facemask sanitizer powder
- ☐ Wire brush
- ☒ Spray bottle
- ☐ Tubs / pools
- ☐ Banner/barrier tape
- ☒ Plastic sheeting
- ☐ Tarps and poles
- ☒ Trash bags
- ☐ Trash cans
- ☒ Duct tape
- ☒ Paper towels
- ☒ Folding chairs
- ☐ Other

Emergency Response Planning

During the pre-work briefing and daily tailgate safety meetings, all on-site employees will be trained in the provisions of emergency response planning, site communication systems, and site evacuation routes.

In the event of an emergency that necessitates evacuation of a work task area or the site, the following procedures will take place.

- The Tetra Tech SSC will contact all nearby personnel using the on-site communications to advise the personnel of the emergency.
- The personnel will proceed along site roads to a safe distance upwind from the hazard source.
- The personnel will remain in that area until the SSC or an authorized individual provides further instructions.

In the event of a severe spill or a leak, site personnel will follow the procedures listed below.

- Evacuate the affected area and relocate personnel to an upwind location.
- Inform the Tetra Tech SSC, a Tetra Tech office, and a site representative immediately.
- Locate the source of the spill or leak, and stop the flow if it is safe to do so.
- Begin containment and recovery of spilled or leaked materials.
- Notify appropriate local, state, and federal agencies.

In the event of severe weather, site personnel will follow the procedures listed below.

- Site work shall not be conducted during severe weather, including high winds and lightning.
- In the event of severe weather, stop work, lower any equipment (drill rigs) and evacuate the affected area.
- Severe weather may cause heat or cold stress. Refer to SWPs 5-15 and 5-16 for information on both.

All work-related incidents must be reported. According to TtEMI's reporting procedures, for non-emergency incidents you should:

- Notify WorkCare and Incident Intervention at 888.449.7787, or 800.455.6155
- Notify your Project Manager or Regional Safety Officer (RSO) via phone immediately.
- Complete a "Tetra Tech Incident Report" (Form IR) within 24 hours and send it to your RSO. If an injury or illness has occurred, the Form IR-A and the WorkCare HIPAA form must be completed at the same time the Form IR is completed.

Site Map

Capitol Materials Coastal
472 Schinger Avenue
Schinger Ave
Ironman Welding
Carolina Morning
Firewood
Mackinlay Way
Schinger Ave
Terminix
Google

Hospital Route Map

15 min (10.1 miles)

via US-278 W

Fastest route, the usual traffic

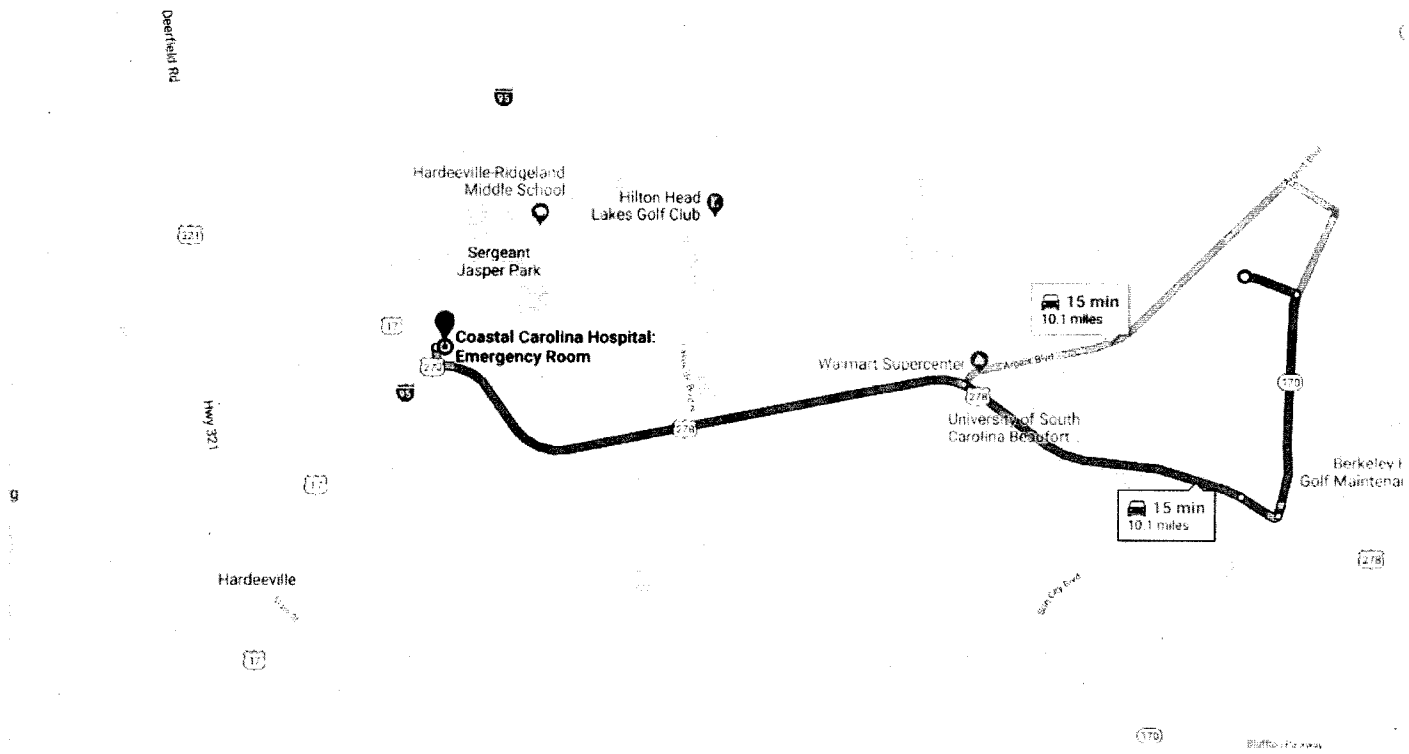
472 Schinger Ave

Ridgeland, SC 29936

- Head east on Schinger Ave toward Browns Cove Rd N
- Turn right onto SC-170 W
- Turn right onto the U.S. 278/Savannah ramp
- Merge onto US-278 W
- Turn right onto I-95 Frontage Rd/Medical Center Dr/Red Dam Rd/State Rd S-27-422
- Turn right
- Turn left
  Destination will be on the right

Coastal Carolina Hospital: Emergency Room

[redacted]



Note: A dry-run should be conducted to establish a physical location associated with the map included in the HASP. Verbal verification from the hospital emergency room should also be obtained to ensure that the hospital will accept chemically contaminated patients.

APPROVAL AND SIGN-OFF FORM

Project No.: _____

I have read, understood, and agree with the information set forth in this Health and Safety Plan and will follow the direction of the Site Safety Coordinator (SSC) as well as procedures and guidelines established in the Tetra Tech, Inc., Health and Safety Manual. I understand the training and medical requirements for conducting field work and have met these requirements.

Tetra Tech has prepared this plan solely for the purpose of the health and safety protection of Tetra Tech employees. Subcontractors, visitors, and others at the site, while required to read and follow the provisions outlined in this plan at a minimum, should refer to their safety program for specific information related to their health and safety protection.

Name	Company / Agency / Organization	Signature	Date

I have read, understood, and agree with the information set forth in this Health and Safety Plan and comply with and will enforce this HASP, as well as procedures and guidelines established in the Tetra Tech, Inc., Health and Safety Manual.

Name	Project-Specific Position	Signature	Date
John Snyder	Project Manager		
John Snyder	Field Team Leader		
John Snyder	Site Safety Coordinator		
	Subcontractor SSC		

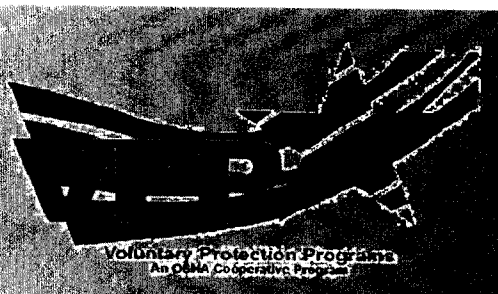
Tetra Tech has prepared this plan solely for the purpose of the health and safety protection of Tetra Tech employees. Subcontractors, visitors, and others at the site, while required to read, acknowledge and follow the provisions outlined in this plan at a minimum, should refer to their safety program for specific information related to health and safety.

Note: Use Additional sheets as necessary to ensure that all personnel sign and affirm this document.

TETRA TECH

Safety Excellence

VOLUNTARY PROTECTION PROGRAM



Management Leadership

Lead by example. Good managers recognize the benefits of a strong safety program and ensure that their personnel and subcontractors have the right tools, equipment, and attitude to work safely.

Some areas where effective management leadership for safety can be demonstrated include:

- Provide visible safety leadership - start meetings with a safety topic, integrate safety into planning, scheduling, and budgeting processes, take personal action to resolve safety issues.
- Become involved in incident reporting, investigation, corrective action - share lessons learned.
- Include subcontractors in your safety program and oversee their work.

Employee Involvement

Get involved! Take personal action and work directly with your supervisor daily to identify, control, or eliminate potential safety hazards.

Other ways to become involved in the safety program and improve work conditions include:

- Initiate hazard reports to identify hazards, suggest improvements, and recognize safe behaviors
- Participate in safety meetings and worksite safety inspections (daily, weekly, monthly, and quarterly)
- Participate in incident reports, investigations, corrective actions, and Lessons Learned

Worksite Analysis

The process of identifying and evaluating potential hazards is a critical element in achieving zero incidents and creating low risk and hazard-free work areas.

Worksite analysis methods used to identify and evaluate potential hazards include:

- Safety inspections (daily, weekly, monthly, and quarterly)
- Develop or review safe work procedures, AHA's, and the HASP
- Monitoring for air quality, heat stress, noise, ergonomics and other job hazards

Hazard Prevention and Control

Eliminating hazards from your job, preventing new hazards, and controlling known hazards are fundamental parts of the projects safety program.

Important points include:

- Control hazards by:
  - Installing and maintaining ***Engineering Controls***
  - Following ***Administrative/Work Practice Controls*** (HASP, AHAs, and safe work practices)
  - Specifying and wearing ***Personal Protective Equipment*** where needed
- Perform integrated safety reviews for new or modified work tasks
- Consult with qualified medical and safety professionals as needed

Safety and Health Training

Effective safety training is an important element in incident prevention. Remember, if you are unfamiliar with the work or feel that you don't have the necessary training, speak up and notify your team leader or project manager.

Safety training methods that may be used at the project include:

- New employee orientation, including HASP and task-specific training
- Project meetings, daily briefings, and/or task briefings
- Lessons learned and monthly safety communications

Name Signature

TETRA TECH EM INC.

HEALTH AND SAFETY PLAN AMENDMENT

Site Name: _____

Amendment Date: _____

Purpose or Reason for Amendment: _____

_____

_____

Required Additional Safe Work Practices or Activity Hazard Analyses: _____

_____

Required Changes in PPE: _____

_____

_____

Action Level Changes: _____

_____

_____

_____

_____

AMENDMENT APPROVAL

RSO or Designee	_____ Name	_____ Signature	_____ Date
Site Safety Coordinator	_____ Name	_____ Signature	_____ Date

Date presented during daily site safety meeting: _____

TETRA TECH, INC.

FIELD AUDIT CHECKLIST

Project Name: _____ Project No.: _____

Field Location: _____ Completed by: _____

Project Manager: _____ Site Safety Coordinator: _____

General Items		In Compliance?		
Health and Safety Plan Requirements		Yes	No	NA
1	Approved health and safety plan (HASP) on site or available			
2	Names of on-site personnel recorded in field logbook or daily log			
3	HASP compliance agreement form signed by all on-site personnel			
4	Material Safety Data Sheets on site or available			
5	Designated site safety coordinator physically present on jobsite			
6	Daily tailgate safety meetings conducted and documented on Form HST-2			
7	Documentation available proving compliance with HASP requirements for medical examinations, fit testing, and training (including subcontractors)			
8	HASP onsite matches scope of work being conducted			
9	Emergency evacuation plan in place and hospital located			
10	Exclusion, decontamination, and support zones delineated and enforced			
11	HASP attachments present onsite (VPP sheet, audit checklist, AHA, etc.)			
12	Illness and injury prevention program reports completed (California only)			
Emergency Planning				
13	Emergency telephone numbers posted			
14	Emergency route to hospital posted			
15	Local emergency providers notified of site activities			
16	Adequate safety equipment inventory available			
17	First aid provider and supplies available			
18	Eyewash solution available when corrosive chemicals are present			
Air Monitoring				
19	Monitoring equipment specified in HASP available and in working order			
20	Monitoring equipment calibrated and calibration records available			
21	Personnel know how to operate monitoring equipment and equipment manuals available on site			
22	Environmental and personnel monitoring performed as specified in HASP			

Safety Items		In Compliance?		
Personal Protection		Yes	No	NA
23	Splash suit, if required			
24	Chemical protective clothing, if required			
25	Safety glasses or goggles (always required)			
26	Gloves, if required			
27	Overboots, if required			
28	Hard hat (always required)			
29	High visibility vest, if required			
30	Hearing protection, if required			
31	Full-face respirator, if required			
Instrumentation				
32	Combustible gas meter and calibration notes			
33	Oxygen meter and calibration notes			
34	Organic vapor analyzer and calibration notes			
Supplies				
35	Decontamination equipment and supplies			
35	Fire extinguishers			
37	Spill cleanup supplies			
Corrective Action Taken During Audit:				

Note: NA = Not applicable

Auditor's Signature

Site Safety Coordinator's Signature

Date

Tetra Tech, Inc.

ACTIVITY HAZARD ANALYSIS (AHA)

Tetra Tech EM Inc.

Site Documentation & Observation of Excavation Operations Near Heavy Equipment

Task Description

This Activity Hazard Analysis (AHA) applies to observation and documentation of site activities involving operation of heavy equipment, including back-filling and site restoration activities. It has been developed and approved by the Tetra Tech (Tt) Health and Safety Representative and is applicable to ALL Tt and contractor personnel involved in this activity. The AHA contains potential hazards posed by each major step in this task, lists procedures to control hazards, and presents required safety equipment, inspections, and training.

Hazards		Actions
Task Steps Observe Near Heavy Equipment	• Exposure to chemicals of concern • Open excavations • Slips, trips, and falls • Heat stress • Biological hazards • Excessive noise • Heavy lifting • Sun Exposure • Heavy equipment	**Critical Safety Procedures and Controls** • Follow appropriate safe work practices for field work (SWP 5-1) and HAZWOPER (SWP 5-2); • Wear prescribed PPE; Inspect, don and use PPE specified in the HASP, including hardhats, safety glasses, steel-toed boots, Class 2 safety vests and hearing protection • Sample dust to ensure that PPE levels and dust control measures are adequate; • Limit access to work area; • AT NO TIME are Tetra Tech personnel authorized to enter open excavations; • Follow DCN 4-05, Trenching and Excavation Safety; • Keep site areas clean and free of debris; • Follow SWP 5-15 for heat stress; • Keep out or limit time in grassy and wooded areas; use insect repellent as necessary; • Follow Hearing Conservation Program (DCN 2-4); wear hearing protection in areas >85 dB; use rule of thumb and wear hearing protection whenever you have to raise your voice to be heard and understood from 2 feet away; • Follow Safe Lifting Practices (SWP 5-19); • Follow Prevention of Sun Exposure (SWP 5-26); wear hats and sunscreen as needed to limit sun exposure; • Follow Working Near Heavy Equipment (SWP 5-7); keep away from heavy equipment; be aware of the swing radius of equipment; and ensure eye contact is made with the operator before approaching machinery • Conduct air monitoring as necessary and adhere to action levels presented in the HASP • Delineate the area using caution tape, signage, etc. and prohibit unauthorized entry.

		• Visually inspect the area for slippery spots or debris and correct if found. • Wear steel-toed, non-skid boots in accordance with Tetra Tech EMI policy • Use proper lifting techniques (lift with legs not back)
Equipment to be Used • Level D PPE, , including hardhats, safety glasses, steel-toed boots, Class 2 safety vests and hearing protection • First aid kit & eye wash	**Inspection Requirements** • Inspect all PPE for proper operations, wear and defects • Ensure any air monitoring equipment is properly calibrated and functioning properly	**Training Requirements** • See HASP; no extra training requirements.

Tetra Tech, Inc.

ACTIVITY HAZARD ANALYSIS (AHA)

Tetra Tech EM Inc.

Soil Sampling

Task Description

This Activity Hazard Analysis (AHA) applies to collection of grab soil samples. It has been developed and approved by the Health & Safety Department. The AHA contains potential hazards posed by each major step in this task, lists appropriate controls, and presents required safety equipment, inspections, and training.

Hazards		Actions
Task Steps	**Potential Hazards**	**Critical Safety Procedures and Controls**
Set up equipment at sampling location	SLIP/TRIP/FALL	• Visually inspect the area for slippery spots or debris and correct if found • Wear steel-toed, non-skid boots in accordance with Tetra Tech EMI policy
	BACK STRAIN/SPRAIN	• Use proper lifting techniques (lift with legs not back)
Dig to appropriate depth with appropriate tools NOTE: Employees may NOT enter open excavations to retrieve soil samples. Samples MUST be collected from excavator buckets or by other remote means.	SLIP/TRIP/FALL	• Wear steel-toed, non-skid boots in accordance with Tetra Tech EMI policy
	BACK STRAIN/SPRAIN	• Use proper digging techniques. Use care if resistance is encountered. Do not strain or overexert to advance the shovel. Consider a different sampling location is possible. • If using a hand-auger. Use care if resistance is encountered. Do not strain to turn and advance the auger. Consider a different sampling location is possible.
	HAND INJURY	• Wear gloves when digging or hand-auguring
	HEAVY EQUIMENT	• Wear high-visibility vests at all times • Maintain contact with operator and ensure that the operator is aware of your position at all times

	HIGH NOISE	• Use appropriate hearing protective devices near heavy equipment
Extract Soil	EMPLOYEE EXPOSURE	• Wear safety glasses and nitrile gloves • Emergency eyewash is required when sampling corrosive materials or using corrosive preservatives • Plastic sheeting can be used to kneel upon while collecting samples
Fill sample bottles with sample material, load coolers and IDW (if appropriate) into vehicle	LACERATION	• Handle all glass containers carefully • Have a first aid kit on-site available for small cuts • Dispose of all broken shards immediately
Store sample containers in coolers and load onto vehicles	SLIP/TRIP/FALL BACK STRAIN/SPRAIN	• Ensure all debris has been removed from the path of travel • Use proper lifting techniques, including obtaining help with heavy coolers
Equipment to be Used • Level D PPE (steel-toed boots, safety glasses, nitrile gloves) • Class 2 safety vest if in areas of vehicle traffic or heavy equipment operation • First Aid Kit • Eyewash • Disposable scoop • Hand Auger • Shovel • Appropriate bottle ware and preservative	**Inspection Requirements** • Inspect area prior to sampling • Conduct utility locating and marking as required prior to intrusive activities	**Training Requirements** • Safe Lifting Procedures • Personal Protective Equipment • Hazardous Waste Operations and Emergency Response (40-hour and current 8-hour update) • CPR/First Aid (one employee on-site must have current CPR/First Aid training) • As required in accordance with policy and/or sampling and analysis plan

Tetra Tech, Inc.

ACTIVITY HAZARD ANALYSIS (AHA)

Tetra Tech EM Inc.

AreaRAE & Viper Linc Battery Change Out

Task Description

This Activity Hazard Analysis (AHA) applies to the task listed above. It has been developed and approved by the Director of Health and Safety for Tetra Tech EMI. The AHA contains potential hazards posed by each major step in this task, lists procedures to control hazards, and presents required equipment (including safety equipment), inspections, and training. The hazard controls listed below are specific to this task.

Battery change out of deployed AreaRAEs is occurring as needed in the field. Field personnel have vehicle access to each of the AreaRAE locations foot traffic for this task is very minimal. APRs are carried with personnel throughout this change out task in the event they are needed to donn for emergency escape purposes. Tools required to conduct battery change out include a phillipshead screwdriver.

Hazards		Actions
Task Steps	**Potential Hazards**	**Critical Safety Procedures and Controls**
Gather equipment and PPE needed	none	Ensure that APR is appropriate size, in working condition, and have appropriate cartridges in place and personal 5-gas monitor. Also ensure all other ppe required is utilized (i.e. gloves, steel toed boots, etc.). Ensure that phillipshead screwdriver is in good working condition.
Vehicle deployment to each AreaRAE location	Airborne chemical exposure (butadiene, HF, Styrene, NaOH, and MIBK. Fire, Explosion	Maintain contact with air monitoring control base to ensure zones to be entered are not indicating hazardous atmosphere. Monitor reading on 5-gas detector. Only authorized personnel allowed for entry into area. Keep emergency rescue APR in hand.
Battery Change out	Airborne chemical exposure (butadiene, HF, Styrene, NaOH, and MIBK. Fire, Explosion	Maintain contact with air monitoring control base to ensure zones to be entered are not indicating hazardous atmosphere. Monitor reading on 5-gas detector. Only authorized personnel allowed for entry into area. Keep emergency rescue APR in hand.
Equipment to be Used	**Inspection Requirements**	**Training Requirements**
Phillipshead Screwdriver APRs	Visual inspect of phillipshead screwdriver, visual inspection of APR, ensure proper cartridges in place, and qualitative fit	Compliant Qualitative Respirator Fit Test Appropriate AreaRAE equipment training

	test.	

Tetra Tech, Inc.

ACTIVITY HAZARD ANALYSIS (AHA)

Tetra Tech EM Inc.

Creek Sediment Sampling

Task Description

This Activity Hazard Analysis (AHA) applies to the task listed above. It has been developed and approved by the Tetra Tech EMI Health and Safety Department. The AHA contains potential hazards posed by each major step in this task, lists procedures to control hazards, and presents required equipment (including safety equipment), inspections, and training. The hazard controls listed below are specific to this task.

Hazards		Actions
Task Steps Identify weather and water conditions prior to conducting water operations	**Potential Hazards** IMPROPER PPE	**Critical Safety Procedures and Controls** • Determine type of personal protective equipment (PPE) necessary to conduct water operations. • For water and air temperatures greater than 45 degrees Fahrenheit (°F), Tetra Tech personnel must wear weather appropriate Level D PPE and Type III personal flotation device (PFD). • For water and air temperatures less than 45 °F, Tetra Tech personnel must wear an anti-exposure suit and Type III PFD or a combination anti-exposure suit with built-in PFD. • For water and air temperatures split between 45 °F, Tetra Tech site manager will evaluate weather and water conditions to determine the appropriate PPE for sampling operations.
Ensure personnel have received the proper health and safety training prior to conducting sampling activities	IMPROPER TRAINING	• Ensure all personnel involved in sampling operations have been briefed on the Cold Weather Water Operations AHA and this AHA. • Ensure all personnel involved in sampling operations have reviewed the Tetra Tech Site Specific Health and Safety Plan and applicable Safe Work Practices.
Coordinate water operations and meeting location with appropriate personnel	LACK OF COORDINATION AND COMMUNICATION IMPROPER PPE	• Ensure sampling team is comprised of a minimum of two personnel. • Define roles of sampling team members prior to collecting samples. • Inspect all PPE prior to use to ensure it is not damaged.
Launch area	LACK OF OR IMPROPER USE OF PPE	• Tetra Tech personnel must wear a Type III PFD when working within 15 feet of a body of water. • Ensure vessel has proper safety equipment for employee rescue operations (i.e. throw rope, ring buoy, first aid kit, etc.). Ensure Tetra Tech personnel have "boat bag" with

		appropriate safety equipment on board during sampling operations.
	SLIPS, TRIPS, AND FALLS	• Survey launch area prior to entering. Avoid uneven and slick surfaces if possible. Use the "buddy system" to enter the vessel and to load equipment.
Conducting sampling operations	LACK OF OR IMPROPER USE OF PPE	• Tetra Tech site manager will determine the appropriate PPE for conducting surface water sampling operations. Tetra Tech personnel must wear a Type III PFD when working within 15 feet of a body of water. • Ensure appropriate safety gear (i.e. throw rope, ring buoy, first aid kit, etc.) is easily accessible for employee rescue operations. Ensure Tetra Tech personnel have "boat bag" with appropriate safety equipment on board during sampling operations.
	SLIPS, TRIPS, AND FALLS	• Ensure all personnel are properly seated while boat is in motion to each sampling location. Ensure all personnel maintain at least three points of contact with the boat when approaching dangerous situations (i.e. holding on to side of boat with at least one hand while properly seated). • Ensure personnel have positioned themselves in a manner that allow for stable footing and easy movement while collecting samples.
	LACK OF COORDINATION AND COMMUNICATION	• Ensure personnel collecting samples communicate with each team member prior to making any movements not involved with sample collection.
	FALLING INTO WATER WHILE COLLECTING SAMPLES	• Turn to float on your back and keep feet elevated. Extend retrieval device to the person in the water. Pull person toward and into boat. Monitor person for shock/hypothermia. If person displays symptoms of hypothermia, contact 911 or take to the nearest medical facility for treatment. Proceed to the nearest dock/rally point. Immediately place person in a heated vehicle and changed into dry clothes. Conduct first aid, transport to medic or awaiting ambulance. • Report incident to Tetra Tech Site Safety Coordinator and TVA safety department immediately.
Complete water operations	SLIPS, TRIPS, AND FALLS DAMAGED PPE	• Upon reaching shore, ensure vessel is not running or moving. Avoid uneven and slick surfaces if possible. Use "buddy system" to exit the vessel and to unload equipment. • Inspect all equipment and PPE upon return to site office.
Equipment to be Used • Trimble GeoExplorer • Hard hat	**Inspection Requirements** • Ensure battery is charged	**Training Requirements** • 40-hour HAZWOPER • General Safe Work Practices HAZWOPER

• High visibility safety vest • Steel-toed boots • Safety glasses with side shields • Type III PFD • Anti-exposure suit depending on weather conditions	• Inspect all PPE, PFDs, and exposure suits prior to use • Ensure boat bag has all required safety equipment	• Working Over or Near Water • Working Near Heavy Equipment • Cold/Heat Stress • Cold Weather Water Operations AHA • Creek Surface Water AHA

Tetra Tech, Inc.

ACTIVITY HAZARD ANALYSIS (AHA)

Tetra Tech, Inc.

Air Sampling for Asbestos. Including ABS, personal, and clearance

Task Description

This Activity Hazard Analysis (AHA) applies to the task listed above. It has been developed and approved by the Health & Safety Department. The AHA contains potential hazards posed by each major step in this task, lists procedures to control hazards, and presents required equipment (including safety equipment), inspections, and training. The hazard controls listed below are specific to this task.

Hazards		Actions
Task Steps	**Potential Hazards**	**Critical Safety Procedures and Controls**
Mobilize to site	Motor vehicle accident Remote access	Carry list of emergency numbers Have hospital route map in vehicle Alleviate all potential driving distractions Have access to map showing streets and significant features in and around the site
Initial assessment	Slip/Trip/Fall Employee Exposure Tracking contaminants away from spill area High Noise Heavy lifting Struck-by	Visually inspect the area for slippery spots or debris and correct if found Wear proper PPE, including air purifying respirator with P100 cartridges, steel-toed boots, hardhat, and Tyvek coverall, and Class 2 or better high-visibility safety vest Calibrate sampling equipment prior to entry Establish decontamination zone and always process through decon prior to exiting the exclusion zone or contaminated area to ensure contaminants are not tracked away from the spill area Wear hearing protection if there is loud noise due to demolition/abatement or other machinery or noise sources Follow SWP 5-19; Use proper lifting techniques (lift with legs not back) Wear hard hats, safety vests, and eye protection while in areas of active demolition. Be aware of your surroundings
Collect air sample	Slip/Trip/Fall Exposure to contaminants Caught on High Noise Heavy lifting Struck-by	Visually inspect the area for slippery spots or debris and correct if found Wear proper PPE, including APR If a personal sample is being collected, ensure that the sample train is secured to ensure that it is not caught on and torn away or damaged while by any protruding objects, operating equipment, etc. Wear hearing protection if there is loud noise due to demolition/abatement or other machinery or noise sources Follow SWP 5-19; Use proper lifting techniques (lift with legs not back) Wear hard hats, safety vests, and eye protection while in areas of active demolition. Be aware of your surroundings
Equipment to be Used Level D/C, including air purifying respirator with P100 cartridges, steel-toed boots, hardhat, and Tyvek coverall, and Class 2 or better high-visibility safety vest	**Inspection Requirements** Ensure that all sampling equipment is calibrated and functioning properly	**Training Requirements** Initial 40 hour HAZWOPER training 8-hour supervisor Current 8-hour refresher Current medical clearance (including respirator use)

Sample pump and sample train with media Calibration equipment First aid kit Eyewash	Inspect all respiratory protective equipment and PPE prior to donning and use	Current first aid and CPR Current respirator fit-test Asbestos Inspector/supervisor/project monitor (as required by jurisdiction) Air sampling equipment-specific training Asbestos awareness

Tetra Tech, Inc.

ACTIVITY HAZARD ANALYSIS (AHA)

Tetra Tech EM Inc.

Surface Water Quality Measurement

Task Description

This Activity Hazard Analysis (AHA) applies to the task listed above. It has been developed and approved by the Tetra Tech EMI Health and Safety Department. The AHA contains potential hazards posed by each major step in this task, lists procedures to control hazards, and presents required equipment (including safety equipment), inspections, and training. The hazard controls listed below are specific to this task.

Hazards		Actions
Task Steps Identify weather and water conditions prior to conducting water operations	**Potential Hazards** LACK OF COMMUNICATION IMPROPER PPE	**Critical Safety Procedures and Controls** • Verify weather and water conditions. • Determine type of personal protective equipment (PPE) necessary to conduct water operations. • For water and air temperatures greater than 45 degrees Fahrenheit (°F), Tetra Tech personnel must wear weather appropriate Level D PPE and Type II (minimum) PFD. • For water and air temperatures less than 45 °F, Tetra Tech personnel must wear an anti-exposure suit and Type III PFD or a combination anti-exposure suit with built-in PFD. • For water and air temperatures split between 45 °F, Tetra Tech site manager will evaluate weather and water conditions to determine the appropriate PPE for sampling operations.
Ensure personnel have received the proper health and safety training prior to conducting sampling activities	IMPROPER TRAINING	• Ensure all personnel involved review the HASP, this AHA, and SWP 5-06, *Working Over or Near Water*, as well as familiarity with equipment, instruments and PPE to be used.. • Ensure all personnel involved in have been briefed on the Cold Weather Water Operations when water is < 45F. • Ensure all personnel involved in sampling operations have reviewed the applicable sections of the Site Wide Safety and Health Plan and any client-specific requirements when applicable.
Coordinate and select water quality measurement location, depths and parameters with client	LACK OF COORDINATION AND COMMUNICATION	• Coordinate with appropriate client personnel for availability to conduct water operations and to determine appropriate locations, depths, and parameters. • Supply personnel emergency contact phone numbers for Tetra Tech personnel involved in operations and establish a procedure for checking-in with the PM and/or client at completion.

	IMPROPER PPE	• Ensure water quality measurement team is comprised of a minimum of two persons. • Define roles of sampling team members prior to collecting samples. • Ensure working radios and/or cell phones are available and that the phone number and location of emergency services (hospital) are available to the field team. • Inspect all PPE prior to use to ensure it is not damaged.
Mobilize to water quality measurement location (includes provisions for boat ops)	LACK OF OR IMPROPER USE OF PPE SLIPS, TRIPS, AND FALLS	• Tetra Tech personnel must wear a Type III PFD when working within 15 feet of a body of water and follow SWP 5-06. • Speak with boat pilot to ensure vessel has property safety equipment for employee rescue operations (i.e. throw rope, ring buoy, first aid kit, etc.). Ensure Tetra Tech personnel have appropriate safety equipment on board during sampling operations. • Survey launch and/or sampling area prior to launching and boarding vessel. Avoid steep, uneven and slick surfaces if possible. Use the "buddy system" to enter the vessel and to load equipment.
Conducting water quality measurement	LACK OF OR IMPROPER USE OF PPE EXPOSURE TO SITE CONTAMINANTS SLIPS, TRIPS, AND FALLS BIOLOGICAL HAZARDS LACK OF COORDINATION AND COMMUNICATION DREDGES AND HEAVY EQUIPMENT ON BARGES	• Tetra Tech site manager will determine the appropriate PPE for conducting water quality measurement operations. Tetra Tech personnel must wear a Type II PFD when working within 15 feet of a body of water that is >3' deep or that is swiftly moving. • Ensure appropriate safety gear (i.e. throw rope, ring buoy, first aid kit, etc.) is easily accessible for employee rescue operations. Ensure Tetra Tech personnel have appropriate safety equipment on board during operations. • Ensure all personnel are properly seated while boat is in motion to each sampling location. Ensure all personnel maintain at least three points of contact with the boat when approaching dangerous situations (i.e. holding on to side of boat with at least one hand while properly seated when approaching dredge lines, wakes, etc.). • Ensure personnel have positioned themselves in a manner that allow for stable footing and easy movement while collecting water quality monitoring results. • Be alert for snakes and other wildlife, as well as of signs of fish kills, dead or stressed vegetation and other signs of possible contamination. • Ensure personnel collecting samples or conducting water quality monitoring communicate with each team member prior to making any movements not involved with sample collection or monitoring. • Maintain a distance of at least 40 yards from dredges, heavy equipment on barges, discharge lines, and anchor lines, if possible

	CROSSING OVER DREDGE LINES FALLING INTO WATER	• Inform boat pilot of visible or submerged dredge lines in the path of the boat. Ensure all personnel are properly seated and sampling equipment is secure. Ensure boat pilot crosses over dredge lines at a low rate of speed to reduce shock of the contact. Ensure all personnel maintain at least three points of contact with the boat when approaching dangerous situations (i.e. holding on to side of boat with at least one hand while properly seated when approaching dredge lines, wakes, etc.). • Turn to float on your back and keep feet elevated. Extend retrieval device to the person in the water. Pull person toward and into boat or shore. Monitor person for shock/hypothermia. If person displays symptoms of hypothermia, contact 911 or take to the nearest medical facility for treatment. Proceed to the nearest dock/rally point. Immediately place person in a heated vehicle and changed into dry clothes. Conduct first aid, transport to medic or awaiting ambulance. • Report incident to Tetra Tech Site Safety Coordinator and client immediately.
Complete water quality measurement operations	SLIPS, TRIPS, AND FALLS DAMAGED PPE	• Upon reaching shore, ensure vessel is not running or moving. Avoid steep, uneven and slick surfaces if possible. Use "buddy system" to exit the vessel and to unload equipment. • Inspect all equipment and PPE upon return to site office.
Equipment to be Used • Water Quality Monitor • Trimble GeoExplorer or similar GPS • Hard hat • High visibility safety vest • Steel-toed boots • Safety glasses with side shields • Type II PFD • Nitrile or cold water, chemical-resistant gloves • Anti-exposure suit depending on weather conditions	**Inspection Requirements** • Conduct calibration and battery check before use • Ensure battery is charged • Inspect all PPE, PFDs, and exposure suits prior to use • Ensure all required safety equipment is properly functioning and readily available	**Training Requirements** • 40-hour HAZWOPER • Site Specific Orientation • General Safe Work Practices HAZWOPER • SWP 5-06, Working Over or Near Water • Working Near Heavy Equipment (if applicable) • Cold/Heat Stress • Cold Weather Water Operations AHA (< 45F) •

PARTICULITE MATTER FACT SHEET

¶

AQI Category (AQI Values)	$PM_{2.5}$ or PM_{10} Levels (µg/m$_3$, 1-to 3-hr avg.)	$PM_{2.5}$ or PM_{10} Levels (µg/m^3, 8-hr avg.)	$PM_{2.5}$ or PM_{10} Levels (µg/m^3, 24-hr avg.)	Visibility – Arid Conditions (miles)	Recommended Actions
Good (0 to 50)	0 – 38	0 - 22	0 - 15	≥ 10	Implement communication plan if smoke event forecast
Moderate (51 to 100)	39 - 88	23 - 50	16 – 35	6 – 9	-Issue press releases to advise public about health effects and symptoms and ways to reduce exposure -Distribute information about exposure avoidance
Unhealthy for Sensitive Groups (101 to 150)	89 – 138	51 – 79	36 – 65	3 – 5	-If smoke event projected to be prolonged, evaluate and notify possible sites for cleaner air shelters -If smoke event projected to be prolonged, prepare evacuation plans -Individuals who have asthma or another lung disease or heart disease should consider wearing a particulate respirator when outside.
Unhealthy (151 to 200)	139 - 351	80 – 200	66 – 150	1.5 – 2.5	-Consider "Smoke Day" for schools (i.e., no school that day), possibly based on school environment and travel considerations -Consider canceling public events, based on public health and travel considerations. -All individuals should consider wearing a particulate respirator when the AQI is 151 or higher when outside
Very Unhealthy (201 to 300)	352 – 526	201 – 300	151 – 250	1 – 1.25	-Consider closing some or all schools (However, newer schools with a central air cleaning filter may be more protective than older, leakier homes. See "Closures", below) -Cancel outdoor events (e.g., concerts and competitive sports)
Hazardous (> 300)	> 526	>300	>250	≤3/4	-Close Schools -Cancel outdoor events (e.g., concerts and competitive sports) -Consider closing workplaces not essential to public health -If PM level projected to continue to remain high for a prolonged time, consider evacuation of sensitive populations

Notes:

1. These 1- and 8-hr $PM_{2.5}$ levels are estimated using the 24-hr breakpoints of the $PM_{2.5}$ Air Quality Index included in the February 7, 2007 issue paper (http://www.epa.gov/airnow/aqi_issue_paper_020707.pdf) by dividing the 24-hr concentrations by the following ratios: 8-hr ratio is 0.7, 1-hr ratio is 0.4. Visibility is based on 1-hr values. If only PM_{10} measurements are available during smoky conditions, it can be assumed that the PM_{10} is composed primarily of fine particles ($PM_{2.5}$), and that therefore the AQI and associated cautionary statements and advisories for $PM_{2.5}$ may be used. This assumption is reflected in the column headings.
2. This table was adapted from Table 3, page 31 of Wildfire Smoke: A Guide for Public Health Officials, July 2008.
3. Based on New Mexico Department of Health's "Recommended Actions During Smoke Events"

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

ASBESTOS
CAS # 1332-21-4

Division of Toxicology ToxFAQs™ September 2001

This fact sheet answers the most frequently asked health questions (FAQs) about asbestos. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, individual susceptibility and personal habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to asbestos usually occurs by breathing contaminated air in workplaces that make or use asbestos. Asbestos is also found in the air of buildings that are being torn down or renovated. Asbestos exposure can cause serious lung problems and cancer. This substance has been found at 83 of the 1,585 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is asbestos?

Asbestos is the name given to a group of six different fibrous minerals (amosite, chrysotile, crocidolite, and the fibrous varieties of tremolite, actinolite, and anthophyllite) that occur naturally in the environment. Asbestos minerals have separable long fibers that are strong and flexible enough to be spun and woven and are heat resistant. Because of these characteristics, asbestos has been used for a wide range of manufactured goods, mostly in building materials (roofing shingles, ceiling and floor tiles, paper products, and asbestos cement products), friction products (automobile clutch, brake, and transmission parts), heat-resistant fabrics, packaging, gaskets, and coatings. Some vermiculite or talc products products may contain asbestos.

What happens to asbestos when it enters the environment?

Asbestos fibers can enter the air or water from the breakdown of natural deposits and manufactured asbestos products. Asbestos fibers do not evaporate into air or dissolve in water. Small diameter fibers and particles may remain suspended in the air for a long time and be carried long distances by wind or water before settling down. Larger diameter fibers and particles tend to settle more quickly.

Asbestos fibers are not able to move through soil. Asbestos fibers are generally not broken down to other compounds and will remain virtually unchanged over long periods.

How might I be exposed to asbestos?

We are all exposed to low levels of asbestos in the air we breathe. These levels range from 0.00001 to 0.0001 fibers per milliliter of air and generally are highest in cities and industrial areas.

People working in industries that make or use asbestos products or who are involved in asbestos mining may be exposed to high levels of asbestos. People living near these industries may also be exposed to high levels of asbestos in air

Asbestos fibers may be released into the air by the disturbance of asbestos-containing material during product use, demolition work, building or home maintenance, repair, and remodeling. In general, exposure may occur only when the asbestos-containing material is disturbed in some way to release particles and fibers into the air.

Drinking water may contain asbestos from natural sources or from asbestos-containing cement pipes.

How can asbestos affect my health?

Asbestos mainly affects the lungs and the membrane that surrounds the lungs. Breathing high levels of asbestos fibers for a long time may result in scar-like tissue in the lungs and in the pleural membrane (lining) that surrounds the lung. This disease is called asbestosis and is usually found in workers exposed to asbestos, but not in the general public. People with asbestosis have difficulty breathing, often a cough, and in severe cases heart enlargement. Asbestosis is a serious disease and can eventually lead to disability and death.

Breathing lower levels of asbestos may result in changes called plaques in the pleural membranes. Pleural plaques can occur in workers and sometimes in people living in areas with high environmental levels of asbestos. Effects on breathing from pleural plaques alone are not usually serious, but higher exposure can lead to a thickening of the pleural membrane that may restrict breathing.

How likely is asbestos to cause cancer?

The Department of Health and Human Services (DHHS), the World Health Organization (WHO), and the EPA have determined that asbestos is a human carcinogen.

It is known that breathing asbestos can increase the risk of cancer in people. There are two types of cancer caused by exposure to asbestos: lung cancer and mesothelioma. Mesothelioma is a cancer of the thin lining surrounding the lung (pleural membrane) or abdominal cavity (the peritoneum). Cancer from asbestos does not develop immediately, but shows up after a number of years. Studies of workers also suggest that breathing asbestos can increase chances of getting cancer in other parts of the body (stomach, intestines, esophagus, pancreas, and kidneys), but this is less certain. Early identification and treatment of any cancer can increase an individual's quality of life and survival.

Cigarette smoke and asbestos together significantly increase your chances of getting lung cancer. Therefore, if you have been exposed to asbestos you should stop smoking. This may be the most important action that you can take to improve your health and decrease your risk of cancer.

How can asbestos affect children?

We do not know if exposure to asbestos will result in birth defects or other developmental effects in people. Birth defects have not been observed in animals exposed to asbestos.

It is likely that health effects seen in children exposed to high levels of asbestos will be similar to the effects seen in adults.

How can families reduce the risk of exposure to asbestos?

Materials containing asbestos that are not disturbed or deteriorated do not, in general, pose a health risk and can be left alone. If you suspect that you may be exposed to asbestos in your home, contact your state or local health department or the regional offices of EPA to find out how to test your home and how to locate a company that is trained to remove or contain the fibers.

Is there a medical test to show whether I've been exposed to asbestos?

Low levels of asbestos fibers can be measured in urine, feces, mucus, or lung washings of the general public. Higher than average levels of asbestos fibers in tissue can confirm exposure but not determine whether you will experience any health effects.

A thorough history, physical exam, and diagnostic tests are needed to evaluate asbestos-related disease. Chest x-rays are the best screening tool to identify lung changes resulting from asbestos exposure. Lung function tests and CAT scans also assist in the diagnosis of asbestos-related disease.

Has the federal government made recommendations to protect human health?

In 1989, EPA banned all new uses of asbestos; uses established before this date are still allowed. EPA established regulations that require school systems to inspect for damaged asbestos and to eliminate or reduce the exposure by removing the asbestos or by covering it up. EPA regulates the release of asbestos from factories and during building demolition or renovation to prevent asbestos from getting into the environment.

EPA has proposed a concentration limit of 7 million fibers per liter of drinking water for long fibers (lengths greater than or equal to 5 μm). The Occupational Safety and Health Administration has set limits of 100,000 fibers with lengths greater than or equal to 5 μm per cubic meter of workplace air for 8-hour shifts and 40-hour work weeks.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2001. Toxicological Profile for Asbestos. Update. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

Armstrong, Kathy

From: Huss, Eric <Eric.Huss@tetratech.com>
Sent: Wednesday, August 14, 2019 12:28 PM
To: Huyser, Matthew
Cc: chris.jones@tetratech.com; John Snyder
Subject: Re: Viper summary report with charts for 08-13-19-NIGHT-Rev.1
Attachments: Viper Summary report_Able Fire Template_AR and DustTrack-20190813-Night-Rev1.pdf

Matt,

Here is the revised Viper report with the EBAM and Grace Costal data in it. Now that the Report has been reformatted to report the EBAM data the report should be completed sooner in the future.

Thank you,
Eric

Eric Huss | Environmental Engineer

28 Hasty Point Rd.
Port Wentworth, GA 31407
Cell 610-348-6959

eric.huss@tetratech.com

Tetra Tech | Complex World, Clear Solutions™

www.tetratech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

From: Huss, Eric
Sent: Wednesday, August 14, 2019 09:33
To: Huyser, Matthew <huyser.matthew@epa.gov>
Cc: Jones, Chris <chris.jones@tetratech.com>; Snyder, John <John.Snyder@tetratech.com>
Subject: Re: Viper summary report with charts for 08-13-19-DAY

Hello Matt,

Here is partial report for last night. As I mentioned, I am working on reconfiguring report to include EBAM data and to import manually collected DustTrak data. I will submit a revised report once I have completed updates.

Thank you,
Eric

Eric Huss | Environmental Engineer
28 Hasty Point Rd.
Port Wentworth, GA 31407
Cell 610-348-6959
eric.huss@tetratech.com
Tetra Tech | Complex World, Clear Solutions™
www.tetratech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Tuesday, August 13, 2019 21:10
To: Huss, Eric <Eric.Huss@tetratech.com>
Cc: Jones, Chris <chris.jones@tetratech.com>; Snyder, John <John.Snyder@tetratech.com>
Subject: RE: Viper summary report with charts for 08-13-19-DAY

⚠ **CAUTION: This email originated from an external sender. Verify the source before opening links or attachments.** ⚠

Looks good. Well done and thanks!

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Huss, Eric <Eric.Huss@tetratech.com>
Sent: Tuesday, August 13, 2019 7:53 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Cc: chris.jones@tetratech.com; John Snyder <john.snyder@tetratech.com>
Subject: Viper summary report with charts for 08-13-19-DAY

Hello Matt,

Here is the Viper summary report with tables for 08-13-19-DAY.

Thank you,
Eric

Eric Huss | Environmental Engineer
28 Hasty Point Rd.
Port Wentworth, GA 31407
Cell 610-348-6959
eric.huss@tetratech.com
Tetra Tech | Complex World, Clear Solutions™
www.tetratech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name:

From: **8/13/19 19:00** ***To:*** ***8/14/19 6:58***

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY E.P.A. OIL & HAZARDOUS SUBSTANCES REGION 4 EMERGENCY RESPONSE

SE Corner of Alkali Contractors

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	733	13	0 - 206 ppb	1.1 ppb	1,000 ppb
	CO	No	733	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	733	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	733	733	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	733	0	0 - 0%	0%	10%

Pedestrian Collection

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 1	PM-2.5	Moderate	1,966	1,966	8 - 43 µg/m³	12.3 µg/m³	See SOG #: T106

On Site, Immediately West of Pile

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	699	27	0 - 452 ppb	5.6 ppb	1,000 ppb
	CO	No	699	23	0 - 21 ppm	0.2 ppm	83 ppm
	H_2S	No	699	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	699	699	20.6 - 20.7%	20.6%	<19.5 or >23%
	LEL	No	699	0	0 - 0 %	0%	10%

Short Cut Road

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 2	PM-2.5	Moderate	1,609	1,540	0 - 310 µg/m³	31.3 µg/m³	See SOG #: T106

Alkali Contractors Warehouse, Northeast of Pile

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	722	17	0 - 464 ppb	4.8 ppb	1,000 ppb
	CO	No	722	15	0 - 5 ppm	0.1 ppm	83 ppm
	H_2S	No	722	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	722	722	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	722	0	0 - 0%	0%	10%

Greek Coastal Church

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 3	PM-2.5	Moderate	444	441	0 - 19 µg/m³	13.7 µg/m³	See SOG #: T106

Pedestrian Determinations

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	725	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	725	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	725	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	725	725	20.9 - 21.5%	21%	<19.5 or >23%
	LEL	No	725	0	0 - 0%	0%	10%

San Clay

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 1	PM-2.5	Good	405	270	0 - 50 µg/m³	11.9 µg/m³	See SOG #: T106

Brooke Hill Apartments

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 2	PM-2.5	Moderate	517	516	0 - 36 µg/m³	19.4 µg/m³	See SOG #: T106

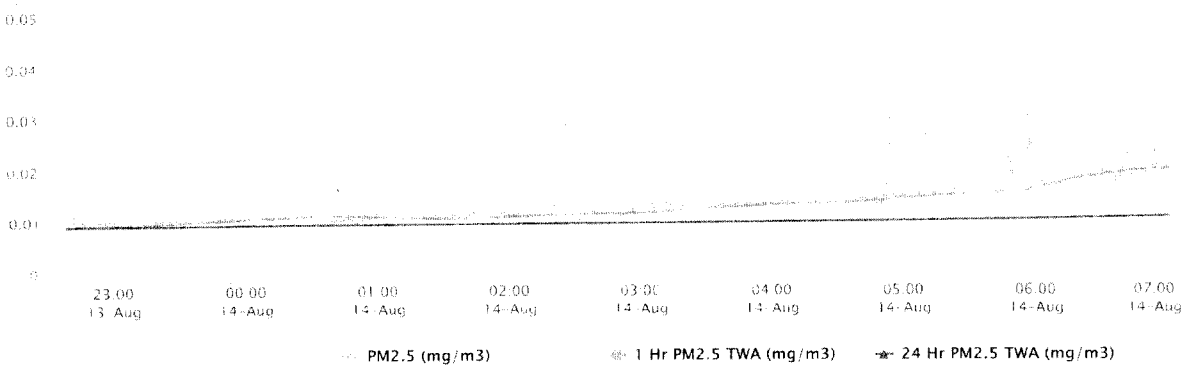
EPA Mobile Command Post

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 3	PM-2.5	Moderate	502	364	0 - 59 µg/m³	14.6 µg/m³	See SOG #: T106

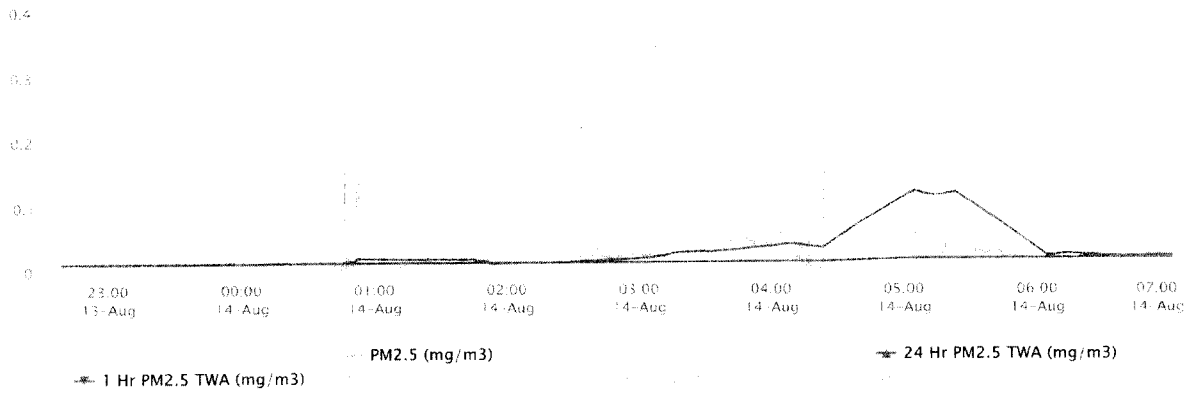
Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline levels for airborne chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

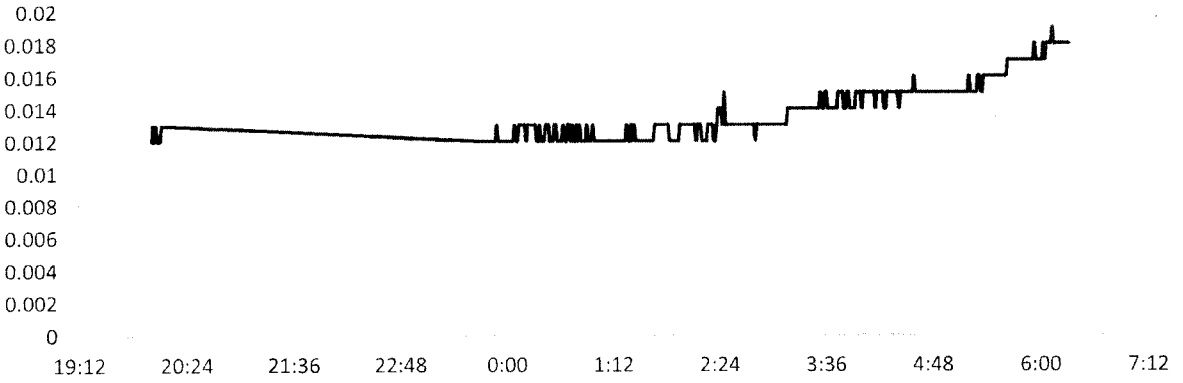
8/13/19 NIGHT Data for DustTrak 1 ($PM_{2.5}$) - Peacock Collision



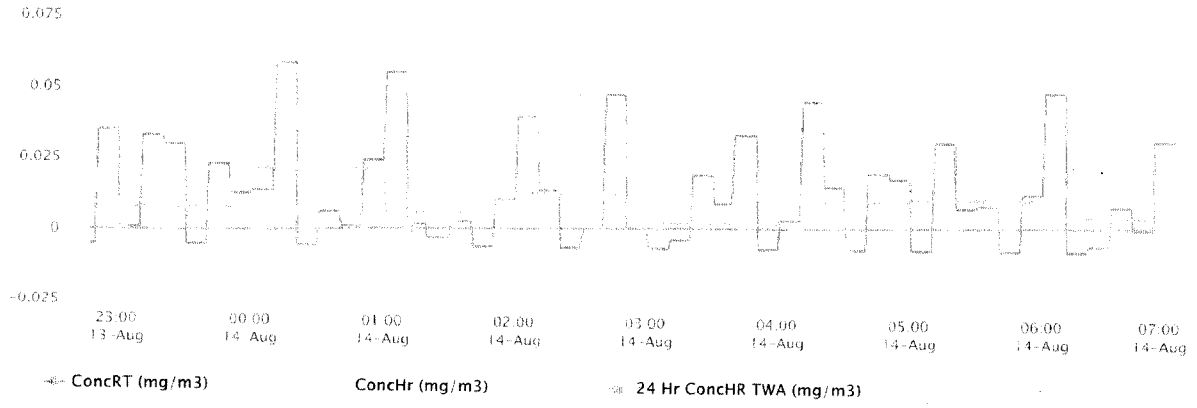
8/13/19 NIGHT Data for DustTrak 2 ($PM_{2.5}$) – Short Cut Road



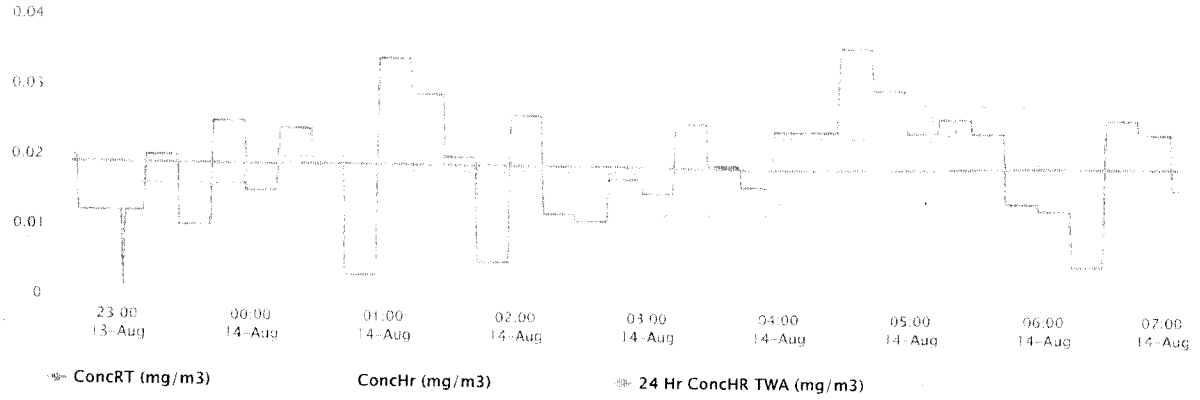
8/13/19 NIGHT Data for DustTrak 3 ($PM_{2.5}$) – Grace Costal Church



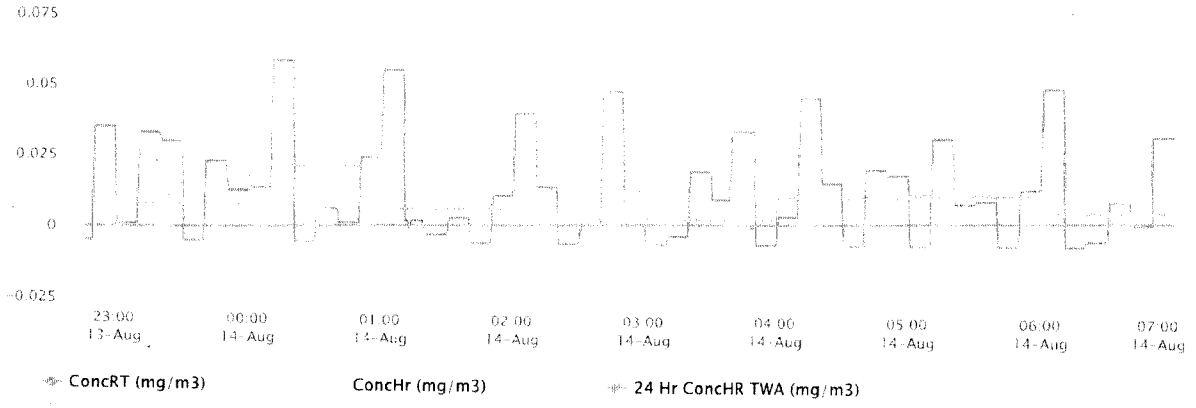
8/13/19 NIGHT Data for EBAM 1 (ConcRT) – Sun City



8/13/19 NIGHT Data for EBAM 2 (ConcRT) – Brooke Mill Apartments



8/13/19 NIGHT Data for EBAM 3 (ConcRT) – EPA Mobile Command Post



Armstrong, Kathy

From: Huss, Eric <Eric.Huss@tetratech.com>
Sent: Wednesday, August 14, 2019 9:34 AM
To: Huyser, Matthew
Cc: chris.jones@tetratech.com; John Snyder
Subject: Re: Viper summary report with charts for 08-13-19-DAY
Attachments: Viper Summary report_Able Fire Template_AR and DustTrack-2019-08-13-NIGHT.pdf

Hello Matt,

Here is partial report for last night. As I mentioned, I am working on reconfiguring report to include EBAM data and to import manually collected DustTrak data. I will submit a revised report once I have completed updates.

Thank you,
Eric

Eric Huss | Environmental Engineer

28 Hasty Point Rd.
Port Wentworth, GA 31407
Cell 610-348-6959

eric.huss@tetratech.com

Tetra Tech | Complex World, Clear Solutions™

www.tetratech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Tuesday, August 13, 2019 21:10
To: Huss, Eric <Eric.Huss@tetratech.com>
Cc: Jones, Chris <chris.jones@tetratech.com>; Snyder, John <John.Snyder@tetratech.com>
Subject: RE: Viper summary report with charts for 08-13-19-DAY

⚠ **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠

Looks good. Well done and thanks!

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Huss, Eric <Eric.Huss@tetratech.com>
Sent: Tuesday, August 13, 2019 7:53 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Cc: chris.jones@tetratech.com; John Snyder <john.snyder@tetratech.com>
Subject: Viper summary report with charts for 08-13-19-DAY

Hello Matt,

Here is the Viper summary report with tables for 08-13-19-DAY.

Thank you,
Eric

Eric Huss | Environmental Engineer
28 Hasty Point Rd.
Port Wentworth, GA 31407
Cell 610-348-6959
eric.huss@tetratech.com
Tetra Tech | Complex World, Clear Solutions™
www.tetratech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name:

From: **8/13/19 19:00** ***To:*** ***8/14/19 6:58***

SE Corner of Able Contracting

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	733	13	0 - 206 ppb	1.1 ppb	1,000 ppb
	CO	No	733	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	733	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	733	733	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	733	0	0 - 0%	0%	10%

Peacock Collision

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 1	PM-2.5	Moderate	1,966	1,966	8 - 43 µg/m³	12.3 µg/m³	See SOG #: T106

On Site, Immediately West of Pile

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	699	27	0 - 452 ppb	5.6 ppb	1,000 ppb
	CO	No	699	23	0 - 21 ppm	0.2 ppm	83 ppm
	H_2S	No	699	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	699	699	20.6 - 20.7%	20.6%	<19.5 or >23%
	LEL	No	699	0	0 - 0 %	0%	10%

Short Cut Road

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 2	PM-2.5	Moderate	1,609	1,540	0 - 310 µg/m³	31.3 µg/m³	See SOG #: T106

Able Contracting Workshop, Northeast of Pile

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	722	17	0 - 464 ppb	4.8 ppb	1,000 ppb
	CO	No	722	15	0 - 5 ppm	0.1 ppm	83 ppm
	H_2S	No	722	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	722	722	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	722	0	0 - 0%	0%	10%

Grace Costal Church

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 3	PM-2.5	Moderate	45	42	0 - 17 µg/m³	12.3 µg/m³	See SOG #: T106

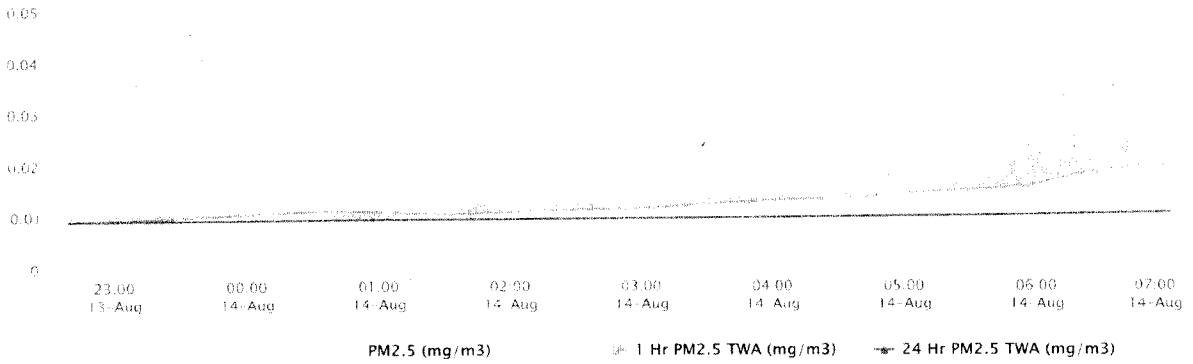
Palmetto Exterminators

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	725	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	725	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	725	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	725	725	20.9 - 21.5%	21%	<19.5 or >23%
	LEL	No	725	0	0 - 0%	0%	10%

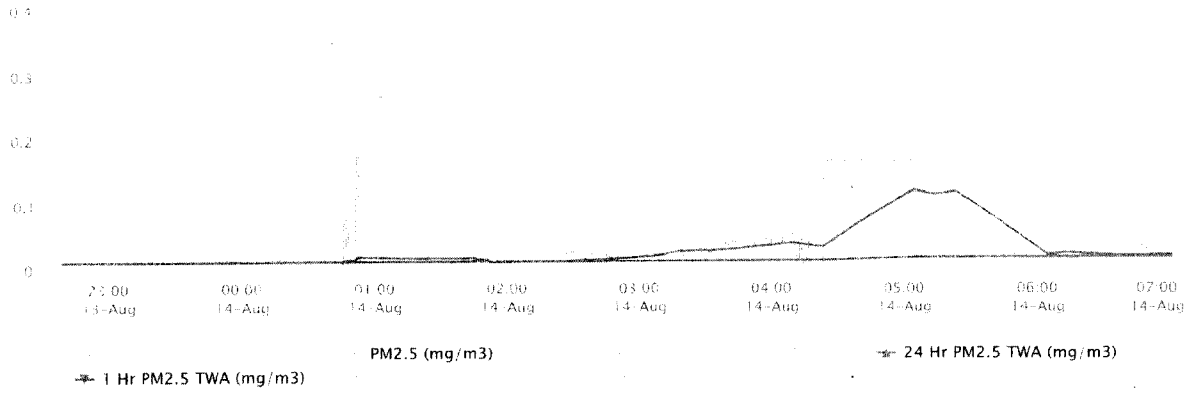
Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline levels for airborne chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

8/13/19 NIGHT Data for DustTrak 1 ($PM_{2.5}$) - Peacock Collision

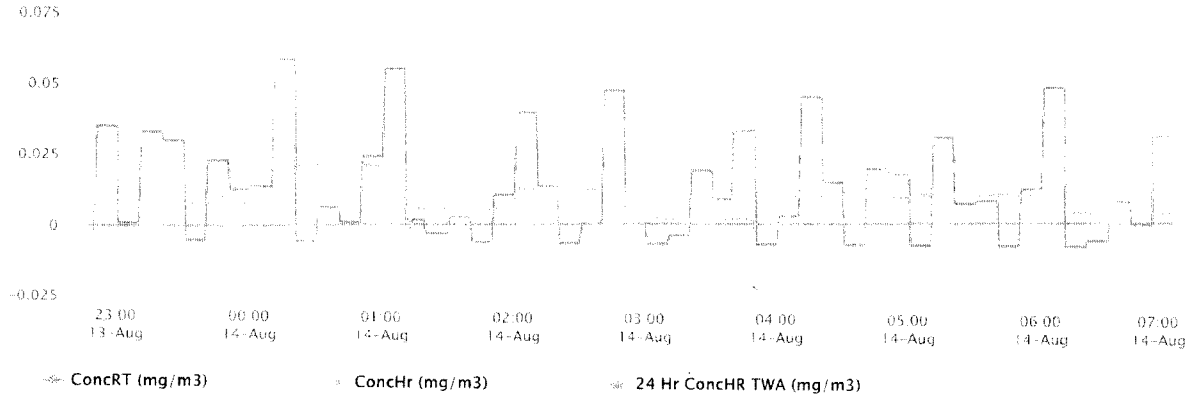


8/13/19 NIGHT Data for DustTrak 2 ($PM_{2.5}$) – Short Cut Road

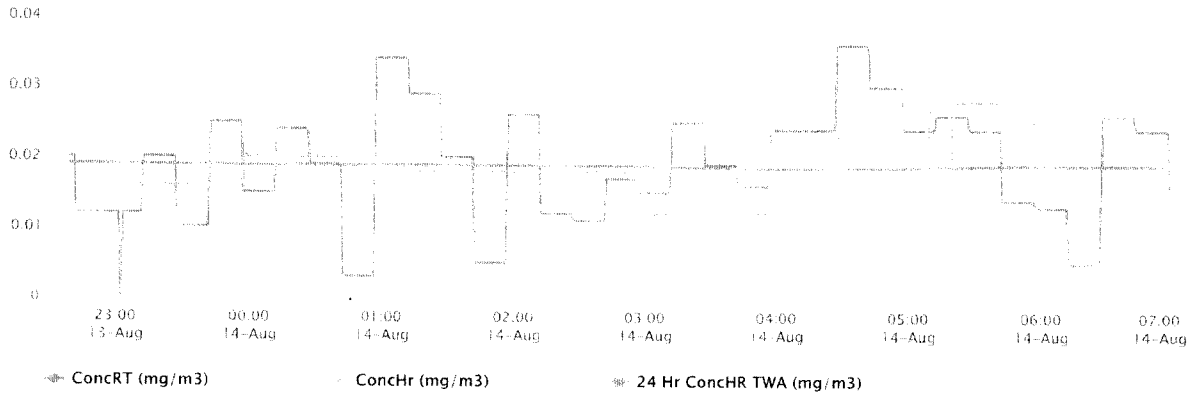


8/13/19 NIGHT Data for DustTrak 3 ($PM_{2.5}$) – Grace Costal Church

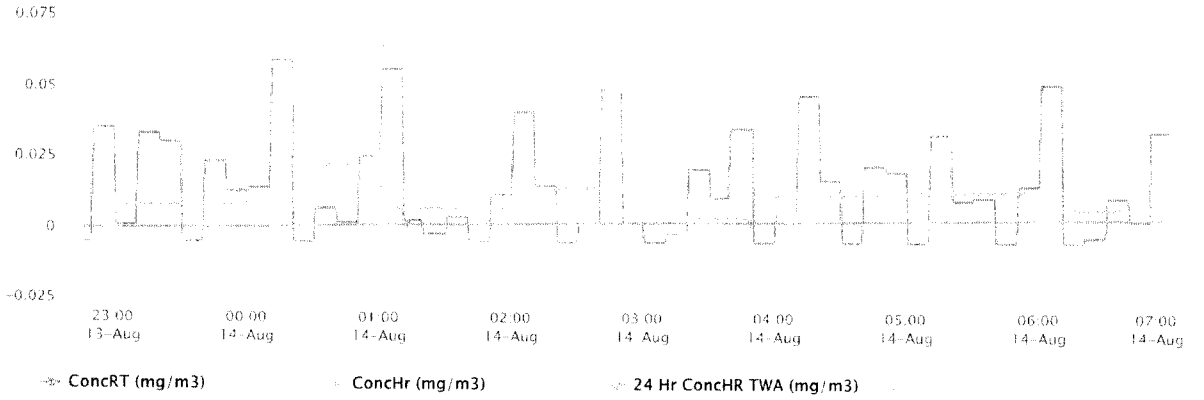
8/13/19 NIGHT Data for EBAM 1 (ConcRT) – Sun City



8/13/19 NIGHT Data for EBAM 2 (ConcRT) – Brooke Mill Apartments



8/13/19 NIGHT Data for EBAM 3 (ConcRT) - EPA MCP



Armstrong, Kathy

From: Huss, Eric <Eric.Huss@tetratech.com>
Sent: Tuesday, August 13, 2019 7:53 PM
To: Huyser, Matthew
Cc: chris.jones@tetratech.com; John Snyder
Subject: Viper summary report with charts for 08-13-19-DAY
Attachments: Viper Summary report_Able Fire Template_AR and DustTrack-2019-08-13-DAY.pdf

Hello Matt,

Here is the Viper summary report with tables for 08-13-19-DAY.

Thank you,
Eric

Eric Huss | Environmental Engineer

28 Hasty Point Rd.
Port Wentworth, GA 31407
Cell 610-348-6959

eric.huss@tetratech.com

Tetra Tech | Complex World, Clear Solutions™

www.tetratech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name:

From: **8/13/19 7:00** ***To:*** ***8/13/19 18:58***

SE Corner of Able Contracting

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	750	38	0 - 310 ppb	6.6 ppb	1,000 ppb
	CO	No	750	1	0 - 4 ppm	0 ppm	83 ppm
	H_2S	No	750	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	750	750	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	750	0	0 - 0%	0%	10%

Brooke Mill Apartments - Peacock Collision[1]

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 1	PM-2.5	Moderate	2,326	1,789	0 - 1030 µg/m³	31.8 µg/m³	See SOG #: T106

On Site, Immediately West of Pile

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	534	25	0 - 557 ppb	10.1 ppb	1,000 ppb
	CO	No	534	32	0 - 7 ppm	0.2 ppm	83 ppm
	H_2S	No	534	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	534	534	20.5 - 20.7%	20.6%	<19.5 or >23%
	LEL	No	534	0	0 - 0 %	0%	10%

EPA Mobile Command Post[2]

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 2	PM-2.5	Good	292	274	-6 - 68 µg/m³	9 µg/m³	See SOG #: T106

Able Contracting Warehouse, Northeast of Pile

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	749	15	0 - 2304 ppb	6.9 ppb	1,000 ppb
	CO	No	749	11	0 - 6 ppm	0.1 ppm	83 ppm
	H_2S	No	749	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	749	749	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	749	0	0 - 0%	0%	10%

Sun City[3]

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 3	PM-2.5	Moderate	1,236	1,236	12 - 163 µg/m³	31 µg/m³	See SOG #: T106

Palmetto Enterprises

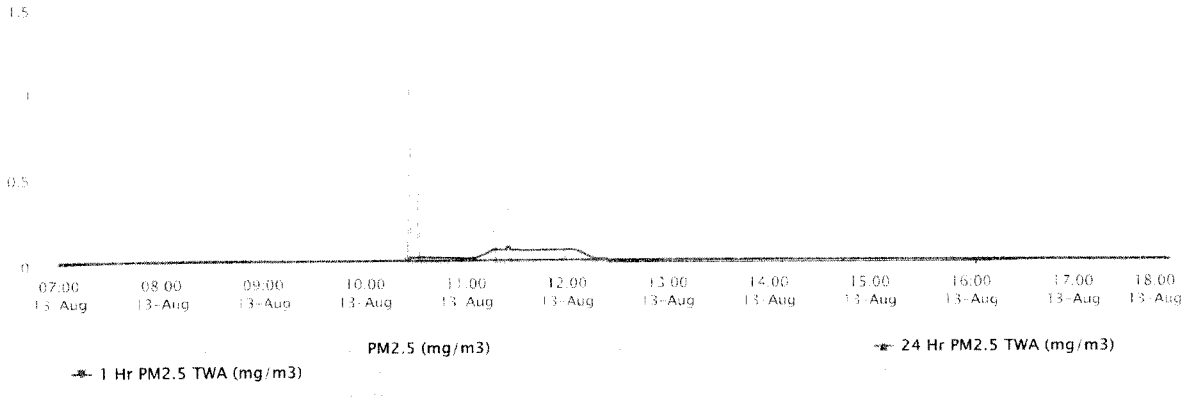
Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	751	3	0 - 58 ppb	0.1 ppb	1,000 ppb
	CO	No	751	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	751	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	751	751	20.9 - 21.8%	21.4%	<19.5 or >23%
	LEL	No	751	0	0 - 0%	0%	10%

Notes:

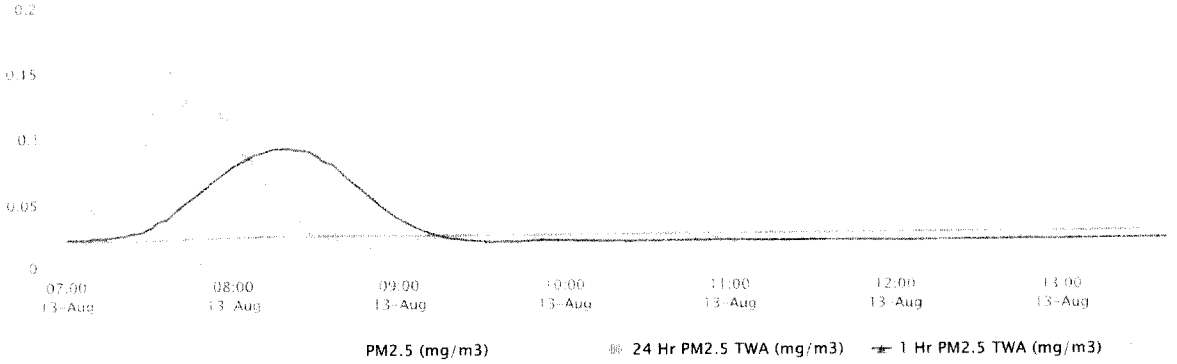
1. DustTrak 1 - Brooke Mill Apartments reported momentary elevated PM2.5 readings during the morning hours. Location was inspected and there was no visible smoke or other materials in the air at the apartments. This DustTrak was relocated to Peacock Collision at 12:35.
2. DustTrak 2 - EPA MCP was switched to different gateway and relocated to Grace Costal Church at 15:15.
3. DustTrak 3 - Sun City was switched to a different gateway and relocated to Short Cut Road at 13:40.

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline levels for airborne chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

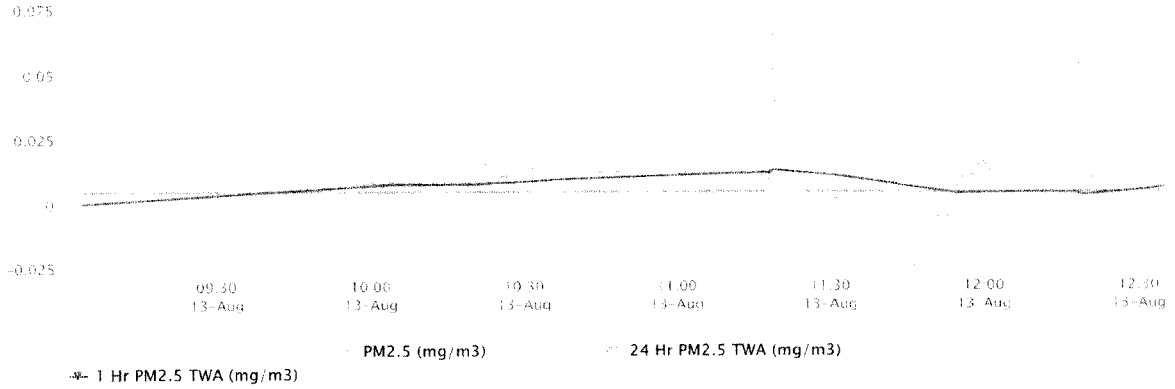
8/13/19 DAY Data for DustTrak 1 ($PM_{2.5}$) - Brooke Mill Apartments and Peacock Colision



8/13/19 DAY Data for DustTrak 3 ($PM_{2.5}$) – Sun City



8/13/19 DAY Data for DustTrak 2 ($PM_{2.5}$) - MCP



Armstrong, Kathy

From: Huss, Eric <Eric.Huss@tetratech.com>
Sent: Friday, August 09, 2019 5:55 PM
To: Huyser, Matthew
Subject: Fw: Abel air monitor

Here it is.

Eric Huss | Environmental Engineer

28 Hasty Point Rd.
Port Wentworth, GA 31407
Cell 610-348-6959

eric.huss@tetratech.com

Tetra Tech | Complex World, Clear Solutions™

www.tetratech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

From: ERT Support <ERTSupport@epa.gov>
Sent: Friday, August 9, 2019 15:23
To: Huss, Eric <Eric.Huss@tetratech.com>
Subject: Re: Abel air monitor

⚠ **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠

Hi Eric,

It looks promising that our programmer will be able to make a "meter app" to display the State of South Carolina data listed in the URL you sent. This effort will begin on Monday and I'll keep you posted on the progress.

For Additional Information Please Contact
ERT Software Support
1-800-999-6990

1-732-321-6724 (fax)
ertsupport@epa.gov
www.ertsupport.org

From: Huss, Eric <Eric.Huss@tetratech.com>
Sent: Friday, August 9, 2019 1:21 PM
To: ERT Support <ERTSupport@epa.gov>
Subject: Fw: Abel air monitor

Here is link.

Eric Huss | Environmental Engineer
28 Hasty Point Rd.
Port Wentworth, GA 31407
Cell 610-348-6959
eric.huss@tetratech.com
Tetra Tech | Complex World, Clear Solutions™
www.tetratech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Friday, August 9, 2019 1:01:19 PM
To: Williams, Josiah <Josiah.Williams@tetratech.com>; Snyder, John <John.Snyder@tetratech.com>
Cc: Huss, Eric <Eric.Huss@tetratech.com>; Redd, Courtney <Courtney.Redd@tetratech.com>
Subject: RE: Abel air monitor

⚠ **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠

Also:

Cal Mike Crowe who has the MCP and needs a place to take it. 678-241-0855
Go out and spot potential places to park the MCP.
Maybe find a place between the Site and the Okatie Elementary School

We need to select a location that's out of the plume but within range of the PRG radio. Get the mongoose out of the MCP and set it up near the potential location and take a AreaRAE Pro down range to the Site. Open up PRG and see if you can read the AreaRAE from the potential location.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Huyser, Matthew
Sent: Friday, August 9, 2019 12:56 PM
To: Williams, Josiah <Josiah.Williams@tetratech.com>; Snyder, John <John.Snyder@tetratech.com>
Cc: eric.huss@tetratech.com; Redd, Courtney <Courtney.Redd@tetratech.com>
Subject: FW: Abel air monitor

Look at the link below

Get on the phone with ERT about whether this data can be brought into deployment manager

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Reynolds, Scott <REYNOLDS@dhec.sc.gov>
Sent: Thursday, July 25, 2019 12:51 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Abel air monitor

MetOne Neighborhood monitor

http://tinyurl.com/MOIX17468

Scott Reynolds

S.C. Dept. of Health & Environmental Control
Office: (803) 898-3305

Armstrong, Kathy

From: Huss, Eric <Eric.Huss@tetratech.com>
Sent: Friday, August 09, 2019 12:56 PM
To: Huyser, Matthew
Subject: Automatic reply: Abel air monitor

Hello,
I'm at an emergency response and won't be able to respond immediately to emails. If you need immediate assistance please give me a call at 610-348-6959.

Thank you,
Eric

Armstrong, Kathy

From: chris.jones@tetratech.com
Sent: Friday, August 30, 2019 4:06 PM
To: Garrard, Jordan
Cc: Andrew Johnson; Reed, Angel; Valentino, Renee; Hill, Stacy; Spurlin, Steve; Huyser, Matthew; Tanner, Terry; John Snyder; Jones, Katrina
Subject: Able Contracting Fire_TDD No. TT-01-128_75% Notice

Dear Mr. Garrard,

To meet the requirements of the Superfund Technical Assessment and Response Team (START) IV Contract No. EP-S4-14-03, Tetra Tech is writing to notify you that we have reached 75 percent of the approved funding for the Able Contracting Fire, Technical Direction Document No. TT-01-128.

As of August 30, 2019, the project budget status is as follows:

Current TDD Ceiling	$250,000.00
Funding Expended Through 8/30/2019	$201,000.00
Funding Remaining Through 8/30/2019	**$49,000.00**
Daily Burn Rate (2 field Staff and limited office support)	**$3,800.00**

Additional funds may be needed to complete the remaining task, which include continued field support for up to 3-weeks, additional air sampling (up to 18 samples at $2,000 per sample for VOCs, H_2S, and HCN), preparation of the response report, data validation and management, and project management and RCMS cost tracking activities. Feel free to contact me if you have any questions regarding funding status.

Chris Jones | Readiness Coordinator
Direct **(678) 775-3081** | Main **(678) 775-3080** | Cell **(404) 395-5220** | chris.jones@tetratech.com

Tetra Tech | Complex World, Clear Solutions™ | Environmental Services Divisions

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Think Green: Reduce, Reuse, Recycle

Armstrong, Kathy

From: chris.jones@tetratech.com
Sent: Thursday, August 22, 2019 10:32 PM
To: Tanner, Terry
Cc: Huyser, Matthew; Prys, Paul; Anish Patel
Subject: Able Contracting Fire Data Summary Tables for 08/22/19 Day
Attachments: Able_Viper Summary Report_082219DAY.PDF

Mr. Tanner,

Attached are the air monitoring summary results for 8/22.

Chris Jones | Readiness Coordinator
Direct **(678) 775-3081** | Main **(678) 775-3080** | Cell **(404) 395-5220** | chris.jones@tetratech.com

Tetra Tech | Complex World, Clear Solutions™ | Environmental Services Divisions

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Think Green: Reduce, Reuse, Recycle

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire Site**

From: **8/22/19 7:00** ***To:*** **8/22/19 19:00**

On Site, Southwest Corner of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	Yes	770	14	0 - 2177 ppb	9.52 ppb	1,000 ppb
	CO	No	770	5	0 - 13 ppm	0.04 ppm	83 ppm
	H_2S	Yes	770	10	0 - 2.1 ppm	0.015 ppm	0.5 ppm
	O_2	No	770	770	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	770	0	0 - 0 %	0 %	10%
	HCN	Yes	770	462	0 - 9.4 ppm	0.32 ppm	7.1 ppm

Pomeroy's Cafeteria

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 1	PM-2.5	Moderate	681	681	4 - 51 µg/m³	13 ug/m3	See SOG #: T106

On Site, Northwest Corner of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	771	6	0 - 416 ppb	1.64 ppb	1,000 ppb
	CO	No	771	27	0 - 10 ppm	0.14 ppm	83 ppm
	H_2S	No	771	1	0 - 0.5 ppm	0.001 ppm	0.5 ppm
	O_2	No	771	771	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	771	0	0 - 0 %	0 %	10%
	HCN	No	771	89	0 - 1.2 ppm	0.04 ppm	7.1 ppm

Short Cut Road

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 2	PM-2.5	Good	527	527	4 - 107 µg/m³	11.1 ug/m3	See SOG #: T106

Able Contractor Workshop, Northeast of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	767	17	0 - 215 ppb	1.5 ppb	1,000 ppb
	CO	No	767	6	0 - 18 ppm	0.05 ppm	83 ppm
	H_2S	No	767	1	0 - 0.5 ppm	0.001 ppm	0.5 ppm
	O_2	No	767	767	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	767	767	2 - 3 %	2.4 %	10%
	HCN	No	767	14	0 - 4.1 ppm	0.01 ppm	7.1 ppm

Grace Capital Church

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 3	PM-2.5	Good	682	682	3 - 47 µg/m³	7.6 ug/m3	See SOG #: T106

Forrest Concrete

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	770	6	0 - 52 ppb	0.16 ppb	1,000 ppb
	CO	No	770	2	0 - 3 ppm	0.01 ppm	83 ppm
	H_2S	No	770	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	770	770	20.5 - 21.3 %	20.8 %	<19.5 or >23%
	LEL	No	770	0	0 - 0 %	0 %	10%
	HCN	No	770	394	0 - 1.5 ppm	0.28 ppm	7.1 ppm

Sun City

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 1	PM-2.5	Good	754	205	0 - 90 ug/m3	11.8 ug/m3	See SOG #: T106

Sharon Hill Apartments

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 2	PM-2.5	Good	650	189	0 - 47 ug/m3	9.9 ug/m3	See SOG #: T106

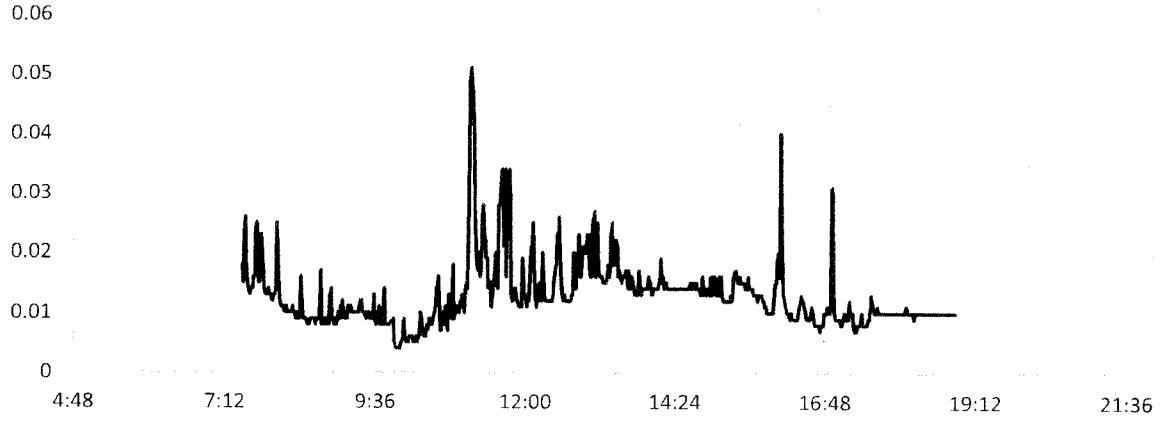
EPA Mobile Command Post

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 3	PM-2.5	Good	739	237	0 - 153 ug/m3	11.6 ug/m3	See SOG #: T106

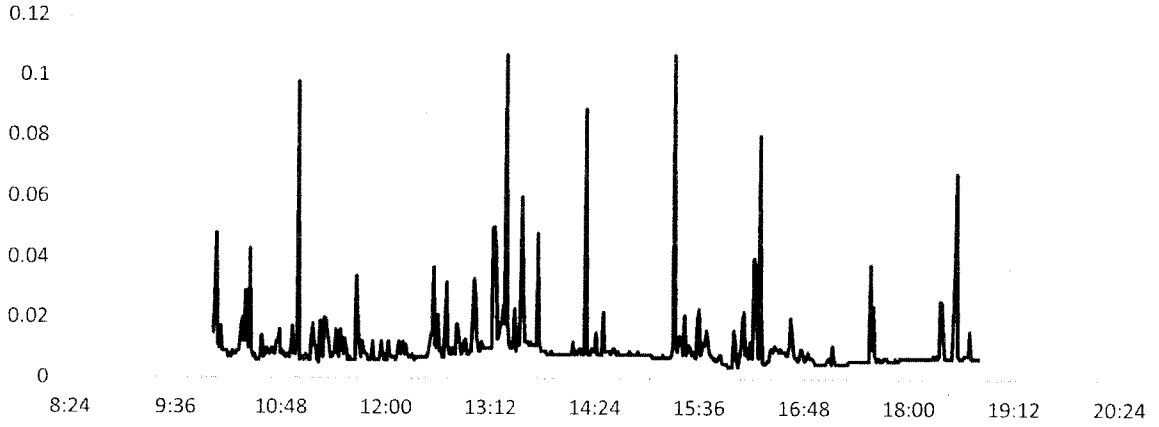
Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline Levels for Airborne Chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
HCN	Hydrogen Cyanide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

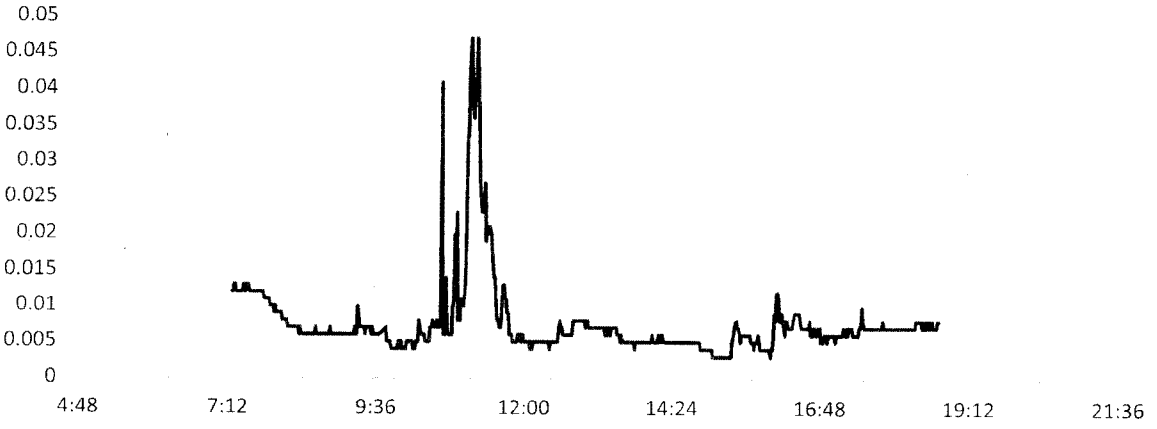
8/22/19 DAY Data for DustTrak 1 ($PM_{2.5}$) - Peacock Collision



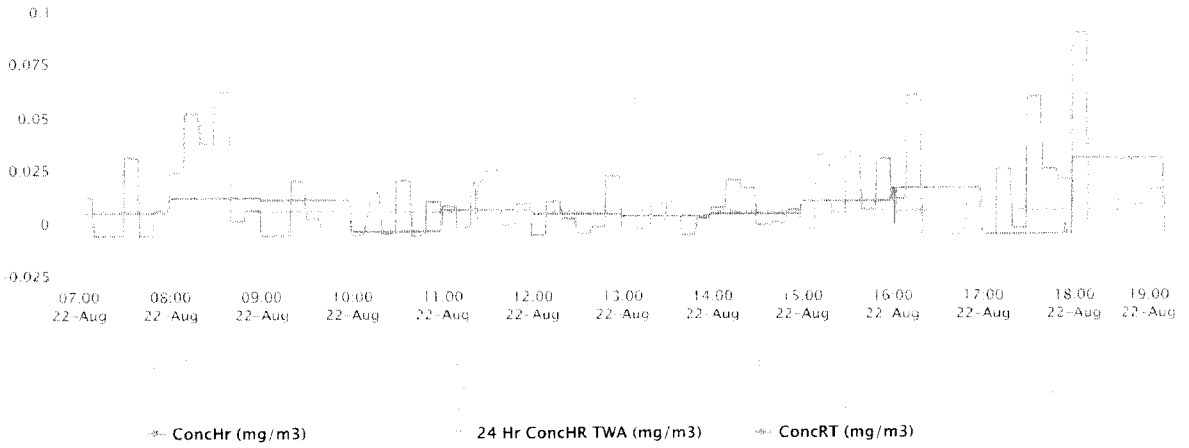
8/22/19 DAY Data for DustTrak 2 ($PM_{2.5}$) – Short Cut Road



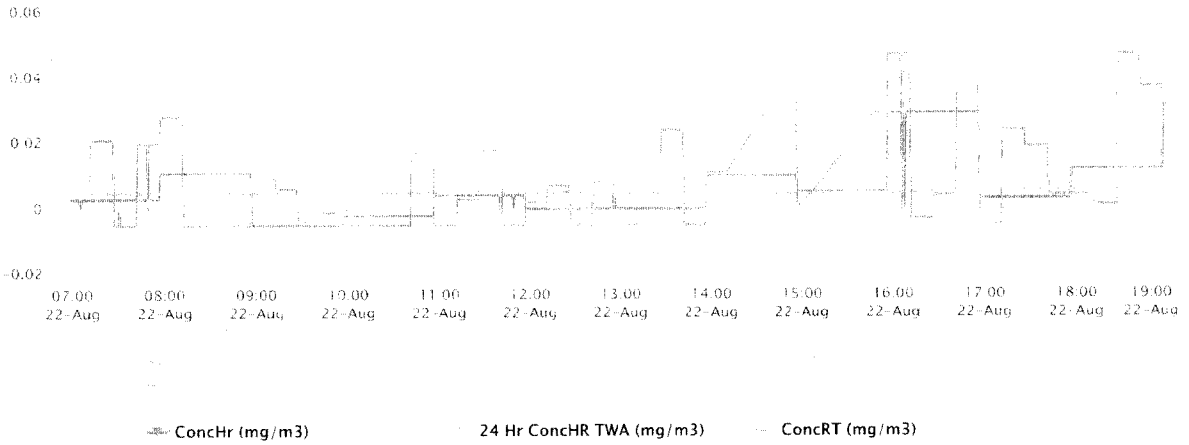
8/22/19 DAY Data for DustTrak 3 ($PM_{2.5}$) – Grace Costal Church



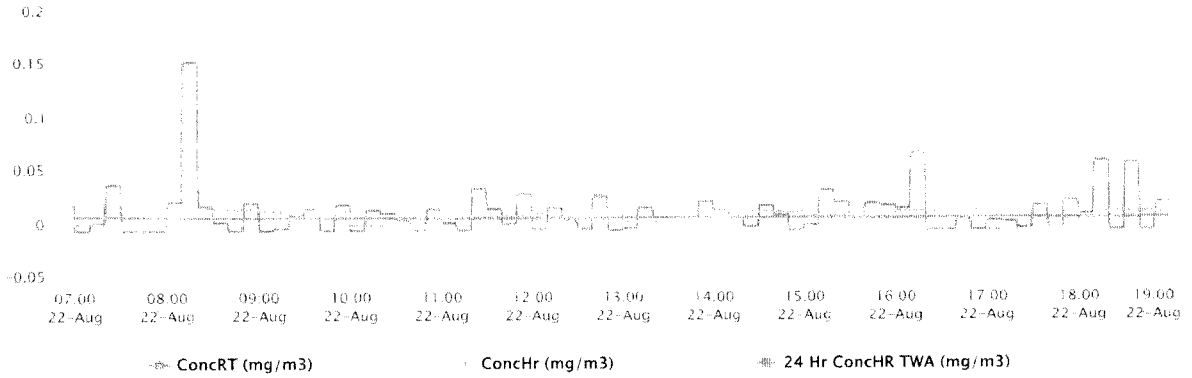
8/22/19 DAY Data for EBAM 1 (ConcRT) – Sun City



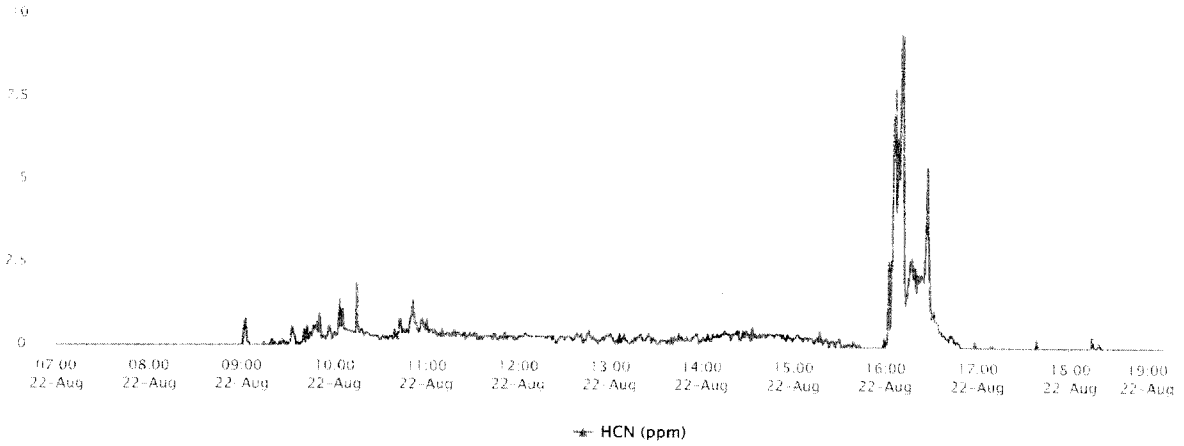
8/22/19 DAY Data for EBAM 2 (ConcRT) – Brooke Mill Apartments



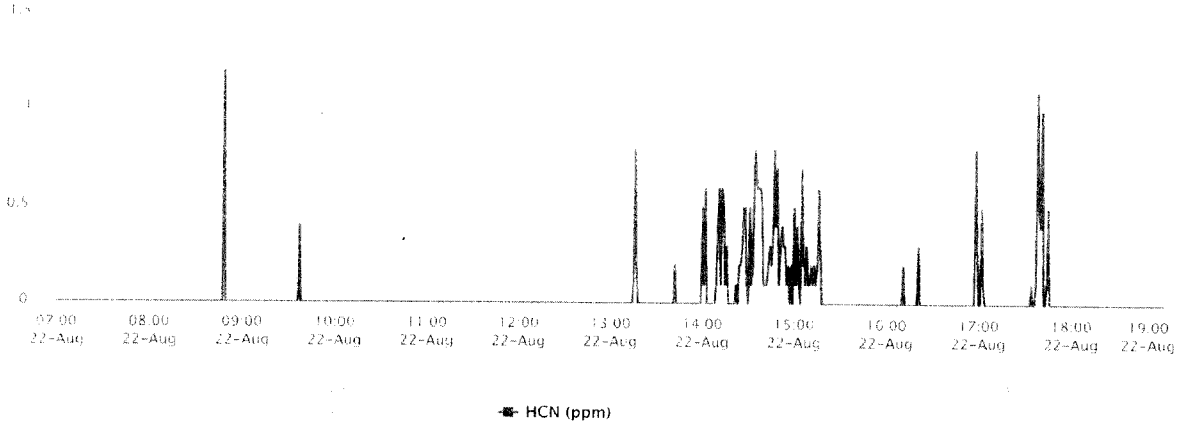
8/22/19 DAY Data for EBAM 3 (ConcRT) – EPA Mobile Command Post



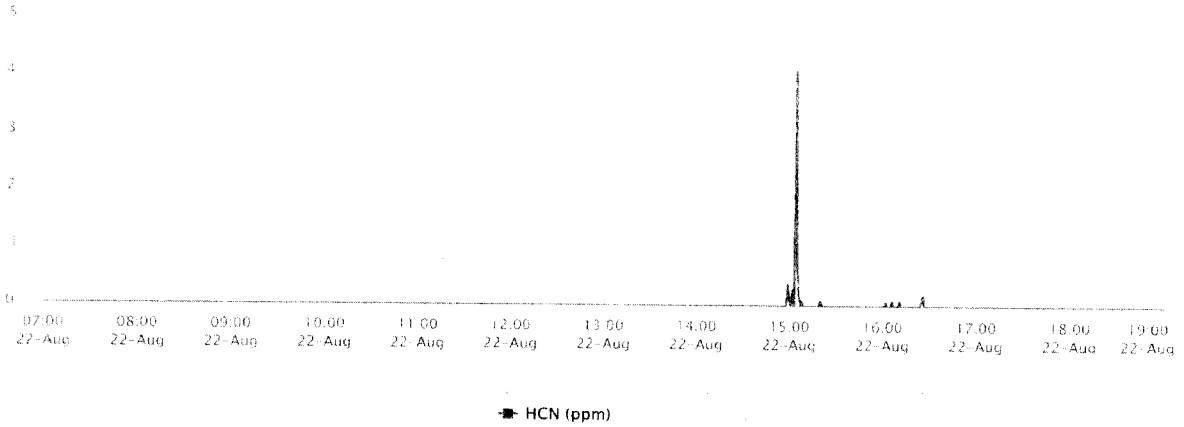
8/22/19 DAY Data for AREARAE PRO 1 (HCn) – Southwest of Pile



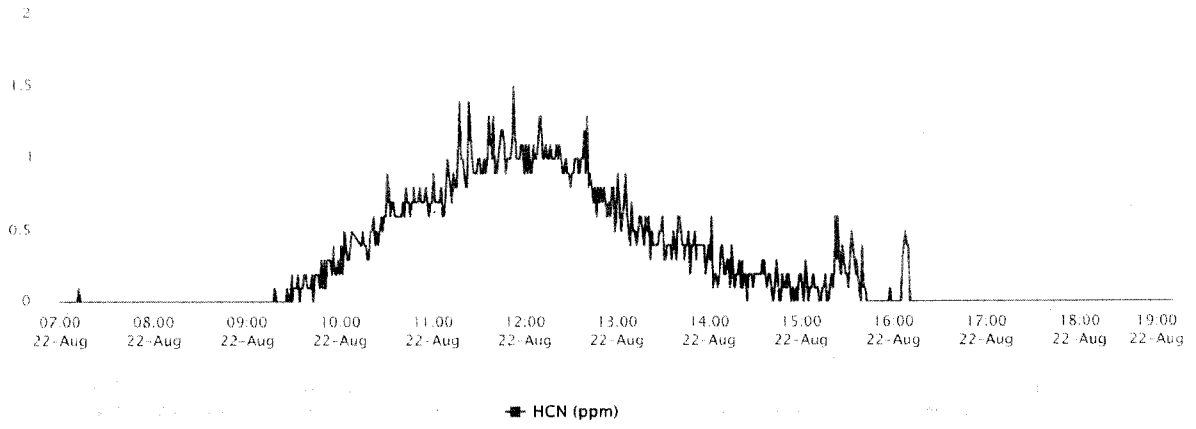
8/22/19 DAY Data for AREARAE PRO 2 (HCn) – Northwest of Pile



8/22/19 DAY Data for AREARAE PRO 3 (HCn) – Northeast of Pile



8/22/19 DAY Data for AREARAE PRO 4 (HCn) – Forrest Concrete



Threshold Values and Air Quality Index Categories for PM2.5

Level of Health Concern	Particulate Matter ≤2.5 microns measured in µg/m3		Interpretation
	1 hour average	24 hour average	
Good	0.0-40.0	0.0-12.0	Air quality is considered satisfactory, and air pollution poses little or no risk
Moderate	**40.1-80.0**	**12.1-35.4**	**Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.**
Unhealthy for Sensitive groups	80.1-175.0	35.5-55.4	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	175.1-300.0	55.5-150.4	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	300.1-500.0	150.5-250.4	Health warnings of emergency conditions. The entire population is more likely to be affected.
Hazardous	>500.0	>250.5	Health alert: everyone may experience more serious health effects

- Threshold values taken from original EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc for PM2.5 (24 hour) and Idaho Department of Environmental Quality AQI for PM2.5 (1 hour) taken from http://app.airsis.com/usfs/aqi.asp.
- Recommendations are from the EPA Air Now web site.
- People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
- Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air.

Armstrong, Kathy

From: chris.jones@tetratech.com
Sent: Tuesday, August 20, 2019 8:53 PM
To: Huyser, Matthew; Tanner, Terry
Subject: Able Fire_Residential Request

Matt and Terry,

I had two concerns/requests raised to me today. Below is a brief summary of their concerns/request:

- A local business owner near the site asked if there was a site where public information was available that he could distribute to his employees. I notified him that we were going to have one up shortly and I would send him a link, once the public version was available.
  - eric@palmettograin.com
- June Deloach (resident) who lives at (b)(6) Personal is concerned with her drinking water well. Her and her elderly neighbors are on wells and the runoff flows through the back of their neighborhood. Residents have complained to her that they smell odors. She mentioned that she has reached out to DHEC but they wouldn't do anything (meaning that they wouldn't come out and sample her well). She also has a child with asthma and was concerned with air quality. I told her about the meeting tonight but she had a school function to attend so I mentioned I'd pass along her concerns to EPA to see if there was anything that could be done to calm her concerns.

Chris Jones | Readiness Coordinator
Direct **(678) 775-3081** | Main **(678) 775-3080** | Cell **(404) 395-5220** | chris.jones@tetratech.com

Tetra Tech | Complex World, Clear Solutions™ | Environmental Services Divisions

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Think Green: Reduce, Reuse, Recycle

Armstrong, Kathy

From: chris.jones@tetratech.com
Sent: Tuesday, August 20, 2019 11:34 AM
To: Russell, Chris; Prys, Paul; Swanson, Courtney
Cc: Huyser, Matthew; Tanner, Terry
Subject: RE: Field Operations: Air Sampling

Courtney,

When you get a minute, let's talk about this. Jordan did two sets an analysis (1.) Basically a full scan of analytes (2.) Just VOCs and Phosgene. If we do the full scan like we originally did, there won't be room for the operator in the cab.

Chris

From: Russell, Chris [mailto:Russell.Chris@epa.gov]
Sent: Tuesday, August 20, 2019 11:23 AM
To: Prys, Paul <Paul.Prys@tetratech.com>; Jones, Chris <chris.jones@tetratech.com>; Swanson, Courtney <Swanson.Courtney@epa.gov>
Cc: Huyser, Matthew <huyser.matthew@epa.gov>; Tanner, Terry <Tanner.Terry@epa.gov>
Subject: Field Operations: Air Sampling

⚠ **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠

Good Morning Chris and Paul:

We would like to conduct air sampling within two of the cabs of the equipment being used on the fire mitigation operations. We should run analysis similar to what was previously run when Jordan was here. Can ya'll get that started with the goal of having that sampling done tomorrow or Thursday (sampling plan, lab set up, etc)?

Courtney will be the lead on this, so please coordinate with him.

Thanks ya'll.

Respectfully,

Chris Russell
Federal On Scene Coordinator
US EPA Region 4: Florida Outpost
Cell: (850) 274-1575

Armstrong, Kathy

From: chris.jones@tetratech.com
Sent: Wednesday, August 14, 2019 3:57 PM
To: Huyser, Matthew
Cc: Redd, Courtney
Subject: Able HASP
Attachments: Able Contracting Debris Pile Fire_HASP_Draper_Approved_07252019.pdf

Matt,

See attached for the Able Contracting Fire HASP. Let me know if you need anything else.

Chris Jones | Readiness Coordinator
Direct **(678) 775-3081** | Main **(678) 775-3080** | Cell **(404) 395-5220** | chris.jones@tetratech.com

Tetra Tech | Complex World, Clear Solutions™ | Environmental Services Divisions

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Think Green: Reduce, Reuse, Recycle

TETRA TECH

LEVEL 2 HEALTH AND SAFETY PLAN

Site Name: Able Contracting Material Recovery Center Fire	**Site Contact:** John Snyder	**Telephone:** 770-402-9013
Location: 472 Schinger Ave, Ridgeland, South Carolina 29936	**Client Contact:** Jordan Garrard	**Telephone:** 678-644-8648
EPA ID No. NA	**Prepared By:** Chris Draper	**Date Prepared:** 07/25/2019
Project No. TBD	**Dates of Activities:** 07/25/2019 thru unknown date	**Emergency Response** ☒ Yes ☐ No

Objectives:

- Conduct air monitoring
- Collect air, water, and soil samples as necessary
- Provide support as necessary

Site Type: *Check as many as applicable.*

☒ Active	☒ Landfill	☐ Inner-City
☐ Inactive	☐ Railroad	☐ Rural
☒ Secured	☐ Residential	☐ Remote
☐ Unsecured	☐ Industrial	☐ Other (*specify*)

Project Scope of Work and Site Background

Okatie, S.C.-based Able Contracting Inc., a recycling business classified by the state as a "recovered material processing facility," is home to a nearly 90-foot trash pile made of wood, cardboard, plastic and other construction debris. The pile has been intermittently smoldering and is alleged to contain asbestos.

Tetra Tech has been tasked to conduct emergency response activities to ensure the protection of human health and the environment, including but not limited to air monitoring, written and photo documentation of emergency response activities, and possibly sampling.

Health and Safety Approver Comments or Additional Instructions: See attached Asbestos ATSDR ToxFacts and Particulate Guide.

Always use the buddy system when conducting reconnaissance and monitoring. Stay clear and in visual contact with heavy equipment operators. Always use the buddy system when conducting reconnaissance and monitoring. Stay clear and in visual contact with heavy equipment operators.

The level D, C, B VOC action levels (in ppm) for benzene that has been confirmed by UltraRAE or colorimetric tube are: 0 – 1.0; >1.0 – 200; and > 200, for level D, C & B, respectively. For unknown (benzene is NOT detected) level D, C, B VOC action levels (in ppm) are: 0 – 5 ppm; >5 – 50; and >50, respectively.

Avoid low-lying areas and places where vapors could accumulate and NEVER without air monitoring. Evacuate the area immediately at 10% LEL and 1.0 ppm VOCs.

Personal floatation devices are required within 15' of water over 3' deep or that is swiftly moving. EPA particulate guide included. Type 2 personal floatation device required when within 15 feet of water that is greater than 3 feet deep or that is swiftly moving. Type II or better PFDs are required within 15' of water that is >3' deep or that is swiftly moving.

Health and Safety Plan Approver Signature: Chris Draper

Date: ***APPROVED***
By Chris Draper at 12:31 pm, Jul 25, 2019

Note: A minimum of two persons with appropriate training and medical surveillance must be on site for any fieldwork subject to Level 2 HASP requirements.
Note: A detailed site sketch or figure may be included on Page 10 of 12.

Initial Isolation and Protective Action Distances (for emergency response operations only): Follow local response agency implemented evacuation and work zone limits

Establishment of Work Zones; including exclusion, contamination reduction, and support zones; is required for ALL HAZWOPER projects. . For heavy equipment (i.e. drilling operations), exclusions zone will established around each equipment or drilling location based on site conditions and or noise levels (DCN 2-04, Hearing Conservation Program) at drilling operations (i.e. a circular exclusion zone based on noise levels >85 dbA from the drill rig or a minimum of 20 feet around the rig, whichever is greater). Or zones will be delineated using cones, barrier tape or similar visual indicators.

Wind Speed and Direction (Approach from upwind)		Temperature (°F)	Relative Humidity (%)	Probability of Precipitation (%)	Weather Forecast (such as partly cloudy, snow, etc.)
Speed (mph): 0-2	**From Direction:** N	37 Low – 64 High	45	0	Sunny

On-Site Supplies: ☒ First Aid Kit ☒ Fire Extinguisher ☐ Air Horn ☐ Oral Thermometer ☐ Noise Dosimeter

Known or Anticipated Site Hazards or Concerns: (Hazards covered by existing Safe Work Practices are listed on the next page)

☐ Railroad Right-of-Way (stay >50 ft from centerline)	☒ Overhead utilities	☐ Energized electrical systems
☐ Onsite laboratory	☒ Buried Utilities	☒ Portable hand tool use
☒ Explosion or fire hazard	☐ Surface or underground storage tanks	☐ Portable electrical tool use
☒ Oxygen deficiency	☒ General slips, trips, falls	☐ Machine guarding
☐ Unknown or poorly characterized chemical hazards	☒ Uneven, muddy, rugged terrain	☐ Portable fire extinguisher use
☒ Inorganic chemicals	☐ Lift (man lift, cherry picker) use	☐ Driving commercial vehicles
☒ Organic chemicals	☐ Industrial truck (forklift) use	☐ Driving personal vehicles
☐ Chemical warfare materiel	☐ Wood or metal ladder use	☐ Scientific diving operations
☐ Compressed Gas Cylinders	☐ Dangerous goods shipped by air	☐ Injury and Illness Prevention Program (California only)
☒ Asbestos	☐ Elevated work (over 6' high)	☐ Ergonomics (California only)
☒ Respirable particulates	☒ Heavy equipment use or operation	☐ Work in strip or shaft mines
☐ Respirable silica	☐ Construction work	☐ Client-specific safety requirements (attach to HASP)
☐ Blasting and explosives	☐ Excavation or trenching	☐ ATV use
☐ Non-ionizing radiation (lasers, radiofrequencies, UV)	☐ Benching, shoring, bracing	☐ Methamphetamine lab
☐ Ionizing radiation (alpha, beta, gamma, etc.)	☐ Scaffold use	☒ Working over or near water
☒ Heat stress	☒ High noise	☐ Mold
☐ Cold stress	☐ Grinding operations	☒ Biological hazards

Explosion or Fire Potential: ☒ High ☐ Medium ☐ Low ☐ Unknown

Chemical Products Tetra Tech EM Inc. Will Use or Store On Site: (Attach a Material Safety Data Sheet [MSDS] for each item.)

- ☒ Alconox or Liquinox
- ☒ Hydrochloric acid (HCl)
- ☒ Nitric acid (HNO_3)
- ☐ Sodium hydroxide (NaOH)
- ☒ Calibration gas (Methane)
- ☒ Calibration gas (Isobutylene)
- ☐ Calibration gas (Pentane)
- ☒ Calibration gas (4-gas mixture)
- ☒ Hydrogen gas
- ☐ Household bleach (NaOCl)
- ☐ Sulfuric acid (H_2SO_4)
- ☐ Hexane
- ☐ Isopropyl alcohol
- ☒ HazCat Kit
- ☐ Mark I Kits (*number?*) _____
- ☒ Potable water (eyewash/drench)

WARNING: Eyewash solution shall be readily available on ALL projects where corrosives (acids or bases) are used, including sample preservatives

Applicable Safety Programs and Safe Work Practices (SWP). Attach to HASP:

- ☐ DCN 4-03 Demolition and Decontamination
- ☐ DCN 4-05 Trenching and Excavation Safety
- ☐ DCN 4-08 Asbestos Protection Program
- ☐ DCN 4-09 Haulage and Earth Moving
- ☐ DCN 4-10 Lead Protection Program
- ☒ SWP DCN 5-01 General Safe Work Practices
- ☒ SWP DCN 5-02 General Safe Work Practices HAZWOPER
- ☐ SWP DCN 5-03 Safe Work Practices for Office Employees
- ☐ SWP DCN 5-04 Safe Drilling Practices
- ☐ SWP DCN 5-05 Safe Direct Push (GeoProbe) Practices
- ☐ SWP DCN 5-06 Working Over or Near Water
- ☒ SWP DCN 5-07 Use of Heavy Equipment
- ☐ SWP DCN 5-08 Special Site Hazards (Firearms, Remote Sites, Mines, aircraft, etc.)
- ☐ SWP DCN 5-09 Safe Electrical Work Practices
- ☐ SWP DCN 5-10 Fall Protection Practices
- ☐ SWP DCN 5-11 Portable Ladder Safety
- ☐ SWP DCN 5-12 Drum and Container Handling Practices
- ☒ SWP DCN 5-13 Flammable Hazards and Ignition Sources
- ☒ SWP DCN 5-14 Spill and Discharge Control Practices
- ☒ SWP DCN 5-15 Heat Stress
- ☐ SWP DCN 5-16 Cold Stress
- ☒ SWP DCN 5-17 Biohazards
- ☒ SWP DCN 5-19 Safe Lifting Procedures
- ☐ SWP DCN 5-22 Hydrographic Data Collection
- ☐ SWP DCN 5-23 Permit-Required Confined Space Entry Practices
- ☐ SWP DCN 5-24 Non-Permit-Required Confined Space Entry Practices
- ☒ SWP DCN 5-26 Prevention of Sun Exposure
- ☒ SWP DCN 5-27 Respirator Cleaning Practices
- ☒ SWP DCN 5-28 Safe Use Practices for Use of Respirators
- ☒ SWP DCN 5-47 Spill Prevention and Clean-Up
- ☒ SWP DCN 5-51 Hand Tools
- ☐ SWP DCN 5-30 Laboratory Soil Testing Safe Work Practices

Tasks Performed At Job Site that are NOT Covered by SWPs

NOTE: Many AHA's can be found on the Health & Safety intranet site at: http://home.ttemi.com/C18/Activity%20Hazard%20Analysis%20Doc um/default.aspx

Attach Activity Hazard Analysis (AHA) for each non-covered task

- ☒ Site Documentation – Observation of Excavation Operations Near Heavy Equipment (see end of document)
- ☒ AreaRAE & Viper Linc Battery Change Out
- ☒ Air Sampling for Asbestos. Including ABS, personal, and clearance
- ☒ Soil Sampling (Augering)

Tetra Tech Employee Training and Medical Requirements:

Basic Training and Medical

- ☒ Initial 40 Hour Training
- ☒ 8-Hour Supervisor Training (one-time)
- ☒ Current 8-Hour Refresher Training
- ☒ Current Medical Clearance (including respirator use)
- ☒ Current First Aid Training
- ☒ Current CPR Training
- ☒ Current Respirator Fit-Test

Other Specific Training and Medical Surveillance Requirements

- ☐ Confined Space Training
- ☐ Level A Training
- ☐ Radiation Training
- ☐ OSHA 10-hour Construction Safety Training
- ☐ OSHA 30-hour Construction Safety Training
- ☒ Asbestos Awareness Training
- ☐ Asbestos B-Reader X-Ray
- ☐ Blood Lead Level and ZPP Pre, during and Post-Project
- ☐ Urinary Arsenic Level Pre and Post-Project
- ☐ Other _____
- ☐ Other _____

Materials Present or Suspected at Site	Highest Observed Concentration (specify units and sample medium)	Exposure Limit (specify ppm or mg/m^3)	IDLH Level (specify ppm or mg/m^3)	Primary Hazards of the Material (explosive, flammable, corrosive, toxic, volatile, radioactive, biohazard, oxidizer, or other)	Symptoms and Effects of Acute Exposure	Photoionization Potential (eV)
Particulates		Good (8-hr avg): 0-22 ug/m3 Moderate (8-hr avg): 23-50 ug/m3 Unhealthy,sensitive grps (8-hr avg): 51-79 ug/m3				
Asbestos	Unknown	PEL/REL/TVL = 0.1 fibers per cubic cm; >5 micrometers in length NOTE: 1.0 fiber per cubic cm for 30-minute excursion level [Skin] Hazard ☒	CARC	CARC	Asbestosis (chronic exposure), dyspnea, interstitial fibrosis, restricted pulmonary function, finger clubbing, irritation eyes, CARC	N/A
Hydrogen Sulfide	Unknown	PEL = C 20 ppm 50 ppm [10-minute maximum peak] REL = C 10 ppm (15 mg/m3) [10-minute]	100 ppm	Toxic; Colorless gas with a strong odor of rotten eggs.	irritation eyes, respiratory system; apnea, coma, convulsions; conjunctivitis, eye pain, lacrimation (discharge of tears), photophobia (abnormal visual intolerance to light), corneal vesiculation; dizziness, headache, lassitude (weakness, exhaustion), irritability, insomnia; gastrointestinal disturbance; liquid: frostbite	10.46
Phosgene	Unknown	PEL = 0.1 mg/m3 REL = 0.1 mg/m3	2 ppm	Toxic	Irritation eyes; dry burning throat; vomiting ; cough, foamy sputum, breathing difficulty, chest pain, cyanosis; liquid: frostbite	11.55
Carbon Monoxide	Unknown	PEL = 50 ppm REL = 35 ppm (30-min)	1,200 ppm	Toxic	Headache, tachypnea, nausea, lassitude, dizziness, confusion, hallucinations; cyanosis; depressed S-T segment of electrocardiogram, angina, cyncope	14.01
Hydrogen Chloride	Unknown	PEL = 5 ppm (C) REL = 5 ppm (C)	50 ppm	Toxic, corrosive	Irritation nose, throat, larynx; cough, choking; dermatitis; solution: eye, skin burns; liquid: frostbite; in animals: laryngeal spasm; pulmonary edema	12.74
Styrene	Unknown	PEL = 100 ppm REL = 50 ppm (ST 100)	700 ppm	Toxic	Irrigation eyes, nose, respiratory system; headache, lassitude, dizziness, confusion, malaise (vague feeling of discomfort), drowsiness, unsteady gait; narcosis; defatting dermatitis; possible liver injury; reproductive effects	8.4
Specify Information Sources: NIOSH Pocket Guide to Hazardous Chemicals, July 2016						

Note: In the Exposure Limit column, include Ceiling (C) and Short-Term Exposure Limits (STEL) if they are available. Also, use the following short forms and abbreviations to complete the table above.

IDLH = Immediately dangerous to life or health
mg/m^3 = Milligram per cubic meter
NA = Not available

PEL = Permissible exposure limit
ppm = Part per million
REL = Recommended exposure limit
TLV = Threshold limit value
ug/m3 = microgram per cubic meter

Note: If no contingency level of protection is selected, all employees covered under this plan must evacuate the immediate site area if air contaminant levels require upgrading PPE. Level A field work requires a Level 3 HASP. This information is available on the chemical hazards page of this HASP.

Field Activities Covered Under this HASP:

Task Description	Level of Protection[1] Primary	Level of Protection[1] Contingency	Date of Activities
1 Conduct air monitoring	☐ A ☐ B ☐ C ☒ D	☐ A ☐ B ☒ C ☐ D	Begin 07/25/2019
2 Collect samples (soil and/or sediment – see separate AHAs), if necessary	☐ A ☐ B ☐ C ☒ D	☐ A ☐ B ☒ C ☐ D	Begin 07/25/2019
3 Site entry	☐ A ☐ B ☐ C ☒ D	☐ A ☐ B ☒ C ☐ D	Begin 07/25/2019
4	☐ A ☐ B ☐ C ☐ D	☐ A ☐ B ☐ C ☐ D	

Site Personnel and Responsibilities (include subcontractors):

Employee Name and Office Code / Location	Task(s)	Responsibilities
John Snyder	1, 2, 3	• Project Manager: Manages the overall project, makes site safety coordinator (SSC) aware of pertinent project developments and plans, and maintains communications with client as necessary. Additionally, for projects lasting longer than one consecutive week on-site, the PM is responsible for conducting one field audit using Form AF-1.
John Snyder	1, 2, 3	• Field Team Leader: Directs field activities, makes site safety coordinator (SSC) aware of pertinent project developments and plans, and maintains communications with the Project Manager and the client as necessary
John Snyder	1, 2, 3	• Site Safety Coordinator (SSC): Ensures that appropriate personal protective equipment (PPE) is available, enforces proper use of PPE by on-site personnel and subcontractors; suspends investigative work if personnel are or may be exposed to an immediate health hazard; implements and enforces the HASP; identifies and controls site hazards when possible; communicates site hazards to all personnel; and reports any deviations observed from anticipated conditions described in the health and safety plan to the health and safety representative.
Eric Huss	1, 2,3	• Alternate Site Safety Coordinator (if any)
Josiah Williams	1, 2, 3	• Field Personnel: Completes tasks as directed by the project manager, field team leader, and SSC, and follows the HASP and all SWPs and guidelines established in the Tetra Tech, Inc., Health and Safety Manual. • Tetra Tech-hired subcontractor personnel on site (a subcontract SSC MUST be identified by name): Completes tasks as outlined in the project scope of work in accordance with the contract. Participates in all Tetra Tech on-site safety meetings and follows all procedures and guidelines established in this HASP, as well as the company health and safety plan and program.

Note. See next page for details on levels of protection

NOTE: Contingency level of protection section should be completed only if the upgraded level of protection is immediately available at the job site. If no contingency level of protection is denoted, all employees covered under this HASP must evacuate the immediate site area if air contaminant levels would require an upgrade of PPE.

Protective Equipment: (Indicate type or material as necessary for each task.)

Task	Primary Level of Protection (A,B,C,D)	PPE Component Description (Primary)	Contingency Level of Protection (A, B, C, D)	PPE Component Description (Contingency)
1	D	Respirator type: NA Cartridge type (if applicable): NA CPC material: NA Glove material(s): Nitrile (if needed) Boot material: Steel-toed Other: hard hat, safety glasses, safety vest, hearing protection as needed near heavy equipment or loud operations	C	Respirator type: SCOTT AV3000 Cartridge type (if applicable): P100 multi CPC material: Tyvek Glove material(s): Nitrile Boot material: Butyl Rubber over leather steel-toed Other: Hard hat, safety vest
2	D	Respirator type: NA Cartridge type (if applicable): NA CPC material: NA Glove material(s): Nitrile (if needed) Boot material: Steel-toed Other: hard hat, safety glasses, safety vest, hearing protection as needed near heavy equipment or loud operations	C	Respirator type: SCOTT AV3000 Cartridge type (if applicable): P100 multi CPC material: Tyvek Glove material(s): Nitrile Boot material: Butyl Rubber over leather steel-toed Other: Hard hat, safety vest
3	D	Respirator type: NA Cartridge type (if applicable): NA CPC material: NA Glove material(s): Nitrile (if needed) Boot material: Steel-toed Other: hard hat, safety glasses, safety vest, hearing protection as needed near heavy equipment or loud operations	C	Respirator type: SCOTT AV3000 Cartridge type (if applicable): P100 multi CPC material: Tyvek Glove material(s): Nitrile Boot material: Butyl Rubber over leather steel-toed Other: Hard hat, safety vest
4		Respirator type: Cartridge type (if applicable): CPC material: Glove material(s): Boot material: Other:		Respirator type: Cartridge type (if applicable): CPC material: Glove material(s): Boot material: Other:
5		Respirator type: Cartridge type (if applicable): CPC material: Glove material(s): Boot material: Other:		Respirator type: Cartridge type (if applicable): CPC material: Glove material(s): Boot material: Other:

Respirator Notes:
Respirator cartridges may only be used for a maximum time of 8 hours or one work shift, whichever is less, and must be discarded at that time. For job sites with organic vapors, respirator cartridges may be used as described in this note as long as the concentration is less than 200 parts per million (ppm), the boiling point is greater than 70 °Celsius, and the relative humidity is less than 85 percent. If any of these levels are exceeded, a site-specific respirator cartridge change-out schedule must be developed and included in the HASP using Tetra Tech Form RP-2 (Respiratory Hazard Assessment Form)

Notes:
All levels of protection must include eye, head, and foot protection.
CPC = Chemical protective clothing
Thermoluminescent Dosimeter (TLD) Badges must be worn during all field activities on sites with radiation hazards. TLDs must be worn under CPC.

Monitoring Equipment: All monitoring equipment on site must be calibrated before and after each use and results recorded in the site logbook

Instrument (Check all required)	Task	Instrument Reading	Action Guideline	Comments
☒ Combustible gas indicator model:	☒ 1	0 to 10% LEL	Monitor; evacuate if confined space	
	☐ 2			
	☒ 3	10 to 25% LEL	Potential explosion hazard; notify SSC	
	☐ 4			
	☐ 5	>25% LEL	Explosion hazard; interrupt task; evacuate site; notify SSC	
☒ Oxygen meter model:	☒ 1	>23.5% Oxygen	Potential fire hazard; evacuate site	
	☐ 2			
	☒ 3	23.5 to 19.5% Oxygen	Oxygen level normal	
	☐ 4			
	☐ 5	<19.5% Oxygen	Oxygen deficiency; interrupt task; evacuate site; notify SSC	
☐ Radiation survey meter model:	☒ 1	Normal background	Proceed	Annual exposure not to exceed 1,250 mrem per quarter Background reading must be taken in an area known to be free of radiation sources.
	☐ 2			
	☒ 3	Two to three times background	Notify SSC	
	☐ 4			
	☐ 5	>Three times background	Radiological hazard; interrupt task; evacuate site; notify RSO	
☒ Photoionization detector model: ☐ 11.7 eV ☒ 10.6 eV ☐ 10.2 eV ☐ 9.8 eV ☐ Other (specify): _____	☒ 1	Any response above background to 5 ppm above background	Level B is recommended Level C[a] may be acceptable	These action levels are for unknown gases or vapors. After the contaminants are identified, action levels should be based on the specific contaminants involved.
	☐ 2			
	☒ 3	> 5 to 500 ppm above background	Level B	
	☐ 4			
	☐ 5	> 500 ppm above background	Level A	
☐ Flame ionization detector model:	☒ 1	Any response above background to 5 ppm above background	Level B is recommended Level C[a] may be acceptable	These action levels are for unknown gases or vapors. After the contaminants are identified, action levels should be based on the specific contaminants involved.
	☐ 2			
	☒ 3	>5 to 500 ppm above background	Level B	
	☐ 4			
	☐ 5	>500 above background	Level A	
☒ Detector tube models: Styrene	☒ 1	Specify: < 2 the PEL > 2 the PEL	Specify: Remove from area. Upgrade respiratory protection to B	The action level for upgrading the level of protection is one-half of the contaminant=s PEL. If the PEL is reached, evacuate the site and notify a safety specialist
	☐ 2			
	☒ 3			
	☐ 4			
	☐ 5			
☒ Single Point Monitor	☒ 1	Specify: Phosgene	Specify: Remove from area. Upgrade Respiratory protection to C	
	☐ 2			
	☐ 3			
	☐ 4			
	☐ 5			

Notes:
eV= electron volt LEL=Lower explosive limit mrem=Millirem PEL=Permissible exposure limit ppm=Part per million
a. Level B is required when chemical hazards are present, but are uncharacterized. Level C may be acceptable for certain tasks in some situations. If you are uncertain, consult your RSO.

Project-Specific Industrial Hygiene Requirements

OSHA-Regulated Chemicals*:

Check any present on the job site in any medium (air, water, soil)

- ☐ No chemicals below are located on the job site
- ☐ Friable Asbestos
- ☐ Silica, crystalline
- ☐ alpha-Napthylamine
- ☐ Methyl chloromethyl ether
- ☐ 3,3'-Dichlorobenzidine (and its salts)
- ☐ bis-Chloromethyl ether
- ☐ beta-Napthylamine
- ☐ Benzidine
- ☐ 4-Aminodiphenyl
- ☐ Ethyleneimine
- ☐ beta-Propiolactone
- ☐ 2-Acetylaminoflourene
- ☐ 4-Dimethylaminoazobenzene
- ☐ N-nitrosomethylamine
- ☒ Vinyl chloride
- ☐ Inorganic arsenic
- ☐ Lead
- ☐ Chromium (VI)
- ☐ Cadmium
- ☐ Benzene
- ☐ Coke oven emissions
- ☐ 1,2-Dibromo-3-chloropropane
- ☐ Acrylonitrile
- ☐ Ethylene oxide
- ☐ Formaldehyde
- ☐ Methylenedianiline
- ☐ 1,3-Butadiene
- ☐ Methylene chloride

* NOTE: Many states, including California and New Jersey, have chemical-specific worker protection requirements and standards for many chemicals and known or suspected carcinogens.

Emergency Contacts:	**Telephone No.**
WorkCare and Incident Intervention	888.449.7787, or 800.455.6155
Tetra Tech EMI 24-hour Anonymous Hazard Reporting Line	866.383.8070
U.S. Coast Guard National Response Center	800.424.8802
InfoTrac	800.535.5053
Poison Control	800.222.1222
Fire department	911
Police department	911

Personnel Call-Down List:

Job Title or Position:	**Name**	**Cell Phone:**
Regional Safety Officer	Chris Draper	615.969.1334
Project Manager:	John Snyder	770-402-9013
Field Team Leader:	John Snyder	770-402-9013
Site Safety Coordinator (SSC):	John Snyder	770-402-9013
Subcontractor SSC:	NA	

Medical and Site Emergencies:

Signal a site or medical emergency with three blasts of a loud horn (car horn, fog horn, or similar device). Site personnel should evacuate to the area of safe refuge designated on the site map.

Hospital Name: Coastal Carolina Hospital: Emergency Room
Address: 1000 Medical Center Dr, Hardeeville, SC 29927
General Phone: (843) 784-8000
Emergency Phone: 911
Ambulance Phone: 911

Hospital called to verify emergency services are offered? YES ☒ NO ☐

Step-by-step Route to Hospital: (see Page 11 of 12 for route map):

Note: This page must be posted on site.

Decontamination Procedures

The site safety coordinator overseas implementation of project decontamination procedures and is responsible for ensuring they are effective.

Personnel Decontamination

Level D Decon - ☐ Wet ☒ Dry

Level C Decon - ☐ Wet ☒ Dry

Level B Decon – Briefly outline the level B decontamination methods to be used on a separate page attached to this HASP.

Level A Decon – A Level 3 HASP is required. Notify your regional health and safety representative and health and safety director.

Equipment Decontamination

All tools, equipment, and machinery from the Exclusion Zone (hot) or Contamination Reduction Zone (warm) are decontaminated in the CRZ before they are removed to the Support Zone (cold). Equipment decontamination procedures are designed to minimize the potential for hazardous skin or inhalation exposure, cross-contamination, and chemical incompatibilities.

Respirator Decontamination

Respirators are decontaminated in compliance with SWP 5-27 and should be included with this HASP.

Waste Handling for Decontamination

Procedures for decontamination waste disposal meet all applicable local, state, and federal regulations.

Decontamination Equipment

- ☐ Washtubs
- ☒ Buckets
- ☒ Scrub brushes
- ☐ Pressurized sprayer
- ☐ Detergent [Luminox]
- ☐ Solvent [Type]
- ☐ Household bleach solution

  Concentration/Dilution: _____
- ☒ Deionized water
- ☒ Disposable sanitizer wipes
- ☐ Facemask sanitizer powder
- ☐ Wire brush
- ☒ Spray bottle
- ☐ Tubs / pools
- ☐ Banner/barrier tape
- ☒ Plastic sheeting
- ☐ Tarps and poles
- ☒ Trash bags
- ☐ Trash cans
- ☒ Duct tape
- ☒ Paper towels
- ☒ Folding chairs
- ☐ Other

Emergency Response Planning

During the pre-work briefing and daily tailgate safety meetings, all on-site employees will be trained in the provisions of emergency response planning, site communication systems, and site evacuation routes.

In the event of an emergency that necessitates evacuation of a work task area or the site, the following procedures will take place.

- The Tetra Tech SSC will contact all nearby personnel using the on-site communications to advise the personnel of the emergency.
- The personnel will proceed along site roads to a safe distance upwind from the hazard source.
- The personnel will remain in that area until the SSC or an authorized individual provides further instructions.

In the event of a severe spill or a leak, site personnel will follow the procedures listed below.

- Evacuate the affected area and relocate personnel to an upwind location.
- Inform the Tetra Tech SSC, a Tetra Tech office, and a site representative immediately.
- Locate the source of the spill or leak, and stop the flow if it is safe to do so.
- Begin containment and recovery of spilled or leaked materials.
- Notify appropriate local, state, and federal agencies.

In the event of severe weather, site personnel will follow the procedures listed below.

- Site work shall not be conducted during severe weather, including high winds and lightning.
- In the event of severe weather, stop work, lower any equipment (drill rigs) and evacuate the affected area.
- Severe weather may cause heat or cold stress. Refer to SWPs 5-15 and 5-16 for information on both.

All work-related incidents must be reported. According to TtEMI's reporting procedures, for non-emergency incidents you should:

- Notify WorkCare and Incident Intervention at 888.449.7787, or 800.455.6155
- Notify your Project Manager or Regional Safety Officer (RSO) via phone immediately.
- Complete a "Tetra Tech Incident Report" (Form IR) within 24 hours and send it to your RSO. If an injury or illness has occurred, the Form IR-A and the WorkCare HIPAA form must be completed at the same time the Form IR is completed.

Site Map

Capitol Materials Coastal
472 Schinger Avenue
Schinger Ave
Ironman Welding
Carolina Morning
Firewood
Mackenley Way
Schinger Ave
Terminix
Google

Hospital Route Map

15 min (10.1 miles)

via US 278 W

Fastest route, the usual traffic

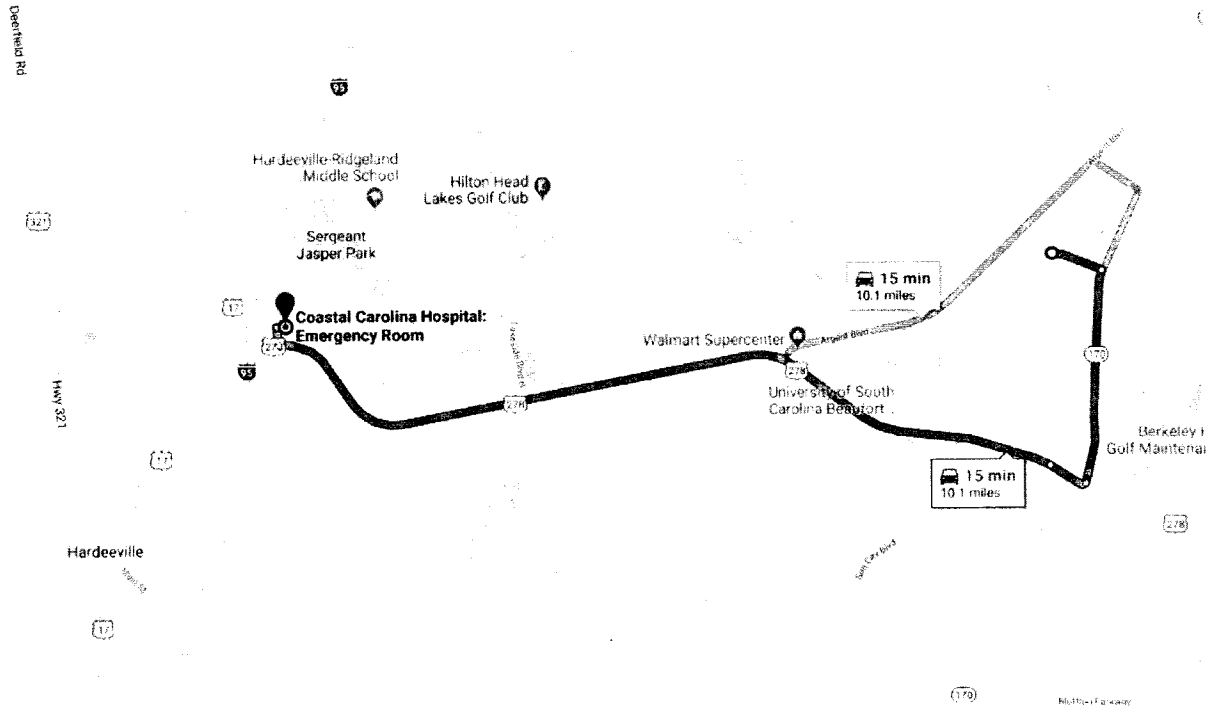
472 Schinger Ave

Ridgeland, SC 29936

- Head east on Schinger Ave toward Browns Cove Rd N
- Turn right onto SC-170 W
- Turn right onto the U.S. 278/Savannah ramp
- Merge onto US-278 W
- Turn right onto I-95 Frontage Rd/Medical Center Dr/Red Dam Rd/State Rd S-27-422
- Turn right
- Turn left
  - Destination will be on the right

Coastal Carolina Hospital: Emergency Room

[redacted]



Note: A dry-run should be conducted to establish a physical location associated with the map included in the HASP. Verbal verification from the hospital emergency room should also be obtained to ensure that the hospital will accept chemically contaminated patients.

APPROVAL AND SIGN-OFF FORM

Project No.: _____

I have read, understood, and agree with the information set forth in this Health and Safety Plan and will follow the direction of the Site Safety Coordinator (SSC) as well as procedures and guidelines established in the Tetra Tech, Inc., Health and Safety Manual. I understand the training and medical requirements for conducting field work and have met these requirements.

Tetra Tech has prepared this plan solely for the purpose of the health and safety protection of Tetra Tech employees. Subcontractors, visitors, and others at the site, while required to read and follow the provisions outlined in this plan at a minimum, should refer to their safety program for specific information related to their health and safety protection.

Name	Company / Agency / Organization	Signature	Date

I have read, understood, and agree with the information set forth in this Health and Safety Plan and comply with and will enforce this HASP, as well as procedures and guidelines established in the Tetra Tech, Inc., Health and Safety Manual.

Name	Project-Specific Position	Signature	Date
John Snyder	Project Manager		
John Snyder	Field Team Leader		
John Snyder	Site Safety Coordinator		
	Subcontractor SSC		

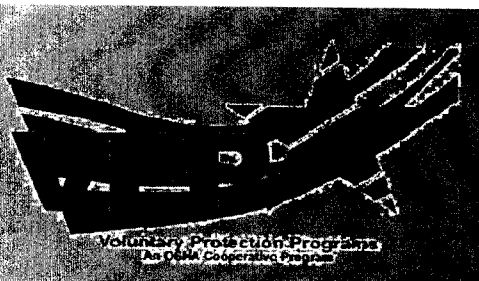
Tetra Tech has prepared this plan solely for the purpose of the health and safety protection of Tetra Tech employees. Subcontractors, visitors, and others at the site, while required to read, acknowledge and follow the provisions outlined in this plan at a minimum, should refer to their safety program for specific information related to health and safety.

Note: Use Additional sheets as necessary to ensure that all personnel sign and affirm this document.

TETRA TECH

Safety Excellence

VOLUNTARY PROTECTION PROGRAM



Management Leadership

Lead by example. Good managers recognize the benefits of a strong safety program and ensure that their personnel and subcontractors have the right tools, equipment, and attitude to work safely.

Some areas where effective management leadership for safety can be demonstrated include:

- Provide visible safety leadership - start meetings with a safety topic, integrate safety into planning, scheduling, and budgeting processes, take personal action to resolve safety issues.
- Become involved in incident reporting, investigation, corrective action - share lessons learned.
- Include subcontractors in your safety program and oversee their work.

Employee Involvement

Get involved! Take personal action and work directly with your supervisor daily to identify, control, or eliminate potential safety hazards.

Other ways to become involved in the safety program and improve work conditions include:

- Initiate hazard reports to identify hazards, suggest improvements, and recognize safe behaviors
- Participate in safety meetings and worksite safety inspections (daily, weekly, monthly, and quarterly)
- Participate in incident reports, investigations, corrective actions, and Lessons Learned

Worksite Analysis

The process of identifying and evaluating potential hazards is a critical element in achieving zero incidents and creating low risk and hazard-free work areas.

Worksite analysis methods used to identify and evaluate potential hazards include:

- Safety inspections (daily, weekly, monthly, and quarterly)
- Develop or review safe work procedures, AHA's, and the HASP
- Monitoring for air quality, heat stress, noise, ergonomics and other job hazards

Hazard Prevention and Control

Eliminating hazards from your job, preventing new hazards, and controlling known hazards are fundamental parts of the projects safety program.

Important points include:

- Control hazards by:
  - Installing and maintaining ***Engineering Controls***
  - Following ***Administrative/Work Practice Controls*** (HASP, AHAs, and safe work practices)
  - Specifying and wearing ***Personal Protective Equipment*** where needed
- Perform integrated safety reviews for new or modified work tasks
- Consult with qualified medical and safety professionals as needed

Safety and Health Training

Effective safety training is an important element in incident prevention. Remember, if you are unfamiliar with the work or feel that you don't have the necessary training, speak up and notify your team leader or project manager.

Safety training methods that may be used at the project include:

- New employee orientation, including HASP and task-specific training
- Project meetings, daily briefings, and/or task briefings
- Lessons learned and monthly safety communications

Name Signature

TETRA TECH EM INC.

HEALTH AND SAFETY PLAN AMENDMENT

Site Name: _____

Amendment Date: _____

Purpose or Reason for Amendment: _____

_____

_____

Required Additional Safe Work Practices or Activity Hazard Analyses: _____

_____

Required Changes in PPE: _____

_____

_____

Action Level Changes: _____

_____

_____

_____

_____

AMENDMENT APPROVAL

RSO or Designee	_____ Name	_____ Signature	_____ Date
Site Safety Coordinator	_____ Name	_____ Signature	_____ Date

Date presented during daily site safety meeting: _____

TETRA TECH, INC.

FIELD AUDIT CHECKLIST

Project Name: _____ Project No.: _____

Field Location: _____ Completed by: _____

Project Manager: _____ Site Safety Coordinator: _____

General Items		In Compliance?		
Health and Safety Plan Requirements		Yes	No	NA
1	Approved health and safety plan (HASP) on site or available			
2	Names of on-site personnel recorded in field logbook or daily log			
3	HASP compliance agreement form signed by all on-site personnel			
4	Material Safety Data Sheets on site or available			
5	Designated site safety coordinator physically present on jobsite			
6	Daily tailgate safety meetings conducted and documented on Form HST-2			
7	Documentation available proving compliance with HASP requirements for medical examinations, fit testing, and training (including subcontractors)			
8	HASP onsite matches scope of work being conducted			
9	Emergency evacuation plan in place and hospital located			
10	Exclusion, decontamination, and support zones delineated and enforced			
11	HASP attachments present onsite (VPP sheet, audit checklist, AHA, etc.)			
12	Illness and injury prevention program reports completed (California only)			
Emergency Planning				
13	Emergency telephone numbers posted			
14	Emergency route to hospital posted			
15	Local emergency providers notified of site activities			
16	Adequate safety equipment inventory available			
17	First aid provider and supplies available			
18	Eyewash solution available when corrosive chemicals are present			
Air Monitoring				
19	Monitoring equipment specified in HASP available and in working order			
20	Monitoring equipment calibrated and calibration records available			
21	Personnel know how to operate monitoring equipment and equipment manuals available on site			
22	Environmental and personnel monitoring performed as specified in HASP			

Safety Items		In Compliance?		
Personal Protection		Yes	No	NA
23	Splash suit, if required			
24	Chemical protective clothing, if required			
25	Safety glasses or goggles (always required)			
26	Gloves, if required			
27	Overboots, if required			
28	Hard hat (always required)			
29	High visibility vest, if required			
30	Hearing protection, if required			
31	Full-face respirator, if required			
Instrumentation				
32	Combustible gas meter and calibration notes			
33	Oxygen meter and calibration notes			
34	Organic vapor analyzer and calibration notes			
Supplies				
35	Decontamination equipment and supplies			
35	Fire extinguishers			
37	Spill cleanup supplies			
Corrective Action Taken During Audit:				

Note: NA = Not applicable

Auditor's Signature

Site Safety Coordinator's Signature

Date

Tetra Tech, Inc.

ACTIVITY HAZARD ANALYSIS (AHA)

Tetra Tech EM Inc.

Site Documentation & Observation of Excavation Operations Near Heavy Equipment

Task Description

This Activity Hazard Analysis (AHA) applies to observation and documentation of site activities involving operation of heavy equipment, including back-filling and site restoration activities. It has been developed and approved by the Tetra Tech (Tt) Health and Safety Representative and is applicable to ALL Tt and contractor personnel involved in this activity. The AHA contains potential hazards posed by each major step in this task, lists procedures to control hazards, and presents required safety equipment, inspections, and training.

Hazards		Actions
Task Steps Observe Near Heavy Equipment	• Exposure to chemicals of concern • Open excavations • Slips, trips, and falls • Heat stress • Biological hazards • Excessive noise • Heavy lifting • Sun Exposure • Heavy equipment	**Critical Safety Procedures and Controls** • Follow appropriate safe work practices for field work (SWP 5-1) and HAZWOPER (SWP 5-2); • Wear prescribed PPE; Inspect, don and use PPE specified in the HASP, including hardhats, safety glasses, steel-toed boots, Class 2 safety vests and hearing protection • Sample dust to ensure that PPE levels and dust control measures are adequate; • Limit access to work area; • AT NO TIME are Tetra Tech personnel authorized to enter open excavations; • Follow DCN 4-05, Trenching and Excavation Safety; • Keep site areas clean and free of debris; • Follow SWP 5-15 for heat stress; • Keep out or limit time in grassy and wooded areas; use insect repellent as necessary; • Follow Hearing Conservation Program (DCN 2-4); wear hearing protection in areas >85 dB; use rule of thumb and wear hearing protection whenever you have to raise your voice to be heard and understood from 2 feet away; • Follow Safe Lifting Practices (SWP 5-19); • Follow Prevention of Sun Exposure (SWP 5-26); wear hats and sunscreen as needed to limit sun exposure; • Follow Working Near Heavy Equipment (SWP 5-7); keep away from heavy equipment; be aware of the swing radius of equipment; and ensure eye contact is made with the operator before approaching machinery • Conduct air monitoring as necessary and adhere to action levels presented in the HASP • Delineate the area using caution tape, signage, etc. and prohibit unauthorized entry.

		• Visually inspect the area for slippery spots or debris and correct if found. • Wear steel-toed, non-skid boots in accordance with Tetra Tech EMI policy • Use proper lifting techniques (lift with legs not back)
Equipment to be Used • Level D PPE, , including hardhats, safety glasses, steel-toed boots, Class 2 safety vests and hearing protection • First aid kit & eye wash	**Inspection Requirements** • Inspect all PPE for proper operations, wear and defects • Ensure any air monitoring equipment is properly calibrated and functioning properly	**Training Requirements** • See HASP; no extra training requirements.

Tetra Tech, Inc.

ACTIVITY HAZARD ANALYSIS (AHA)

Tetra Tech EM Inc.

Soil Sampling

Task Description

This Activity Hazard Analysis (AHA) applies to collection of grab soil samples. It has been developed and approved by the Health & Safety Department. The AHA contains potential hazards posed by each major step in this task, lists appropriate controls, and presents required safety equipment, inspections, and training.

Hazards		Actions
Task Steps	**Potential Hazards**	**Critical Safety Procedures and Controls**
Set up equipment at sampling location	SLIP/TRIP/FALL	• Visually inspect the area for slippery spots or debris and correct if found • Wear steel-toed, non-skid boots in accordance with Tetra Tech EMI policy
	BACK STRAIN/SPRAIN	• Use proper lifting techniques (lift with legs not back)
Dig to appropriate depth with appropriate tools NOTE: Employees may NOT enter open excavations to retrieve soil samples. Samples MUST be collected from excavator buckets or by other remote means.	SLIP/TRIP/FALL	• Wear steel-toed, non-skid boots in accordance with Tetra Tech EMI policy
	BACK STRAIN/SPRAIN	• Use proper digging techniques. Use care if resistance is encountered. Do not strain or overexert to advance the shovel. Consider a different sampling location is possible. • If using a hand-auger. Use care if resistance is encountered. Do not strain to turn and advance the auger. Consider a different sampling location is possible.
	HAND INJURY	• Wear gloves when digging or hand-auguring
	HEAVY EQUIMENT	• Wear high-visibility vests at all times • Maintain contact with operator and ensure that the operator is aware of your position at all times

	HIGH NOISE	• Use appropriate hearing protective devices near heavy equipment
Extract Soil	EMPLOYEE EXPOSURE	• Wear safety glasses and nitrile gloves • Emergency eyewash is required when sampling corrosive materials or using corrosive preservatives • Plastic sheeting can be used to kneel upon while collecting samples
Fill sample bottles with sample material, load coolers and IDW (if appropriate) into vehicle	LACERATION	• Handle all glass containers carefully • Have a first aid kit on-site available for small cuts • Dispose of all broken shards immediately
Store sample containers in coolers and load onto vehicles	SLIP/TRIP/FALL BACK STRAIN/SPRAIN	• Ensure all debris has been removed from the path of travel • Use proper lifting techniques, including obtaining help with heavy coolers
Equipment to be Used • Level D PPE (steel-toed boots, safety glasses, nitrile gloves) • Class 2 safety vest if in areas of vehicle traffic or heavy equipment operation • First Aid Kit • Eyewash • Disposable scoop • Hand Auger • Shovel • Appropriate bottle ware and preservative	**Inspection Requirements** • Inspect area prior to sampling • Conduct utility locating and marking as required prior to intrusive activities	**Training Requirements** • Safe Lifting Procedures • Personal Protective Equipment • Hazardous Waste Operations and Emergency Response (40-hour and current 8-hour update) • CPR/First Aid (one employee on-site must have current CPR/First Aid training) • As required in accordance with policy and/or sampling and analysis plan

Tetra Tech, Inc.

ACTIVITY HAZARD ANALYSIS (AHA)

Tetra Tech EM Inc.

AreaRAE & Viper Linc Battery Change Out

Task Description

This Activity Hazard Analysis (AHA) applies to the task listed above. It has been developed and approved by the Director of Health and Safety for Tetra Tech EMI. The AHA contains potential hazards posed by each major step in this task, lists procedures to control hazards, and presents required equipment (including safety equipment), inspections, and training. The hazard controls listed below are specific to this task.

Battery change out of deployed AreaRAEs is occurring as needed in the field. Field personnel have vehicle access to each of the AreaRAE locations foot traffic for this task is very minimal. APRs are carried with personnel throughout this change out task in the event they are needed to donn for emergency escape purposes. Tools required to conduct battery change out include a phillipshead screwdriver.

Hazards		Actions
Task Steps	**Potential Hazards**	**Critical Safety Procedures and Controls**
Gather equipment and PPE needed	none	Ensure that APR is appropriate size, in working condition, and have appropriate cartridges in place and personal 5-gas monitor. Also ensure all other ppe required is utilized (i.e. gloves, steel toed boots, etc.). Ensure that phillipshead screwdriver is in good working condition.
Vehicle deployment to each AreaRAE location	Airborne chemical exposure (butadiene, HF, Styrene, NaOH, and MIBK. Fire, Explosion	Maintain contact with air monitoring control base to ensure zones to be entered are not indicating hazardous atmosphere. Monitor reading on 5-gas detector. Only authorized personnel allowed for entry into area. Keep emergency rescue APR in hand.
Battery Change out	Airborne chemical exposure (butadiene, HF, Styrene, NaOH, and MIBK. Fire, Explosion	Maintain contact with air monitoring control base to ensure zones to be entered are not indicating hazardous atmosphere. Monitor reading on 5-gas detector. Only authorized personnel allowed for entry into area. Keep emergency rescue APR in hand.
Equipment to be Used	**Inspection Requirements**	**Training Requirements**
Phillipshead Screwdriver APRs	Visual inspect of phillipshead screwdriver, visual inspection of APR, ensure proper cartridges in place, and qualitative fit	Compliant Qualitative Respirator Fit Test Appropriate AreaRAE equipment training

	test.	

Tetra Tech, Inc.

ACTIVITY HAZARD ANALYSIS (AHA)

Tetra Tech EM Inc.

Creek Sediment Sampling

Task Description

This Activity Hazard Analysis (AHA) applies to the task listed above. It has been developed and approved by the Tetra Tech EMI Health and Safety Department. The AHA contains potential hazards posed by each major step in this task, lists procedures to control hazards, and presents required equipment (including safety equipment), inspections, and training. The hazard controls listed below are specific to this task.

Hazards		Actions
Task Steps Identify weather and water conditions prior to conducting water operations	**Potential Hazards** IMPROPER PPE	**Critical Safety Procedures and Controls** • Determine type of personal protective equipment (PPE) necessary to conduct water operations. • For water and air temperatures greater than 45 degrees Fahrenheit (°F), Tetra Tech personnel must wear weather appropriate Level D PPE and Type III personal flotation device (PFD). • For water and air temperatures less than 45 °F, Tetra Tech personnel must wear an anti-exposure suit and Type III PFD or a combination anti-exposure suit with built-in PFD. • For water and air temperatures split between 45 °F, Tetra Tech site manager will evaluate weather and water conditions to determine the appropriate PPE for sampling operations.
Ensure personnel have received the proper health and safety training prior to conducting sampling activities	IMPROPER TRAINING	• Ensure all personnel involved in sampling operations have been briefed on the Cold Weather Water Operations AHA and this AHA. • Ensure all personnel involved in sampling operations have reviewed the Tetra Tech Site Specific Health and Safety Plan and applicable Safe Work Practices.
Coordinate water operations and meeting location with appropriate personnel	LACK OF COORDINATION AND COMMUNICATION IMPROPER PPE	• Ensure sampling team is comprised of a minimum of two personnel. • Define roles of sampling team members prior to collecting samples. • Inspect all PPE prior to use to ensure it is not damaged.
Launch area	LACK OF OR IMPROPER USE OF PPE	• Tetra Tech personnel must wear a Type III PFD when working within 15 feet of a body of water. • Ensure vessel has proper safety equipment for employee rescue operations (i.e. throw rope, ring buoy, first aid kit, etc.). Ensure Tetra Tech personnel have "boat bag" with

		appropriate safety equipment on board during sampling operations.
	SLIPS, TRIPS, AND FALLS	• Survey launch area prior to entering. Avoid uneven and slick surfaces if possible. Use the "buddy system" to enter the vessel and to load equipment.
Conducting sampling operations	LACK OF OR IMPROPER USE OF PPE	• Tetra Tech site manager will determine the appropriate PPE for conducting surface water sampling operations. Tetra Tech personnel must wear a Type III PFD when working within 15 feet of a body of water. • Ensure appropriate safety gear (i.e. throw rope, ring buoy, first aid kit, etc.) is easily accessible for employee rescue operations. Ensure Tetra Tech personnel have "boat bag" with appropriate safety equipment on board during sampling operations.
	SLIPS, TRIPS, AND FALLS	• Ensure all personnel are properly seated while boat is in motion to each sampling location. Ensure all personnel maintain at least three points of contact with the boat when approaching dangerous situations (i.e. holding on to side of boat with at least one hand while properly seated). • Ensure personnel have positioned themselves in a manner that allow for stable footing and easy movement while collecting samples.
	LACK OF COORDINATION AND COMMUNICATION	• Ensure personnel collecting samples communicate with each team member prior to making any movements not involved with sample collection.
	FALLING INTO WATER WHILE COLLECTING SAMPLES	• Turn to float on your back and keep feet elevated. Extend retrieval device to the person in the water. Pull person toward and into boat. Monitor person for shock/hypothermia. If person displays symptoms of hypothermia, contact 911 or take to the nearest medical facility for treatment. Proceed to the nearest dock/rally point. Immediately place person in a heated vehicle and changed into dry clothes. Conduct first aid, transport to medic or awaiting ambulance. • Report incident to Tetra Tech Site Safety Coordinator and TVA safety department immediately.
Complete water operations	SLIPS, TRIPS, AND FALLS DAMAGED PPE	• Upon reaching shore, ensure vessel is not running or moving. Avoid uneven and slick surfaces if possible. Use "buddy system" to exit the vessel and to unload equipment. • Inspect all equipment and PPE upon return to site office.
Equipment to be Used • Trimble GeoExplorer • Hard hat	**Inspection Requirements** • Ensure battery is charged	**Training Requirements** • 40-hour HAZWOPER • General Safe Work Practices HAZWOPER

• High visibility safety vest • Steel-toed boots • Safety glasses with side shields • Type III PFD • Anti-exposure suit depending on weather conditions	• Inspect all PPE, PFDs, and exposure suits prior to use • Ensure boat bag has all required safety equipment	• Working Over or Near Water • Working Near Heavy Equipment • Cold/Heat Stress • Cold Weather Water Operations AHA • Creek Surface Water AHA

Tetra Tech, Inc.

ACTIVITY HAZARD ANALYSIS (AHA)

Tetra Tech, Inc.

Air Sampling for Asbestos. Including ABS, personal, and clearance

Task Description

This Activity Hazard Analysis (AHA) applies to the task listed above. It has been developed and approved by the Health & Safety Department. The AHA contains potential hazards posed by each major step in this task, lists procedures to control hazards, and presents required equipment (including safety equipment), inspections, and training. The hazard controls listed below are specific to this task.

Hazards		Actions
Task Steps	**Potential Hazards**	**Critical Safety Procedures and Controls**
Mobilize to site	Motor vehicle accident Remote access	Carry list of emergency numbers Have hospital route map in vehicle Alleviate all potential driving distractions Have access to map showing streets and significant features in and around the site
Initial assessment	Slip/Trip/Fall Employee Exposure Tracking contaminants away from spill area High Noise Heavy lifting Struck-by	Visually inspect the area for slippery spots or debris and correct if found Wear proper PPE, including air purifying respirator with P100 cartridges, steel-toed boots, hardhat, and Tyvek coverall, and Class 2 or better high-visibility safety vest Calibrate sampling equipment prior to entry Establish decontamination zone and always process through decon prior to exiting the exclusion zone or contaminated area to ensure contaminants are not tracked away from the spill area Wear hearing protection if there is loud noise due to demolition/abatement or other machinery or noise sources Follow SWP 5-19; Use proper lifting techniques (lift with legs not back) Wear hard hats, safety vests, and eye protection while in areas of active demolition. Be aware of your surroundings
Collect air sample	Slip/Trip/Fall Exposure to contaminants Caught on High Noise Heavy lifting Struck-by	Visually inspect the area for slippery spots or debris and correct if found Wear proper PPE, including APR If a personal sample is being collected, ensure that the sample train is secured to ensure that it is not caught on and torn away or damaged while by any protruding objects, operating equipment, etc. Wear hearing protection if there is loud noise due to demolition/abatement or other machinery or noise sources Follow SWP 5-19; Use proper lifting techniques (lift with legs not back) Wear hard hats, safety vests, and eye protection while in areas of active demolition. Be aware of your surroundings
Equipment to be Used Level D/C, including air purifying respirator with P100 cartridges, steel-toed boots, hardhat, and Tyvek coverall, and Class 2 or better high-visibility safety vest	**Inspection Requirements** Ensure that all sampling equipment is calibrated and functioning properly	**Training Requirements** Initial 40 hour HAZWOPER training 8-hour supervisor Current 8-hour refresher Current medical clearance (including respirator use)

Sample pump and sample train with media Calibration equipment First aid kit Eyewash	Inspect all respiratory protective equipment and PPE prior to donning and use	Current first aid and CPR Current respirator fit-test Asbestos Inspector/supervisor/project monitor (as required by jurisdiction) Air sampling equipment-specific training Asbestos awareness

Tetra Tech, Inc.	ACTIVITY HAZARD ANALYSIS (AHA) Tetra Tech EM Inc. **Surface Water Quality Measurement**

Task Description

This Activity Hazard Analysis (AHA) applies to the task listed above. It has been developed and approved by the Tetra Tech EMI Health and Safety Department. The AHA contains potential hazards posed by each major step in this task, lists procedures to control hazards, and presents required equipment (including safety equipment), inspections, and training. The hazard controls listed below are specific to this task.

Hazards		Actions
Task Steps Identify weather and water conditions prior to conducting water operations	**Potential Hazards** LACK OF COMMUNICATION IMPROPER PPE	**Critical Safety Procedures and Controls** • Verify weather and water conditions. • Determine type of personal protective equipment (PPE) necessary to conduct water operations. • For water and air temperatures greater than 45 degrees Fahrenheit (°F), Tetra Tech personnel must wear weather appropriate Level D PPE and Type II (minimum) PFD. • For water and air temperatures less than 45 °F, Tetra Tech personnel must wear an anti-exposure suit and Type III PFD or a combination anti-exposure suit with built-in PFD. • For water and air temperatures split between 45 °F, Tetra Tech site manager will evaluate weather and water conditions to determine the appropriate PPE for sampling operations.
Ensure personnel have received the proper health and safety training prior to conducting sampling activities	IMPROPER TRAINING	• Ensure all personnel involved review the HASP, this AHA, and SWP 5-06, *Working Over or Near Water*, as well as familiarity with equipment, instruments and PPE to be used.. • Ensure all personnel involved in have been briefed on the Cold Weather Water Operations when water is < 45F. • Ensure all personnel involved in sampling operations have reviewed the applicable sections of the Site Wide Safety and Health Plan and any client-specific requirements when applicable.
Coordinate and select water quality measurement location, depths and parameters with client	LACK OF COORDINATION AND COMMUNICATION	• Coordinate with appropriate client personnel for availability to conduct water operations and to determine appropriate locations, depths, and parameters. • Supply personnel emergency contact phone numbers for Tetra Tech personnel involved in operations and establish a procedure for checking-in with the PM and/or client at completion.

	IMPROPER PPE	• Ensure water quality measurement team is comprised of a minimum of two persons. • Define roles of sampling team members prior to collecting samples. • Ensure working radios and/or cell phones are available and that the phone number and location of emergency services (hospital) are available to the field team. • Inspect all PPE prior to use to ensure it is not damaged.
Mobilize to water quality measurement location (includes provisions for boat ops)	LACK OF OR IMPROPER USE OF PPE SLIPS, TRIPS, AND FALLS	• Tetra Tech personnel must wear a Type III PFD when working within 15 feet of a body of water and follow SWP 5-06. • Speak with boat pilot to ensure vessel has property safety equipment for employee rescue operations (i.e. throw rope, ring buoy, first aid kit, etc.). Ensure Tetra Tech personnel have appropriate safety equipment on board during sampling operations. • Survey launch and/or sampling area prior to launching and boarding vessel. Avoid steep, uneven and slick surfaces if possible. Use the "buddy system" to enter the vessel and to load equipment.
Conducting water quality measurement	LACK OF OR IMPROPER USE OF PPE EXPOSURE TO SITE CONTAMINANTS SLIPS, TRIPS, AND FALLS BIOLOGICAL HAZARDS LACK OF COORDINATION AND COMMUNICATION DREDGES AND HEAVY EQUIPMENT ON BARGES	• Tetra Tech site manager will determine the appropriate PPE for conducting water quality measurement operations. Tetra Tech personnel must wear a Type II PFD when working within 15 feet of a body of water that is >3' deep or that is swiftly moving. • Ensure appropriate safety gear (i.e. throw rope, ring buoy, first aid kit, etc.) is easily accessible for employee rescue operations. Ensure Tetra Tech personnel have appropriate safety equipment on board during operations. • Ensure all personnel are properly seated while boat is in motion to each sampling location. Ensure all personnel maintain at least three points of contact with the boat when approaching dangerous situations (i.e. holding on to side of boat with at least one hand while properly seated when approaching dredge lines, wakes, etc.). • Ensure personnel have positioned themselves in a manner that allow for stable footing and easy movement while collecting water quality monitoring results. • Be alert for snakes and other wildlife, as well as of signs of fish kills, dead or stressed vegetation and other signs of possible contamination. • Ensure personnel collecting samples or conducting water quality monitoring communicate with each team member prior to making any movements not involved with sample collection or monitoring. • Maintain a distance of at least 40 yards from dredges, heavy equipment on barges, discharge lines, and anchor lines, if possible

	CROSSING OVER DREDGE LINES FALLING INTO WATER	• Inform boat pilot of visible or submerged dredge lines in the path of the boat. Ensure all personnel are properly seated and sampling equipment is secure. Ensure boat pilot crosses over dredge lines at a low rate of speed to reduce shock of the contact. Ensure all personnel maintain at least three points of contact with the boat when approaching dangerous situations (i.e. holding on to side of boat with at least one hand while properly seated when approaching dredge lines, wakes, etc.). • Turn to float on your back and keep feet elevated. Extend retrieval device to the person in the water. Pull person toward and into boat or shore. Monitor person for shock/hypothermia. If person displays symptoms of hypothermia, contact 911 or take to the nearest medical facility for treatment. Proceed to the nearest dock/rally point. Immediately place person in a heated vehicle and changed into dry clothes. Conduct first aid, transport to medic or awaiting ambulance. • Report incident to Tetra Tech Site Safety Coordinator and client immediately.
Complete water quality measurement operations	SLIPS, TRIPS, AND FALLS DAMAGED PPE	• Upon reaching shore, ensure vessel is not running or moving. Avoid steep, uneven and slick surfaces if possible. Use "buddy system" to exit the vessel and to unload equipment. • Inspect all equipment and PPE upon return to site office.
Equipment to be Used • Water Quality Monitor • Trimble GeoExplorer or similar GPS • Hard hat • High visibility safety vest • Steel-toed boots • Safety glasses with side shields • Type II PFD • Nitrile or cold water, chemical-resistant gloves • Anti-exposure suit depending on weather conditions	**Inspection Requirements** • Conduct calibration and battery check before use • Ensure battery is charged • Inspect all PPE, PFDs, and exposure suits prior to use • Ensure all required safety equipment is properly functioning and readily available	**Training Requirements** • 40-hour HAZWOPER • Site Specific Orientation • General Safe Work Practices HAZWOPER • SWP 5-06, Working Over or Near Water • Working Near Heavy Equipment (if applicable) • Cold/Heat Stress • Cold Weather Water Operations AHA (< 45F) •

PARTICULITE MATTER FACT SHEET

¶

AQI Category (AQI Values)	$PM_{2.5}$ or PM_{10} Levels (µg/m$_3$, 1-to 3-hr avg.)	$PM_{2.5}$ or PM_{10} Levels (µg/m^3, 8-hr avg.)	$PM_{2.5}$ or PM_{10} Levels (µg/m^3, 24-hr avg.)	Visibility – Arid Conditions (miles)	Recommended Actions
Good (0 to 50)	0 – 38	0 - 22	0 - 15	≥ 10	Implement communication plan if smoke event forecast
Moderate (51 to 100)	39 - 88	23 - 50	16 – 35	6 – 9	-Issue press releases to advise public about health effects and symptoms and ways to reduce exposure -Distribute information about exposure avoidance
Unhealthy for Sensitive Groups (101 to 150)	89 – 138	51 – 79	36 – 65	3 – 5	-If smoke event projected to be prolonged, evaluate and notify possible sites for cleaner air shelters -If smoke event projected to be prolonged, prepare evacuation plans -Individuals who have asthma or another lung disease or heart disease should consider wearing a particulate respirator when outside.
Unhealthy (151 to 200)	139 - 351	80 – 200	66 – 150	1.5 – 2.5	-Consider "Smoke Day" for schools (i.e., no school that day), possibly based on school environment and travel considerations -Consider canceling public events, based on public health and travel considerations. -All individuals should consider wearing a particulate respirator when the AQI is 151 or higher when outside
Very Unhealthy (201 to 300)	352 – 526	201 – 300	151 – 250	1 – 1.25	-Consider closing some or all schools (However, newer schools with a central air cleaning filter may be more protective than older, leakier homes. See "Closures", below) -Cancel outdoor events (e.g., concerts and competitive sports)
Hazardous (> 300)	> 526	>300	>250	≤3/4	-Close Schools -Cancel outdoor events (e.g., concerts and competitive sports) -Consider closing workplaces not essential to public health -If PM level projected to continue to remain high for a prolonged time, consider evacuation of sensitive populations

Notes:

1. These 1- and 8-hr $PM_{2.5}$ levels are estimated using the 24-hr breakpoints of the $PM_{2.5}$ Air Quality Index included in the February 7, 2007 issue paper (http://www.epa.gov/airnow/aqi_issue_paper_020707.pdf) by dividing the 24-hr concentrations by the following ratios: 8-hr ratio is 0.7, 1-hr ratio is 0.4. Visibility is based on 1-hr values. If only PM_{10} measurements are available during smoky conditions, it can be assumed that the PM_{10} is composed primarily of fine particles ($PM_{2.5}$), and that therefore the AQI and associated cautionary statements and advisories for $PM_{2.5}$ may be used. This assumption is reflected in the column headings.
2. This table was adapted from Table 3, page 31 of Wildfire Smoke: A Guide for Public Health Officials, July 2008.
3. Based on New Mexico Department of Health's "Recommended Actions During Smoke Events"

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

ASBESTOS
CAS # 1332-21-4

Division of Toxicology ToxFAQs™ September 2001

This fact sheet answers the most frequently asked health questions (FAQs) about asbestos. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, individual susceptibility and personal habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to asbestos usually occurs by breathing contaminated air in workplaces that make or use asbestos. Asbestos is also found in the air of buildings that are being torn down or renovated. Asbestos exposure can cause serious lung problems and cancer. This substance has been found at 83 of the 1,585 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is asbestos?

Asbestos is the name given to a group of six different fibrous minerals (amosite, chrysotile, crocidolite, and the fibrous varieties of tremolite, actinolite, and anthophyllite) that occur naturally in the environment. Asbestos minerals have separable long fibers that are strong and flexible enough to be spun and woven and are heat resistant. Because of these characteristics, asbestos has been used for a wide range of manufactured goods, mostly in building materials (roofing shingles, ceiling and floor tiles, paper products, and asbestos cement products), friction products (automobile clutch, brake, and transmission parts), heat-resistant fabrics, packaging, gaskets, and coatings. Some vermiculite or talc products products may contain asbestos.

What happens to asbestos when it enters the environment?

Asbestos fibers can enter the air or water from the breakdown of natural deposits and manufactured asbestos products. Asbestos fibers do not evaporate into air or dissolve in water. Small diameter fibers and particles may remain suspended in the air for a long time and be carried long distances by wind or water before settling down. Larger diameter fibers and particles tend to settle more quickly.

Asbestos fibers are not able to move through soil. Asbestos fibers are generally not broken down to other compounds and will remain virtually unchanged over long periods.

How might I be exposed to asbestos?

We are all exposed to low levels of asbestos in the air we breathe. These levels range from 0.00001 to 0.0001 fibers per milliliter of air and generally are highest in cities and industrial areas.

People working in industries that make or use asbestos products or who are involved in asbestos mining may be exposed to high levels of asbestos. People living near these industries may also be exposed to high levels of asbestos in air

Asbestos fibers may be released into the air by the disturbance of asbestos-containing material during product use, demolition work, building or home maintenance, repair, and remodeling. In general, exposure may occur only when the asbestos-containing material is disturbed in some way to release particles and fibers into the air.

Drinking water may contain asbestos from natural sources or from asbestos-containing cement pipes.

How can asbestos affect my health?

Asbestos mainly affects the lungs and the membrane that surrounds the lungs. Breathing high levels of asbestos fibers for a long time may result in scar-like tissue in the lungs and in the pleural membrane (lining) that surrounds the lung. This disease is called asbestosis and is usually found in workers exposed to asbestos, but not in the general public. People with asbestosis have difficulty breathing, often a cough, and in severe cases heart enlargement. Asbestosis is a serious disease and can eventually lead to disability and death.

Breathing lower levels of asbestos may result in changes called plaques in the pleural membranes. Pleural plaques can occur in workers and sometimes in people living in areas with high environmental levels of asbestos. Effects on breathing from pleural plaques alone are not usually serious, but higher exposure can lead to a thickening of the pleural membrane that may restrict breathing.

How likely is asbestos to cause cancer?

The Department of Health and Human Services (DHHS), the World Health Organization (WHO), and the EPA have determined that asbestos is a human carcinogen.

It is known that breathing asbestos can increase the risk of cancer in people. There are two types of cancer caused by exposure to asbestos: lung cancer and mesothelioma. Mesothelioma is a cancer of the thin lining surrounding the lung (pleural membrane) or abdominal cavity (the peritoneum). Cancer from asbestos does not develop immediately, but shows up after a number of years. Studies of workers also suggest that breathing asbestos can increase chances of getting cancer in other parts of the body (stomach, intestines, esophagus, pancreas, and kidneys), but this is less certain. Early identification and treatment of any cancer can increase an individual's quality of life and survival.

Cigarette smoke and asbestos together significantly increase your chances of getting lung cancer. Therefore, if you have been exposed to asbestos you should stop smoking. This may be the most important action that you can take to improve your health and decrease your risk of cancer.

How can asbestos affect children?

We do not know if exposure to asbestos will result in birth defects or other developmental effects in people. Birth defects have not been observed in animals exposed to asbestos.

It is likely that health effects seen in children exposed to high levels of asbestos will be similar to the effects seen in adults.

How can families reduce the risk of exposure to asbestos?

Materials containing asbestos that are not disturbed or deteriorated do not, in general, pose a health risk and can be left alone. If you suspect that you may be exposed to asbestos in your home, contact your state or local health department or the regional offices of EPA to find out how to test your home and how to locate a company that is trained to remove or contain the fibers.

Is there a medical test to show whether I've been exposed to asbestos?

Low levels of asbestos fibers can be measured in urine, feces, mucus, or lung washings of the general public. Higher than average levels of asbestos fibers in tissue can confirm exposure but not determine whether you will experience any health effects.

A thorough history, physical exam, and diagnostic tests are needed to evaluate asbestos-related disease. Chest x-rays are the best screening tool to identify lung changes resulting from asbestos exposure. Lung function tests and CAT scans also assist in the diagnosis of asbestos-related disease.

Has the federal government made recommendations to protect human health?

In 1989, EPA banned all new uses of asbestos; uses established before this date are still allowed. EPA established regulations that require school systems to inspect for damaged asbestos and to eliminate or reduce the exposure by removing the asbestos or by covering it up. EPA regulates the release of asbestos from factories and during building demolition or renovation to prevent asbestos from getting into the environment.

EPA has proposed a concentration limit of 7 million fibers per liter of drinking water for long fibers (lengths greater than or equal to 5 μm). The Occupational Safety and Health Administration has set limits of 100,000 fibers with lengths greater than or equal to 5 μm per cubic meter of workplace air for 8-hour shifts and 40-hour work weeks.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2001. Toxicological Profile for Asbestos. Update. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

Armstrong, Kathy

From: chris.jones@tetratech.com
Sent: Friday, August 09, 2019 6:04 PM
To: Huyser, Matthew; Garrard, Jordan
Cc: John Snyder; Redd, Courtney; Josiah Williams; Huss, Eric
Subject: Air Data tables
Attachments: Air Data_072719_Able Contracting Fire.pdf; Air Data_080219_Able Contracting Fire.pdf

Matt and Jordan,

See attached for validated air data tables for samples collected 7/27 and 28 and 8/2.

Chris Jones | Readiness Coordinator
Direct **(678) 775-3081** | Main **(678) 775-3080** | Cell **(404) 395-5220** | chris.jones@tetratech.com

Tetra Tech | Complex World, Clear Solutions™ | Environmental Services Divisions

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Think Green: Reduce, Reuse, Recycle

ABLE CONTRACTING FIRE
AIR SAMPLE RESULTS FOR JULY 27 and 28, 2019

		BACKGROUND	STATION 1 (SE Corner)	STATION 2 (SW Corner)
		ACF-AS-BKGD-072819	ACF-AS-RES-AM-072719	ACF-AS-SMOKE-AM-07271
Date		**7/28/2019**	**7/27/2019**	**7/27/2019**
Start Time		**11:30**	**0:18**	**1:00**
End time		**19:15**	**8:10**	**8:35**
Analyte	**EPA RMLs**	***Sample Volume***	***Sample Volume***	***Sample Volume***
Asbestos (fibers/cc)		*946.3 Liters*	*767 Liters*	*898.6 Liters*
Asbestos	Not Listed	None detected	None detected	None detected
Phosgene (µg/m^3)		*537.10 Liters*	-	-
Phosgene	0.94	**4.31 J**	*Not sampled*	*Not sampled*
Formaldehyde (µg/m^3)		*516.20 Liters*	*410.60 Liters*	*411.80 Liters*
Formaldehyde	22	**4.88**	**1.70**	**2.50**
Metals (µg/m^3)		*776.6 Liters*	*672.6 Liters*	*657.5 Liters*
Aluminum	16	**0.55**	**0.77**	**0.52**
Antimony	Not Listed	0.19 U	0.22 U	0.23 U
Arsenic	Not Listed	0.39 U	0.45 U	0.46 U
Barium	1.6	0.11 U	0.13 U	**0.25 J+**
Beryllium	Not Listed	0.039 U	0.045 U	0.046 U
Cadmium	Not Listed	0.039 U	0.045 U	0.046 U
Calcium	Not Listed	**52.7 J+**	0.54 U	55.1 U
Chromium	Not Listed	0.73 U	0.89 U	0.9 U
Cobalt	0.019	0.039 U	0.045 U	0.046 U
Copper	Not Listed	0.019 U	0.22 U	0.23 U
Iron	Not Listed	**0.93 J+**	**1.3 J+**	0.87 U
Lead	Not Listed	0.039 U	0.045 U	0.046 U
Manganese	Not Listed	0.19 U	0.22 U	0.23 U
Magnesium	Not Listed	**9.6 J+**	**11.2 J+**	**11.5 J+**
Nickel	Not Listed	0.19 U	0.22 U	0.23 U
Selenium	63	0.39 U	0.45 U	0.46 U
Silver	Not Listed	0.039 U	0.045 U	0.046 U
Thallium	Not Listed	0.039 U	0.045 U	0.046 U
Vanadium	Not Listed	0.39 U	0.45 U	0.46 U
Zinc	Not Listed	0.39 U	0.45 U	0.46 U
Potassium	Not Listed	3.9 U	4.5 U	4.6 U
Sodium	Not Listed	**12.7 J+**	**15.8 J+**	**16.5 J+**
Volatile Organic Compounds (µg/m^3)		-	-	-
Propylene	9,400	**2.91**	**7.88**	**3.99**

ABLE CONTRACTING FIRE
AIR SAMPLE RESULTS FOR JULY 27 and 28, 2019

		BACKGROUND	STATION 1 (SE Corner)	STATION 2 (SW Corner)
		ACF-AS-BKGD-072819	ACF-AS-RES-AM-072719	ACF-AS-SMOKE-AM-07271
Date		**7/28/2019**	**7/27/2019**	**7/27/2019**
Start Time		**11:30**	**0:18**	**1:00**
End time		**19:15**	**8:10**	**8:35**
Analyte	**EPA RMLs**	***Sample Volume***	***Sample Volume***	***Sample Volume***
Allyl chloride (3-chloropropene)	Not Listed	0.225 U	0.226 U	0.225 U
Acetonitrile	190	**1.85**	**2.17**	**0.892**
Methylene chloride	1900	**0.691 J+**	**0.871 J+**	**0.674 J+**
trans-1,2-Dichloroethene	Not Listed	0.289 U	0.29 U	0.289 U
Methyl tert-butyl ether	Not Listed	0.264 U	0.265 U	0.264 U
Acrylonitrile	4	0.159 U	0.159 U	0.158 U
Hexane	Not Listed	**4.05**	**1.55**	**0.647**
1,1-Dichloroethane	Not Listed	0.285 U	0.286 U	0.285 U
Vinyl acetate	630	0.256 U	0.257 U	0.256 U
cis-1,2-Dichloroethene	Not Listed	0.285 U	0.287 U	0.285 U
Methyl ethyl ketone (2-Butanone)	16,000	**1.02**	**0.847**	**0.805**
Ethyl acetate	220	0.259 U	0.261 U	0.259 U
Chloroform	12	0.353 U	0.354 U	0.353 U
Tetrahydrofuran	Not Listed	0.213 U	**0.472**	**0.373**
1,1,1-Trichloroethane	Not Listed	0.388 U	0.39 U	0.388 U
Cyclohexane	19,000	**0.999**	**0.262**	0.25 U
Carbon tetrachloride	47	**0.481**	**0.482**	**0.478**
Benzene	36	**2.52**	**6.46**	**3.4**
2,2,4-trimethylpentane	Not Listed	**2.12**	**0.684**	0.342 U
1,2-Dichloroethane	Not Listed	0.296 U	0.297 U	0.296 U
Heptane	Not Listed	**2.26**	**0.769**	**0.365**
Trichloroethene	Not Listed	0.386 U	0.387 U	**0.385** U
1,2-Dichloropropane	Not Listed	0.338 U	0.339 U	0.337 U
Methyl methacrylate	2200	0.304 U	0.305 U	0.303 U
1,4-Dioxane	Not Listed	**0.321**	**0.294**	**0.26** U
Bromodichloromethane	7.6	0.476 U	0.478 U	**0.475** U
cis-1,3-Dichloropropene	Not Listed	*0.319* U	*0.32* U	*0.319* U
Methyl isobutyl ketone	Not Listed	0.302 U	**0.373**	0.302 U
Toluene	16000	**9.82**	**6.48**	**2.62**
trans-1,3-Dichloropropene	Not Listed	0.33 U	0.331 U	0.329 U
1,1,2-Trichloroethane	Not Listed	0.391 U	0.393 U	0.391 U
Tetrachloroethene	Not Listed	0.489 U	0.491 U	0.489 U

ABLE CONTRACTING FIRE
AIR SAMPLE RESULTS FOR JULY 27 and 28, 2019

		BACKGROUND	STATION 1 (SE Corner)	STATION 2 (SW Corner)
		ACF-AS-BKGD-072819	ACF-AS-RES-AM-072719	ACF-AS-SMOKE-AM-07271
Date		**7/28/2019**	**7/27/2019**	**7/27/2019**
Start Time		**11:30**	**0:18**	**1:00**
End time		**19:15**	**8:10**	**8:35**
Analyte	**EPA RMLs**	***Sample Volume***	***Sample Volume***	***Sample Volume***
1,3-Dichlorobenzene	Not Listed	0.434 U	0.436 U	0.433 U
1,4-Dichlorobenzene	Not Listed	0.431 U	0.433 U	0.431 U
Benzyl chloride	3.1	0.369 U	0.371 U	0.369 U
1,2-Dichlorobenzene	Not Listed	0.438 U	0.44 U	0.438 U
1,2,4-Trichlorobenzene	Not Listed	0.538 U	0.541 U	0.538 U
Hexachlorobutadiene	13	0.764 U	0.767 U	0.763 U
Naphthalene	Not Listed	**0.336 J**	0.39 U	0.388 U
1-Bromopropane	Not Listed	0.355 U	0.357 U	0.355 U
1-Octene	Not Listed	0.321 U	0.322 U	0.321 U
n-Octane	Not Listed	**0.99**	**0.353**	0.334 U
Isopropylbenzene	Not Listed	0.357 U	**0.838**	0.421
n-Propylbenzene	Not Listed	**0.629**	0.359 U	0.357 U
Semivolatile Organic Compounds ($\mu g/m^3$)		*439.4 Liters*	*486.2 Liters*	*562.5 Liters*
Semivolatile Organic Compounds	Not Listed	None detected	None detected	None detected
N-Nitrosodimethylamine	Not Listed	8.78 U	7.94 U	6.86 U
Pyridine	Not Listed	17.1 U	15.4 U	13.3 U
Phenol (CCC)	Not Listed	7.39 U	6.67 U	5.77 U
Aniline	3.1	7.90 U	7.14 U	6.17 U
bis(2-Chloroethyl)ether	0.85	8.97 U	8.10 U	7.00 U
2-Chlorophenol	Not Listed	7.10 U	6.42 U	5.55 U
1,3-Dichlorobenzene	Not Listed	6.35 U	5.74 U	4.96 U
1,4-Dichlorobenzene (CCC)	Not Listed	6.01 U	5.43 U	4.69 U
Benzyl alcohol	Not Listed	7.97 U	7.20 U	6.22 U
1,2-Dichlorobenzene	Not Listed	6.35 U	5.74 U	4.96 U
2-Methylphenol	Not Listed	7.70 U	6.96 U	6.02 U
bis(2-Chloroisopropyl) ether	Not Listed	11.2 U	10.1 U	8.73 U
3/4-Methylphenol	Not Listed	6.73 U	6.08 U	5.25 U
N-Nitroso-di-n-propylamine (SPCC)	Not Listed	9.47 U	8.56 U	7.40 U
o-Toluidine	Not Listed	56.9 U	51.4 U	44.4 U
Hexachloroethane	26	7.19 U	6.50 U	5.62 U
Nitrobenzene	7	9.29 U	8.39 U	7.25 U

ABLE CONTRACTING FIRE
AIR SAMPLE RESULTS FOR JULY 27 and 28, 2019

		BACKGROUND	STATION 1 (SE Corner)	STATION 2 (SW Corner)
		ACF-AS-BKGD-072819	ACF-AS-RES-AM-072719	ACF-AS-SMOKE-AM-07271
Date		**7/28/2019**	**7/27/2019**	**7/27/2019**
Start Time		**11:30**	**0:18**	**1:00**
End time		**19:15**	**8:10**	**8:35**
Analyte	**EPA RMLs**	***Sample Volume***	***Sample Volume***	***Sample Volume***
Hexachlorocyclopentadiene (SPCC)	Not Listed	92.4 U	83.5 U	72.2 U
2,4,6-Trichlorophenol (CCC)	Not Listed	8.40 U	7.59 U	6.56 U
2,4,5-Trichlorophenol	Not Listed	6.16 U	5.56 U	4.81 U
Biphenyl	Not Listed	56.9 U	51.4 U	44.4 U
2-Chloronaphthalene	Not Listed	7.42 U	6.71 U	5.80 U
2-Nitroaniline	Not Listed	11.0 U	9.93 U	8.59 U
1,4-Dinitrobenzene	Not Listed	7.65 U	6.91 U	5.97 U
Dimethylphthalate	Not Listed	9.21 U	8.32 U	7.19 U
1,3-Dinitrobenzene	Not Listed	9.32 U	8.42 U	7.28 U
2,6-Dinitrotoluene	Not Listed	8.82 U	7.97 U	6.89 U
1,2-Dinitrobenzene	Not Listed	8.84 U	7.99 U	6.91 U
Acenaphthylene	Not Listed	7.68 U	6.94 U	6.00 U
3-Nitroaniline	Not Listed	9.29 U	8.39 U	7.25 U
Acenaphthene (CCC)	Not Listed	10.6 U	9.61 U	8.30 U
2,4-Dinitrophenol (SPCC)	Not Listed	56.9 U	51.4 U	44.4 U
4-Nitrophenol (SPCC)	Not Listed	56.9 U	51.4 U	44.4 U
2,4-Dinitrotoluene	Not Listed	9.15 U	8.27 U	7.15 U
Dibenzofuran	Not Listed	7.83 U	7.08 U	6.12 U
2,3,5,6-Tetrachlorophenol	Not Listed	8.66 U	7.83 U	6.76 U
2,3,4,6-Tetrachlorophenol	Not Listed	7.98 U	7.21 U	6.23 U
Diethlyphthalate	Not Listed	11.6 U	10.5 U	9.07 U
4-Chlorophenyl-phenylether	Not Listed	8.58 U	7.75 U	6.70 U
Fluorene	Not Listed	8.91 U	8.05 U	6.96 U
4-Nitroaniline	Not Listed	7.90 U	7.14 U	6.17 U
4,6-Dinitro2-methylphenol	Not Listed	56.9 U	51.4 U	44.4 U
N-Nitrosodiphenylamine (CCC)	Not Listed	8.15 U	7.36 U	6.36 U
Azobenzene	9.1	11.3 U	10.2 U	8.81 U
4-Bromophenyl-phenylether	Not Listed	7.64 U	6.90 U	5.96 U
Hexachlorobenzene	0.61	6.21 U	5.61 U	4.85 U
Pentachlorophenol (CCC)	Not Listed	56.9 U	51.4 U	44.4 U
Phenanthrene	Not Listed	8.77 U	7.93 U	6.85 U
Anthracene	Not Listed	8.65 U	7.82 U	6.76 U

ABLE CONTRACTING FIRE
AIR SAMPLE RESULTS FOR JULY 27 and 28, 2019

		BACKGROUND	STATION 1 (SE Corner)	STATION 2 (SW Corner)
		ACF-AS-BKGD-072819	ACF-AS-RES-AM-072719	ACF-AS-SMOKE-AM-07271
Date		**7/28/2019**	**7/27/2019**	**7/27/2019**
Start Time		**11:30**	**0:18**	**1:00**
End time		**19:15**	**8:10**	**8:35**
Analyte	**EPA RMLs**	***Sample Volume***	***Sample Volume***	***Sample Volume***
7,12-Dimethylbenz(a)anthracene	Not Listed	56.9 **U**	51.4 **U**	44.4 **U**
Benzo(b)fluoranthene	Not Listed	3.41 **U**	3.09 **U**	2.67 **U**
Benzo(k)fluoranthene	Not Listed	4.05 **U**	3.66 **U**	3.16 **U**
Benzo(e)pyrene	Not Listed	3.87 **U**	3.50 **U**	3.02 **U**
Benzo(a)pyrene (CCC)	Not Listed	3.87 **U**	3.50 **U**	3.02 **U**
Perylene	Not Listed	3.87 **U**	3.50 **U**	3.02 **U**
3-Methylcholanthrene	Not Listed	56.9 **U**	51.4 **U**	44.4 **U**
Indeno(1,2,3-cd)pyrene	Not Listed	3.41 **U**	3.09 **U**	2.67 **U**
Dibenz(a,h)anthracene	Not Listed	4.84 **U**	4.37 **U**	3.78 **U**
Benzo(g,h,i)perylene	Not Listed	4.01 **U**	3.62 **U**	3.13 **U**
Dibenzo(a,e)pyrene	Not Listed	56.9 **U**	51.4 **U**	44.4 **U**

Notes:

ACF	Able Contracting Fire
EPA	Environmental Protection Agency
J	The identification of the analyte is acceptable; the reported value is an estimate
J+	The identification of the analyte is acceptable; the reported value is an estimate biased high
$\mu g/m^3$	Micrograms per cubic meter
NA	Not Analysed
ND	Not Detected
RMLs	Removal Management Levels; Residential Ambient Air, April 2019. (Lower value of carcinogenic/noncarcinogenic listed
U	The analyte was not detected at or above the reporting limit
UJ	The analyte
BOLD	Bolded values

ABLE CONTRACTING FIRE
AIR SAMPLE RESULTS FOR AUGUST 2, 2019

		STATION 1 (SE Corner)		STATION 2 (West Side)	
		ACF-AS-RES-24HRVOC		ACF-AS-SMOKE-24HRVO	
Date		**8/2/2019**		**8/2/2019**	
Start Time		**20:10**		**20:30**	
End time		**15:20**		**12:55**	
Analyte	**EPA RMLs**	***Sample Volume***		***Sample Volume***	
Volatile Organic Compounds (µg/m³)		-		-	
Propylene	9,400	**2.98**		**21.5**	
Freon 12 (CCl2F2)	Not Listed	**2.44**		**2.43**	
Freon 114 (C2Cl2F4)	Not Listed	0.481	U	0.483	U
Chloromethane	280	**3.53**		**13.8**	
Chloroethene (Vinyl chloride)	Not Listed	0.177	U	0.178	U
1,3-Butadiene	Not Listed	**0.195**		**2.35**	
Bromomethane	16	0.264	U	**0.46**	
Chloroethane	Not Listed	0.183	U	**0.268**	
Bromoethene (Vinyl bromide)	Not Listed	0.300	U	0.301	U
Freon 11 (CCl3F)	Not Listed	**1.42**		**1.41**	
Ethanol	Not Listed	**2.62**		**3.26**	
Acrolein	0.063	**0.307**		**2.56**	
Freon 113 (C2Cl3F3)	Not Listed	**0.591**		**0.613**	
1,1-Dichloroethene	Not Listed	0.273	U	**0.274**	U
Acetone	97000	**6.87**		**14.7**	
Carbon disulfide	2200	**0.448**	J+	**0.736**	J+
Isopropyl alcohol	Not Listed	**0.432**		**0.41**	
Allyl chloride (3-chloropropene)	Not Listed	0.217	U	0.218	U
Acetonitrile	190	**1.17**		**3.64**	
Methylene chloride	1900	**0.625**	J+	**0.66**	J+
trans-1,2-Dichloroethene	Not Listed	0.278	U	0.279	U
Methyl tert-butyl ether	Not Listed	0.254	U	**0.355**	
Acrylonitrile	4	0.153	U	**0.946**	
Hexane	Not Listed	**0.849**		**1.71**	
1,1-Dichloroethane	Not Listed	0.274	U	0.275	U
Vinyl acetate	630	0.246	U	0.247	U
cis-1,2-Dichloroethene	Not Listed	0.275	U	0.276	U
Methyl ethyl ketone (2-Butanone)	16,000	**0.657**		**2.69**	
Ethyl acetate	220	**0.719**		**0.251**	U
Chloroform	12	0.340	U	**0.341**	U
Tetrahydrofuran	Not Listed	**0.222**		**1.32**	
1,1,1-Trichloroethane	Not Listed	0.374	U	0.375	U
Cyclohexane	19,000	0.241	U	**0.319**	
Carbon tetrachloride	47	**0.523**		**0.497**	
Benzene	36	**2.00**		**26.2**	
2,2,4-trimethylpentane	Not Listed	**0.322**		0.331	U
1,2-Dichloroethane	Not Listed	0.285	U	0.286	U
Heptane	Not Listed	**0.478**		**1.51**	
Trichloroethene	Not Listed	0.371	U	0.373	U
1,2-Dichloropropane	Not Listed	0.325	U	0.326	U

ABLE CONTRACTING FIRE
AIR SAMPLE RESULTS FOR AUGUST 2, 2019

		STATION 1 (SE Corner)		STATION 2 (West Side)	
		ACF-AS-RES-24HRVOC		ACF-AS-SMOKE-24HRVOC	
Date		**8/2/2019**		**8/2/2019**	
Start Time		**20:10**		**20:30**	
End time		**15:20**		**12:55**	
Analyte	**EPA RMLs**	***Sample Volume***		***Sample Volume***	
Volatile Organic Compounds (µg/m³)		-		-	
1,4-Dichlorobenzene	Not Listed	0.415	U	0.417	U
Benzyl chloride	3.1	0.355	U	0.357	U
1,2-Dichlorobenzene	Not Listed	0.422	U	0.423	U
1,2,4-Trichlorobenzene	Not Listed	0.518	U	0.520	U
Hexachlorobutadiene	13	0.735	U	0.738	U
Naphthalene	Not Listed	0.373	U	**1.02**	
1-Bromopropane	Not Listed	0.342	U	0.343	U
1-Octene	Not Listed	0.309	U	0.310	U
n-Octane	Not Listed	0.322	U	**0.957**	
Isopropylbenzene	Not Listed	**0.466**		**1.92**	
n-Propylbenzene	Not Listed	0.344	U	**0.453**	

Notes:

ACF	Able Contracting Fire
EPA	Environmental Protection Agency
J+	The identification of the analyte is acceptable; the reported value is an estimate biased high
µg/m³	Micrograms per cubic meter
NA	Not Analysed
ND	Not Detected
RMLs	Removal Management Levels; Residential Ambient Air, April 2019. (Lower value of carc 04/THQ+3.0)
U	The analyte was not detected at or above the reporting limit
UJ	The analyte
BOLD	Bolded values

ABLE CONTRACTING FIRE
AIR SAMPLE RESULTS FOR AUGUST 2, 2019

ABLE CONTRACTING FIRE
AIR SAMPLE RESULTS FOR AUGUST 2, 2019

Armstrong, Kathy

From: leepd@dhec.sc.gov
Sent: Monday, August 19, 2019 5:08 PM
To: Huyser, Matthew; Patel, Subash
Subject: DHEC WATER sampling

Paul Lee
Manager, Emergency Response Section
S.C. Dept. of Health & Environmental Control
Office: (803) 896-4113
Mobile: (803) 429-7624
Report Spills and Releases: 1-888-481-0125

Armstrong, Kathy

From: leepd@dhec.sc.gov
Sent: Monday, August 19, 2019 5:06 PM
To: Huyser, Matthew; Patel, Subash
Subject: SC DHEC water data so far.
Attachments: ATT00001.txt

You may not be able to open as .zip file , So I'll also try a onedrive share link?

Paul Lee
Manager, Emergency Response Section
S.C. Dept. of Health & Environmental Control
Office: (803) 896-4113
Mobile: (803) 429-7624
Report Spills and Releases: 1-888-481-0125

Armstrong, Kathy

From: Lisa Wagner <lwagner@jaspercountysc.gov>
Sent: Saturday, August 10, 2019 5:06 PM
To: reecemc@dhec.sc.gov
Cc: Huyser, Matthew; shealyrg@dhec.sc.gov; Frank Edwards; David Tedder; Andrew Fulghum; Boswell, Wendy
Subject: Re: Heads up - church meal

Matt,

I think you being there tomorrow night is an excellent idea. I think it will go a long way with the community. Frank called the Pastor and the Pastor will handle it. I plan on being there tomorrow night as well so I'll see you then.

Lisa Wagner

Sent from my iPhone

On Aug 10, 2019, at 4:31 PM, Reece, Myra <reecemc@dhec.sc.gov> wrote:

> Will give u a call Matt
>
> Sent from my iPhone
>
> On Aug 10, 2019, at 4:27 PM, Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:
>
>> *** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***
>> I am willing to cancel my attendance in order to preserve the purpose of the Church's invitation to the residents.
>> I will allow them to decide but I have made no contact with the church on my own so I will await further information from Lisa and Fran or Renee
>>
>> **Matthew J. Huyser, PE - On-Scene Coordinator**
>> **U.S. Environmental Protection Agency, Region 4** | 61 Forsyth St SW | Atlanta, Georgia | 30303
>> **Emergency Response Removal and Prevention Branch (ERRPB)**
>> office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
>> epaosc.org
>>
>> **From:** Lisa Wagner <lwagner@jaspercountysc.gov>
>> **Sent:** Saturday, August 10, 2019 4:22 PM
>> **To:** reecemc@dhec.sc.gov
>> **Cc:** shealyrg@dhec.sc.gov; Frank Edwards <fedwards@jaspercountysc.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>; David Tedder <dtedder@jaspercountysc.gov>; Andrew Fulghum <afulghum@jaspercountysc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>
>> **Subject:** Re: Heads up - church meal

Thank you for the information! I know we want to be transparent but I think they shouldn't be at the dinner for the simple fact it takes away from what the church wants to do for the family. That's just my opinion. I've reached out to Frank and he is reaching out to David. One of us will contact the Pastor.

Thanks Again,
Lisa Wagner

Sent from my iPhone

On Aug 10, 2019, at 3:44 PM, Reece, Myra <reecemc@dhec.sc.gov> wrote:

> Lisa, we just received a call from a Beaufort media outlet about the dinner tomorrow night - was asking if gathering was an EPA or DHEC meeting.....we told them this was a church sponsored dinner..... someone needs to give the church a heads up that they may get contacted by the media soon asking if they can attend or try to catch folks going in or out. Thanks!

Myra C. Reece

Director of Environmental Affairs
S.C. Dept. of Health & Environmental Control
Office: (803) 898-4102
Mobile: (803) 667-1113
Connect: www.scdhec.gov Facebook Twitter

Armstrong, Kathy

From: Lisa Wagner <lwagner@jaspercountysc.gov>
Sent: Saturday, August 10, 2019 5:06 PM
To: reecemc@dhec.sc.gov
Cc: Huyser, Matthew; shealyrg@dhec.sc.gov; Frank Edwards; David Tedder; Andrew Fulghum; Boswell, Wendy
Subject: Re: Heads up - church meal

Matt,

I think you being there tomorrow night is an excellent idea. I think it will go a long way with the community. Frank called the Pastor and the Pastor will handle it. I plan on being there tomorrow night as well so I'll see you then.

Lisa Wagner

Sent from my iPhone

On Aug 10, 2019, at 4:31 PM, Reece, Myra <reecemc@dhec.sc.gov> wrote:

> Will give u a call Matt
>
> Sent from my iPhone
>
> On Aug 10, 2019, at 4:27 PM, Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:
>
> > *** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***
> > I am willing to cancel my attendance in order to preserve the purpose of the Church's invitation to the residents.
> > I will allow them to decide but I have made no contact with the church on my own so I will await further information from Lisa and Fran or Renee
>
> **Matthew J. Huyser, PE - On-Scene Coordinator**
> **U.S. Environmental Protection Agency, Region 4** | 61 Forsyth St SW | Atlanta, Georgia | 30303
> **Emergency Response Removal and Prevention Branch (ERRPB)**
> office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
> **epaosc.org**
>
> **From:** Lisa Wagner <lwagner@jaspercountysc.gov>
> **Sent:** Saturday, August 10, 2019 4:22 PM
> **To:** reecemc@dhec.sc.gov
> **Cc:** shealyrg@dhec.sc.gov; Frank Edwards <fedwards@jaspercountysc.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>; David Tedder <dtedder@jaspercountysc.gov>; Andrew Fulghum <afulghum@jaspercountysc.gov>; Boswell, Wendy <BOSWELWM@dhec.sc.gov>
> **Subject:** Re: Heads up - church meal

Thank you for the information! I know we want to be transparent but I think they shouldn't be at the dinner for the simple fact it takes away from what the church wants to do for the family. That's just my opinion. I've reached out to Frank and he is reaching out to David. One of us will contact the Pastor.

Thanks Again,
Lisa Wagner

Sent from my iPhone

On Aug 10, 2019, at 3:44 PM, Reece, Myra <reecemc@dhec.sc.gov> wrote:

> Lisa, we just received a call from a Beaufort media outlet about the dinner tomorrow night - was asking if gathering was an EPA or DHEC meeting.....we told them this was a church sponsored dinner..... someone needs to give the church a heads up that they may get contacted by the media soon asking if they can attend or try to catch folks going in or out. Thanks!

Myra C. Reece

Director of Environmental Affairs
S.C. Dept. of Health & Environmental Control
Office: (803) 898-4102
Mobile: (803) 667-1113
Connect: www.scdhec.gov Facebook Twitter

Armstrong, Kathy

From: Lisa Wagner <lwagner@jaspercountysc.gov>
Sent: Saturday, August 10, 2019 4:22 PM
To: reecemc@dhec.sc.gov
Cc: shealyrg@dhec.sc.gov; Frank Edwards; Huyser, Matthew; David Tedder; Andrew Fulghum; Boswell, Wendy
Subject: Re: Heads up - church meal

Thank you for the information! I know we want to be transparent but I think they shouldn't be at the dinner for the simple fact it takes away from what the church wants to do for the family. That's just my opinion. I've reached out to Frank and he is reaching out to David. One of us will contact the Pastor.

Thanks Again,
Lisa Wagner

Sent from my iPhone

On Aug 10, 2019, at 3:44 PM, Reece, Myra <reecemc@dhec.sc.gov> wrote:

> Lisa, we just received a call from a Beaufort media outlet about the dinner tomorrow night - was asking if gathering was an EPA or DHEC meeting.....we told them this was a church sponsored dinner..... someone needs to give the church a heads up that they may get contacted by the media soon asking if they can attend or try to catch folks going in or out. Thanks!

Myra C. Reece

Director of Environmental Affairs
S.C. Dept. of Health & Environmental Control
Office: (803) 898-4102
Mobile: (803) 667-1113
Connect: www.scdhec.gov Facebook Twitter

Armstrong, Kathy

From: Mickunas, Dave
Sent: Friday, July 26, 2019 2:13 PM
To: Huyser, Matthew
Cc: Hoppe, Michael
Subject: Re: Air Methods

This lab can analyze samples and have medium for TO-13.

Ancy Sebastian
Business Development Rep, Environmental Canada

T +1 905 331 3111 **D** +1 905 340 0838
F +1 905 331 4567 **M** +1 416 528 0528

ancy.sebastian@alsglobal.com

1435 Norjohn Court, Unit 1

Burlington, Ontario, Canada L7L 0E6

Sent from my iPhone

On Jul 25, 2019, at 8:45 PM, Mickunas, Dave <Mickunas.Dave@epa.gov> wrote:

Good Evening,

Below are labs for methods TO-11A, TO-10, and TO-17.

Bureau Veritas North America, Inc. Michigan
22345 Roethel Drive
Novi, MI 48375-4710
Laura Parker 248-344-2649
Aldehydes in Air TO-11A (DNPH)
Aldehydes in Air TO-11A (SKC 226-119)
Aldehydes in Air TO-11A (SKC 226-120)
Formaldehyde in Air TO-11A

Con-Test Analytical Laboratory
39 Spruce Street
East Longmeadow, MA 01028

Theresa Ferentino (?) 413-525-2332
Pesticides, Chlorinated (PUF 226-14) in Air TO-10
Pesticides, Chlorinated (PUF 226-92) in Air TO-10
PCBs (low Volume) in Air TO-10

Pace Analytical Services Dioxin Minneapolis, MN

1700 Elm Street SE
612-607-6386 Minneaplois, MN 55414
Nathan Eklund for Dioxins 612-607-1700
Volatiles (VOCs) in Air TO-17

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team
109 T.W. Alexander Drive
Mail Code E343-04
Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)
<image003.png>

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 5:01 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Cc: Hoppe, Michael <Hoppe.Michael@epa.gov>
Subject: RE: Air Methods

Good Afternoon,

For dioxin analysis via TO-9.

Vista Analytical Laboratory, Inc.

1104 Windfield Way
916-995-5171 El Dorado Hills, CA 95762-9622
TO-9 Dioxin analysis

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team
109 T.W. Alexander Drive
Mail Code E343-04
Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)
<image004.png>

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 4:23 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Cc: Hoppe, Michael <Hoppe.Michael@epa.gov>
Subject: RE: Air Methods

Good Afternoon Matt,

The lab that used to perform some of the analyses no longer do so. I will have someone in tomorrow morning early to provide a list of vendors and contacts for the various methods outlined below. I am waiting on a lab that will perform the TO-13A analysis (PAHs) to send me their contact information. I will forward the same upon receipt.

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team
109 T.W. Alexander Drive
Mail Code E343-04
Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)
<image005.png>

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 1:27 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Air Methods

Good Afternoon,

https://www3.epa.gov/ttnamti1/files/ambient/airtox/tocomp99.pdf
VOCs - Method TO-15: Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography Mass Spectrometry (GC/MS)
VOCs - Method TO-17: Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes Compendium Method TO-13A
SVOCs - Method TO-13A: Determination of Polycyclic Aromatic Hydrocarbons (PAHs) in Ambient Air Using Gas Chromatographic/Mass Spectrometry (GC/MS)
Formaldehyde - Method TO-11A: Determination of Formaldehyde in Ambient Air Using Adsorbent Cartridge Followed by High Performance Liquid Chromatography (HPLC)
Pesticides and PCBs - Method TO-10A: Determination Of Pesticides And Polychlorinated Biphenyls In Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed By Gas Chromatographic/Multi-Detector Detention (GC/MD)
Dioxins - Method TO-9A- Determination of Polychlorinated, Polybrominated And Brominated/Chlorinated Dibenzo-p-Dioxins And Dibenzofurans In Ambient Air

PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5515.pdf
PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5506.pdf

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team
109 T.W. Alexander Drive
Mail Code E343-04
Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)
<image008.png>

Armstrong, Kathy

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 8:48 PM
To: Huyser, Matthew
Cc: Hoppe, Michael
Subject: RE: Air Methods

Good Evening,

Below are labs for methods TO-11A, TO-10, and TO-17.

Bureau Veritas North America, Inc. Michigan

22345 Roethel Drive
Novi, MI 48375-4710
Laura Parker 248-344-2649
Aldehydes in Air TO-11A (DNPH)
Aldehydes in Air TO-11A (SKC 226-119)
Aldehydes in Air TO-11A (SKC 226-120)
Formaldehyde in Air TO-11A

Con-Test Analytical Laboratory

39 Spruce Street
East Longmeadow, MA 01028
Theresa Ferentino (?) 413-525-2332
Pesticides, Chlorinated (PUF 226-14) in Air TO-10
Pesticides, Chlorinated (PUF 226-92) in Air TO-10
PCBs (low Volume) in Air TO-10

Pace Analytical Services Dioxin Minneapolis, MN

1700 Elm Street SE
612-607-6386 Minneaplois, MN 55414
Nathan Eklund for Dioxins 612-607-1700
Volatiles (VOCs) in Air TO-17

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team
109 T.W. Alexander Drive
Mail Code E343-04
Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 5:01 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Cc: Hoppe, Michael <Hoppe.Michael@epa.gov>
Subject: RE: Air Methods

Good Afternoon,

For dioxin analysis via TO-9.

Vista Analytical Laboratory, Inc.
1104 Windfield Way
916-995-5171 El Dorado Hills, CA 95762-9622
TO-9 Dioxin analysis

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team
109 T.W. Alexander Drive
Mail Code E343-04
Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 4:23 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Cc: Hoppe, Michael <Hoppe.Michael@epa.gov>
Subject: RE: Air Methods

Good Afternoon Matt,

The lab that used to perform some of the analyses no longer do so. I will have someone in tomorrow morning early to provide a list of vendors and contacts for the various methods outlined below. I am waiting on a lab that will perform the TO-13A analysis (PAHs) to send me their contact information. I will forward the same upon receipt.

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team
109 T.W. Alexander Drive
Mail Code E343-04

Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 1:27 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Air Methods

Good Afternoon,

https://www3.epa.gov/ttnamti1/files/ambient/airtox/tocomp99.pdf
VOCs - Method TO-15: Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography Mass Spectrometry (GC/MS)
VOCs - Method TO-17: Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes Compendium Method TO-13A
SVOCs - Method TO-13A: Determination of Polycyclic Aromatic Hydrocarbons (PAHs) in Ambient Air Using Gas Chromatographic/Mass Spectrometry (GC/MS)
Formaldehyde - Method TO-11A: Determination of Formaldehyde in Ambient Air Using Adsorbent Cartridge Followed by High Performance Liquid Chromatography (HPLC)
Pesticides and PCBs - Method TO-10A: Determination Of Pesticides And Polychlorinated Biphenyls In Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed By Gas Chromatographic/Multi-Detector Detention (GC/MD)
Dioxins - Method TO-9A- Determination of Polychlorinated, Polybrominated And Brominated/Chlorinated Dibenzo-p-Dioxins And Dibenzofurans In Ambient Air

PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5515.pdf
PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5506.pdf

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team
109 T.W. Alexander Drive
Mail Code E343-04
Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)

Armstrong, Kathy

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 5:01 PM
To: Huyser, Matthew
Cc: Hoppe, Michael
Subject: RE: Air Methods

Good Afternoon,

For dioxin analysis via TO-9.

Vista Analytical Laboratory, Inc.
1104 Windfield Way
916-995-5171 El Dorado Hills, CA 95762-9622
TO-9 Dioxin analysis

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team
109 T.W. Alexander Drive
Mail Code E343-04
Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 4:23 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Cc: Hoppe, Michael <Hoppe.Michael@epa.gov>
Subject: RE: Air Methods

Good Afternoon Matt,

The lab that used to perform some of the analyses no longer do so. I will have someone in tomorrow morning early to provide a list of vendors and contacts for the various methods outlined below. I am waiting on a lab that will perform the TO-13A analysis (PAHs) to send me their contact information. I will forward the same upon receipt.

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team

109 T.W. Alexander Drive
Mail Code E343-04
Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 1:27 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Air Methods

Good Afternoon,

https://www3.epa.gov/ttnamti1/files/ambient/airtox/tocomp99.pdf
VOCs - Method TO-15: Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography Mass Spectrometry (GC/MS)
VOCs - Method TO-17: Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes Compendium Method TO-13A
SVOCs - Method TO-13A: Determination of Polycyclic Aromatic Hydrocarbons (PAHs) in Ambient Air Using Gas Chromatographic/Mass Spectrometry (GC/MS)
Formaldehyde - Method TO-11A: Determination of Formaldehyde in Ambient Air Using Adsorbent Cartridge Followed by High Performance Liquid Chromatography (HPLC)
Pesticides and PCBs - Method TO-10A: Determination Of Pesticides And Polychlorinated Biphenyls In Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed By Gas Chromatographic/Multi-Detector Detention (GC/MD)
Dioxins - Method TO-9A- Determination of Polychlorinated, Polybrominated And Brominated/Chlorinated Dibenzo-p-Dioxins And Dibenzofurans In Ambient Air

PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5515.pdf
PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5506.pdf

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team
109 T.W. Alexander Drive
Mail Code E343-04
Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)

Armstrong, Kathy

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 4:23 PM
To: Huyser, Matthew
Cc: Hoppe, Michael
Subject: RE: Air Methods

Good Afternoon Matt,

The lab that used to perform some of the analyses no longer do so. I will have someone in tomorrow morning early to provide a list of vendors and contacts for the various methods outlined below. I am waiting on a lab that will perform the TO-13A analysis (PAHs) to send me their contact information. I will forward the same upon receipt.

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team
109 T.W. Alexander Drive
Mail Code E343-04
Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 1:27 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Air Methods

Good Afternoon,

https://www3.epa.gov/ttnamti1/files/ambient/airtox/tocomp99.pdf
VOCs - Method TO-15: Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography Mass Spectrometry (GC/MS)
VOCs - Method TO-17: Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes Compendium Method TO-13A
SVOCs - Method TO-13A: Determination of Polycyclic Aromatic Hydrocarbons (PAHs) in Ambient Air Using Gas Chromatographic/Mass Spectrometry (GC/MS)
Formaldehyde - Method TO-11A: Determination of Formaldehyde in Ambient Air Using Adsorbent Cartridge Followed by High Performance Liquid Chromatography (HPLC)
Pesticides and PCBs - Method TO-10A: Determination Of Pesticides And Polychlorinated Biphenyls In Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed By Gas Chromatographic/Multi-Detector Detention (GC/MD)

Dioxins - Method TO-9A- Determination of Polychlorinated, Polybrominated And Brominated/Chlorinated Dibenzo-p-Dioxins And Dibenzofurans In Ambient Air

PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5515.pdf
PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5506.pdf

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team
109 T.W. Alexander Drive
Mail Code E343-04
Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)

Armstrong, Kathy

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 1:27 PM
To: Huyser, Matthew
Subject: Air Methods

Good Afternoon,

https://www3.epa.gov/ttnamti1/files/ambient/airtox/tocomp99.pdf
VOCs - Method TO-15: Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography Mass Spectrometry (GC/MS)
VOCs - Method TO-17: Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes Compendium Method TO-13A
SVOCs - Method TO-13A: Determination of Polycyclic Aromatic Hydrocarbons (PAHs) in Ambient Air Using Gas Chromatographic/Mass Spectrometry (GC/MS)
Formaldehyde - Method TO-11A: Determination of Formaldehyde in Ambient Air Using Adsorbent Cartridge Followed by High Performance Liquid Chromatography (HPLC)
Pesticides and PCBs - Method TO-10A: Determination Of Pesticides And Polychlorinated Biphenyls In Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed By Gas Chromatographic/Multi-Detector Detention (GC/MD)
Dioxins - Method TO-9A- Determination of Polychlorinated, Polybrominated And Brominated/Chlorinated Dibenzo-p-Dioxins And Dibenzofurans In Ambient Air

PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5515.pdf
PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5506.pdf

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team
109 T.W. Alexander Drive
Mail Code E343-04
Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)

Armstrong, Kathy

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Saturday, August 24, 2019 10:40 AM
To: Tanner, Terry
Cc: Huyser, Matthew; chris.jones@tetratech.com
Subject: Able Contracting Fire Data Summary Tables for 08/23/19 Night
Attachments: Able_Viper Summary Report_082319.pdf

Terry,

Here are the updated data summary tables and associated charts for data collected from 1900 hrs on 08/23/19 through 0700 hrs on 08/24/19.

Let me know if you need anything else.

Paul Prys | Senior Environmental Scientist/Project Manager
Direct: 678.775.3106 | Cell: 404.849.7136 | Fax: 678.775.3138
paul.prys@tetratech.com

Tetra Tech | Atlanta Office
1955 Evergreen Blvd. Bldg. 200, Ste. 300, Duluth, GA 30096 www.tetratech.com | NASDAQ:TTEK

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire Site**

From: ***8/23/19 19:00*** ***To:*** ***8/24/19 7:00***

On Site, Southwest Corner of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	Yes	758	62	0 - 8742 ppb	20.34 ppb	1,000 ppb
	CO	No	758	134	0 - 28 ppm	0.96 ppm	83 ppm
	H_2S	No	758	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	758	758	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	758	0	0 - 0 %	0 %	10%
	HCN	Yes	758	348	0 - 13.5 ppm	0.4 ppm	7.1 ppm

Perimeter Collection

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 1	PM-2.5	Good	1,008	480	0 - 13 $\mu g/m^3$	1.1 ug/m3	See SOG #: T106

On Site, Northwest Corner of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	765	9	0 - 511 ppb	2.58 ppb	1,000 ppb
	CO	No	765	43	0 - 16 ppm	0.26 ppm	83 ppm
	H_2S	#N/A	765	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	765	765	20.6 - 20.7 %	20.7 %	<19.5 or >23%
	LEL	No	765	0	0 - 0 %	0 %	10%
	HCN	No	765	29	0 - 1.2 ppm	0.02 ppm	7.1 ppm

Storm Drain Based

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 2	PM-2.5	Good	939	939	1 - 214 $\mu g/m^3$	8.7 ug/m3	See SOG #: T106

Able Contracting Warehouse, Northeast of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	756	234	0 - 195 ppb	18.06 ppb	1,000 ppb
	CO	No	756	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	756	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	756	756	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	756	756	2 - 3 %	2 %	10%
	HCN	No	756	0	0 - 0 ppm	0 ppm	7.1 ppm

Grace Capital Church

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 3	PM-2.5	Good	490	490	1 - 72 $\mu g/m^3$	6.8 ug/m3	See SOG #: T106

Forest Concrete

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	769	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	769	17	0 - 6 ppm	0.08 ppm	83 ppm
	H_2S	No	769	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	769	769	20.4 - 20.9 %	20.5 %	<19.5 or >23%
	LEL	No	769	0	0 - 0 %	0 %	10%
	HCN	No	769	46	0 - 0.7 ppm	0.01 ppm	7.1 ppm

Sun City

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 1	PM-2.5	Moderate	752	315	0 - 99 ug/m3	20.8 ug/m3	See SOG #: T106

Bradley Mill Apartments

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 2	PM-2.5	Good	743	416	0 - 72 ug/m3	11.8 ug/m3	See SOG #: T106

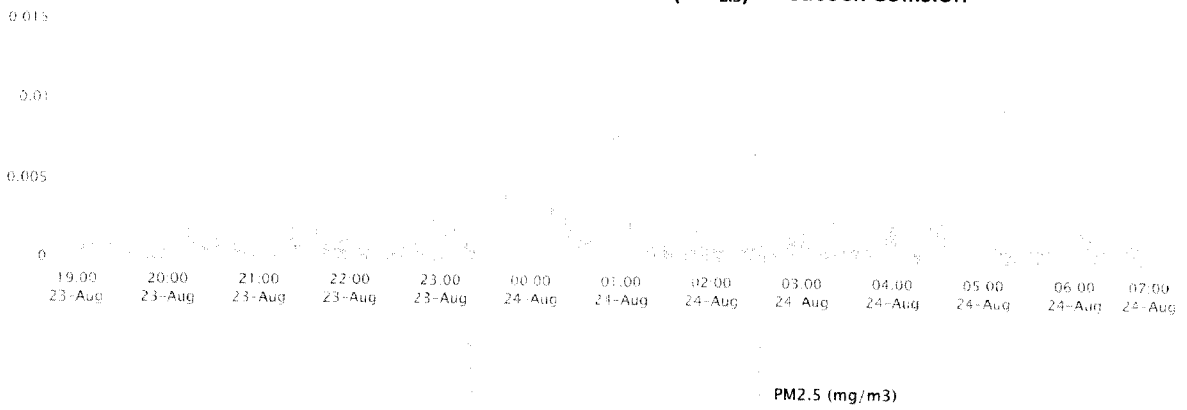
EPA Mobile Command Post

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 3	PM-2.5	Moderate	387	125	0 - 121 ug/m3	15.8 ug/m3	See SOG #: T106

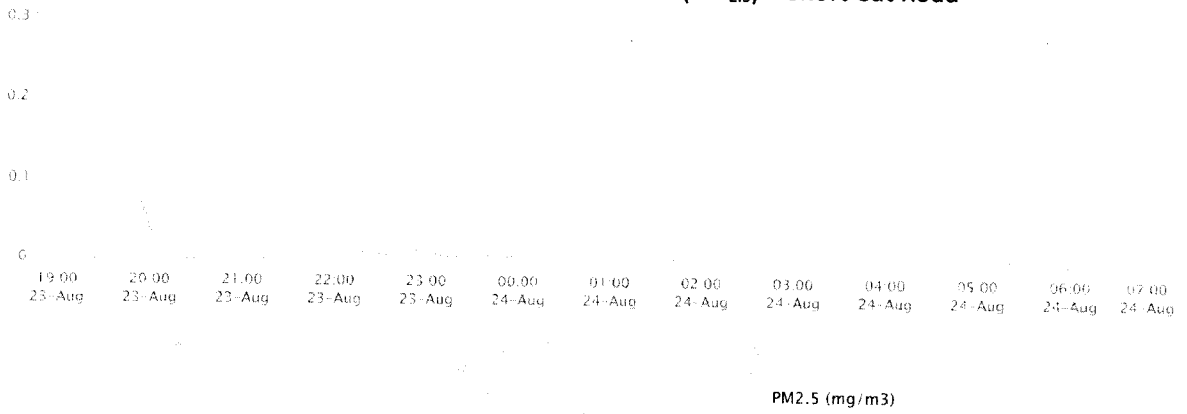
Notes:

- % Percent
- < Less than
- > Greater than
- AEGL Acute Exposure Guideline Levels for Airborne Chemicals
- CO Carbon monoxide
- H_2S Hydrogen Sulfide
- HCN Hydrogen Cyanide
- LEL Lower Explosive Level
- min Minute
- O_2 Oxygen
- PEL Permissible exposure limit
- ppb Parts per billion
- ppm Parts per million
- PM Particulate matter
- SOG Standard Operating Guidelines
- TLV Threshold limit value
- $\mu g/m^3$ Micrograms per cubic meter
- VOC Volatile organic compoud

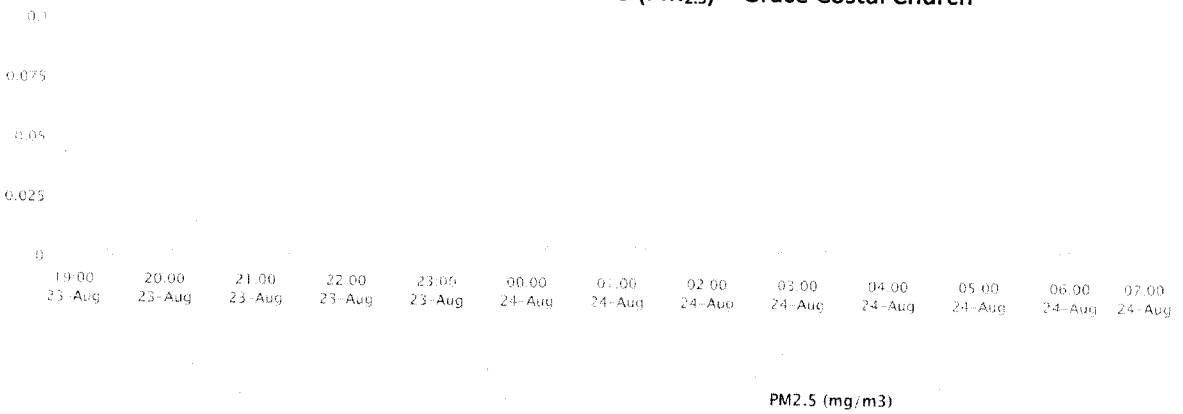
8/23/19 NIGHT Data for DustTrak 1 ($PM_{2.5}$) - Peacock Collision



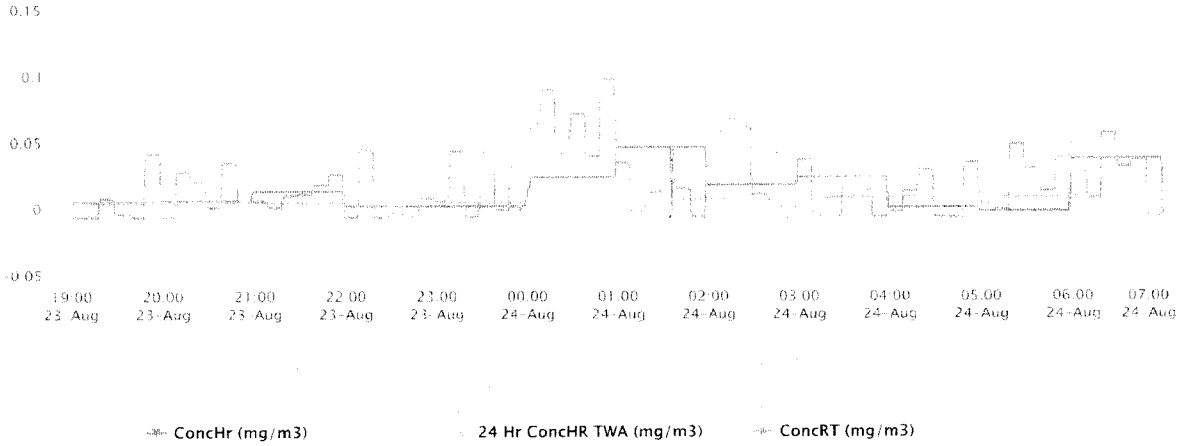
8/23/19 NIGHT Data for DustTrak 2 ($PM_{2.5}$) – Short Cut Road



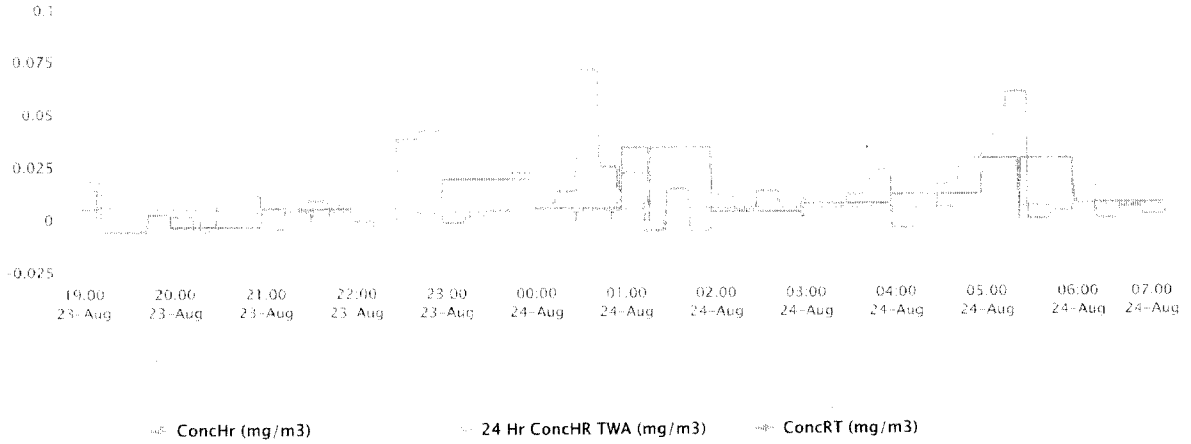
8/23/19 NIGHT Data for DustTrak 3 ($PM_{2.5}$) – Grace Costal Church



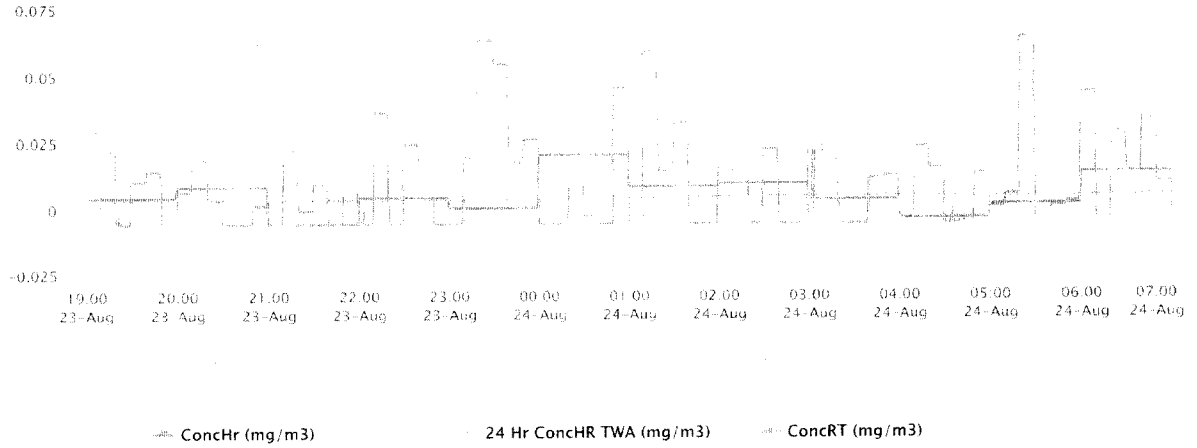
8/23/19 NIGHT Data for EBAM 1 (ConcRT) – Sun City



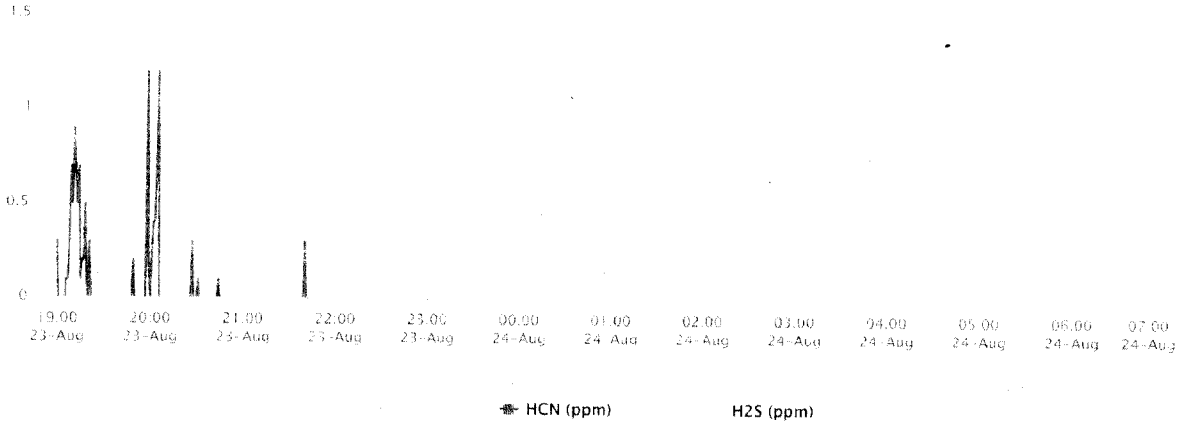
8/23/19 NIGHT Data for EBAM 2 (ConcRT) – Brooke Mill Apartments



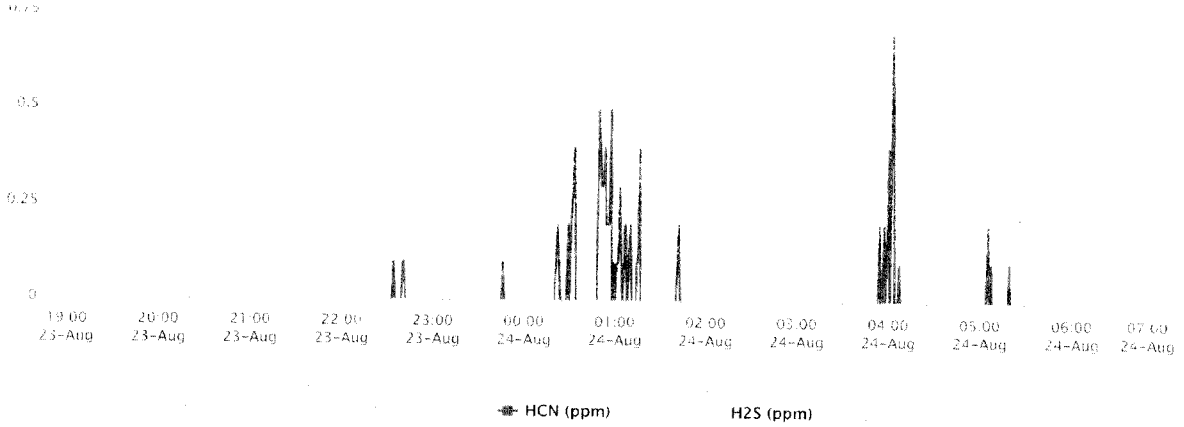
8/23/19 NIGHT Data for EBAM 3 (ConcRT) – EPA Mobile Command Post



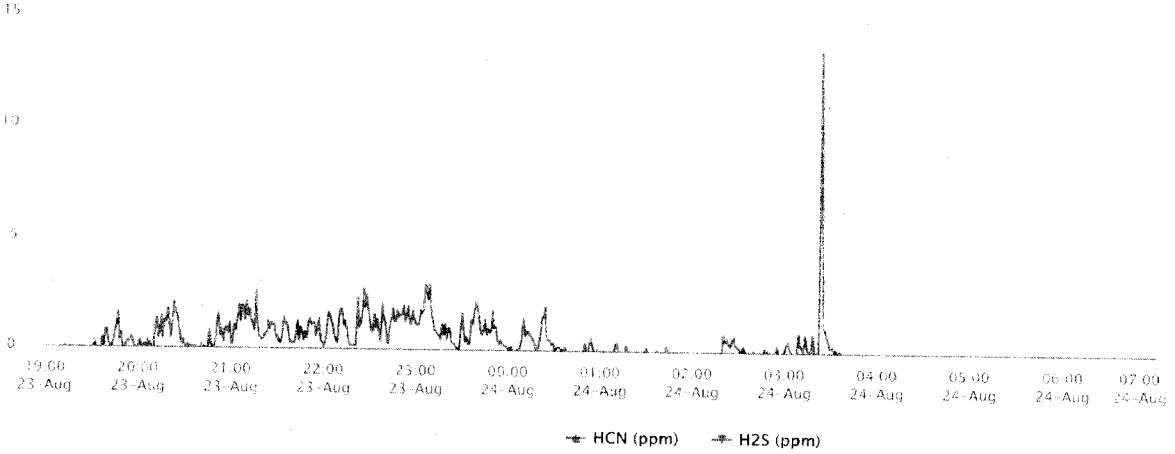
8/23/19 NIGHT Data for AREARAE PRO 1 (HCn) – Southwest of Pile



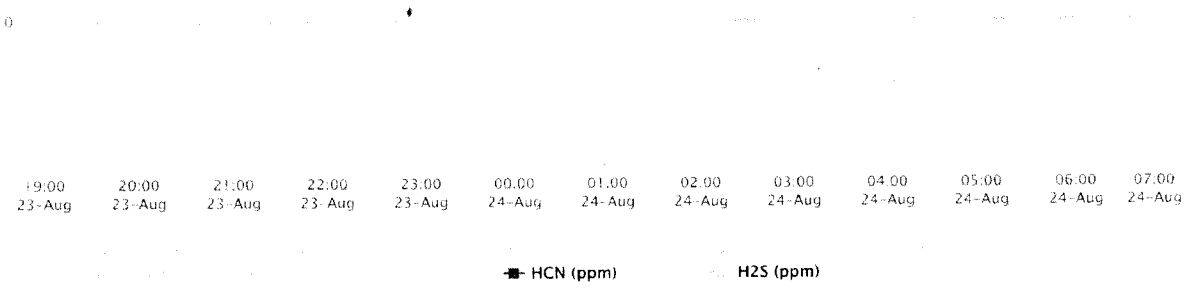
8/23/19 NIGHT Data for AREARAE PRO 2 (HCn) – Northwest of Pile



8/23/19 NIGHT Data for AREARAE PRO 3 (HCn) – Northeast of Pile



8/23/19 NIGHT Data for AREARAE PRO 4 (HCn) – Forrest Concrete



Threshold Values and Air Quality Index Categories for PM2.5

Level of Health Concern	Particulate Matter ≤2.5 microns measured in µg/m3		Interpretation
	1 hour average	24 hour average	
Good	0.0-40.0	0.0-12.0	Air quality is considered satisfactory, and air pollution poses little or no risk
Moderate	40.1-80.0	12.1-35.4	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
Unhealthy for Sensitive groups	80.1-175.0	35.5-55.4	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	175.1-300.0	55.5-150.4	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	300.1-500.0	150.5-250.4	Health warnings of emergency conditions. The entire population is more likely to be affected.
Hazardous	>500.0	>250.5	Health alert: everyone may experience more serious health effects

- Threshold values taken from original EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc for PM2.5 (24 hour) and Idaho Department of Environmental Quality AQI for PM2.5 (1 hour) taken from http://app.airsis.com/usfs/aqi.asp.
- Recommendations are from the EPA Air Now web site.
- People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
- Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air.

Armstrong, Kathy

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Friday, August 23, 2019 8:51 PM
To: Tanner, Terry
Cc: Huyser, Matthew; chris.jones@tetratech.com
Subject: Able Contracting Fire Data Summary Tables for 08/23/19 Day
Attachments: Able_Viper Summary Report_082319DAY.pdf

Terry,

Here are the updated data summary tables and associated charts for data collected from 0700 hrs through 1900 hrs on 08/23/19. There are some data gaps for the DustTraks since we were switching them over to Viper and some gaps for the EBAM next to the MCP due to the internet being down earlier today.

Let me know if you need anything else.

Paul Prys | Senior Environmental Scientist/Project Manager
Direct: 678.775.3106 | Cell: 404.849.7136 | Fax: 678.775.3138
paul.prys@tetratech.com

Tetra Tech | Atlanta Office
1955 Evergreen Blvd. Bldg. 200, Ste. 300, Duluth, GA 30096 www.tetratech.com | NASDAQ:TTEK

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire Site**

From: **8/23/19 7:00** ***To:*** **8/23/19 19:00**

On Site, Southwest Corner of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	772	1	0 - 72 ppb	0.09 ppb	1,000 ppb
	CO	No	772	6	0 - 5 ppm	0.03 ppm	83 ppm
	H_2S	Yes	772	3	0 - 1.8 ppm	0.004 ppm	0.5 ppm
	O_2	No	772	772	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	772	0	0 - 0 %	0 %	10%
	HCN	No	772	505	0 - 5.7 ppm	0.19 ppm	7.1 ppm

Pierson's Collision

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 1	PM-2.5	Good	1,025	982	0 - 32 µg/m³	6.2 ug/m3	See SOG #: T106

On Site, Northwest Corner of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	Yes	777	15	0 - 1048 ppb	5.13 ppb	1,000 ppb
	CO	No	777	79	0 - 19 ppm	0.56 ppm	83 ppm
	H_2S	Yes	777	4	0 - 0.9 ppm	0.003 ppm	0.5 ppm
	O_2	No	777	777	20.6 - 20.9 %	20.7 %	<19.5 or >23%
	LEL	No	777	0	0 - 0 %	0 %	10%
	HCN	No	777	130	0 - 3.1 ppm	0.1 ppm	7.1 ppm

Short Cut Road

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 2	PM-2.5	Good	1,118	1,118	2 - 38 µg/m³	7.2 ug/m3	See SOG #: T106

Able Contracting Workshop, Northeast of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	771	9	0 - 433 ppb	1.67 ppb	1,000 ppb
	CO	No	771	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	771	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	771	771	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	771	771	2 - 3 %	2.5 %	10%
	HCN	No	771	193	0 - 0.6 ppm	0.08 ppm	7.1 ppm

Grace Capitol Church

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 3	PM-2.5	Good	1,082	1,016	0 - 111 µg/m³	6.5 ug/m3	See SOG #: T106

Forrest Concrete

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	777	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	777	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	777	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	777	777	20.4 - 21.3 %	20.9 %	<19.5 or >23%
	LEL	No	777	0	0 - 0 %	0 %	10%
	HCN	No	777	386	0 - 1.6 ppm	0.31 ppm	7.1 ppm

Sun City

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 1	PM-2.5	Good	733	122	0 - 154 ug/m3	10.3 ug/m3	See SOG #: T106

Brooks Mill Apartments

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 2	PM-2.5	Good	742	130	0 - 34 ug/m3	4.2 ug/m3	See SOG #: T106

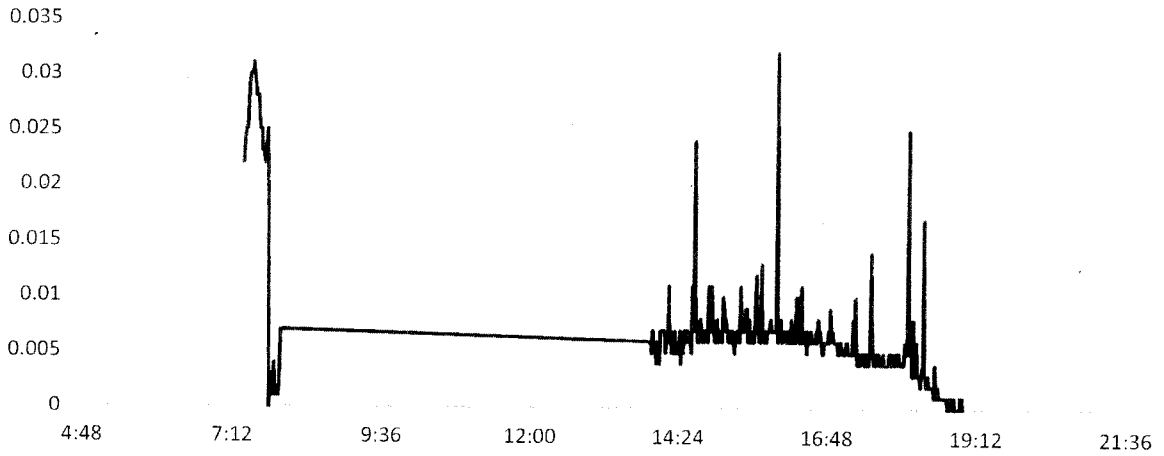
EPA Mobile Command Post

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 3	PM-2.5	Moderate	387	125	0 - 121 ug/m3	15.8 ug/m3	See SOG #: T106

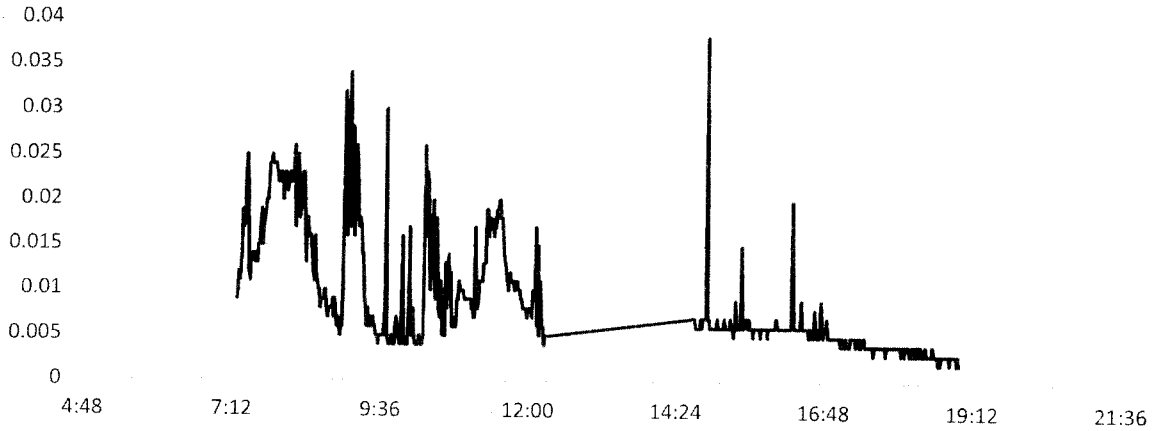
Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline Levels for Airborne Chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
HCN	Hydrogen Cyanide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

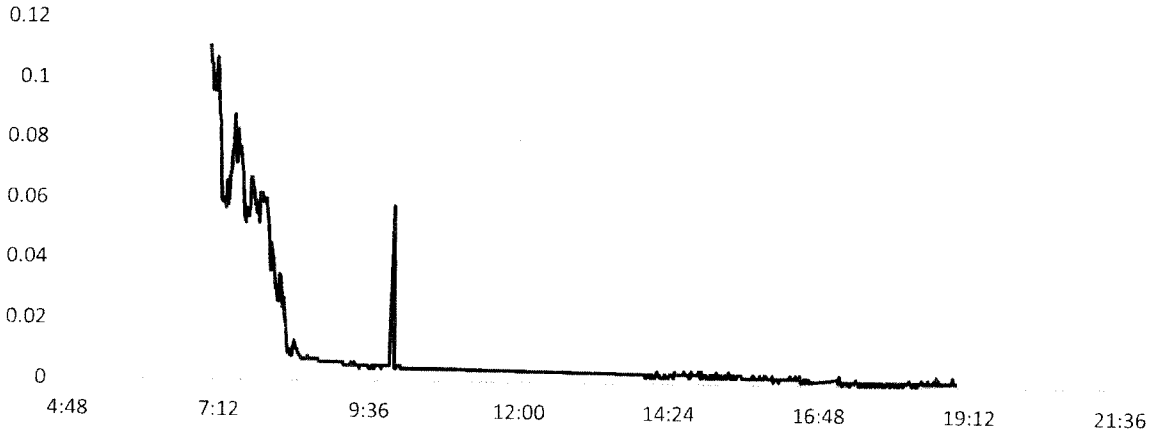
8/23/19 DAY Data for DustTrak 1 ($PM_{2.5}$) - Peacock Collision



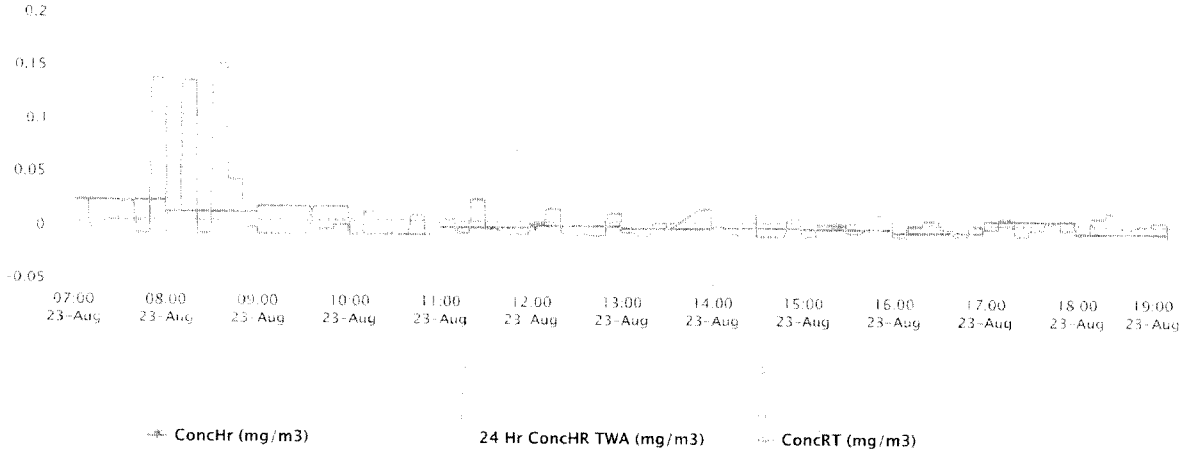
8/23/19 DAY Data for DustTrak 2 ($PM_{2.5}$) – Short Cut Road



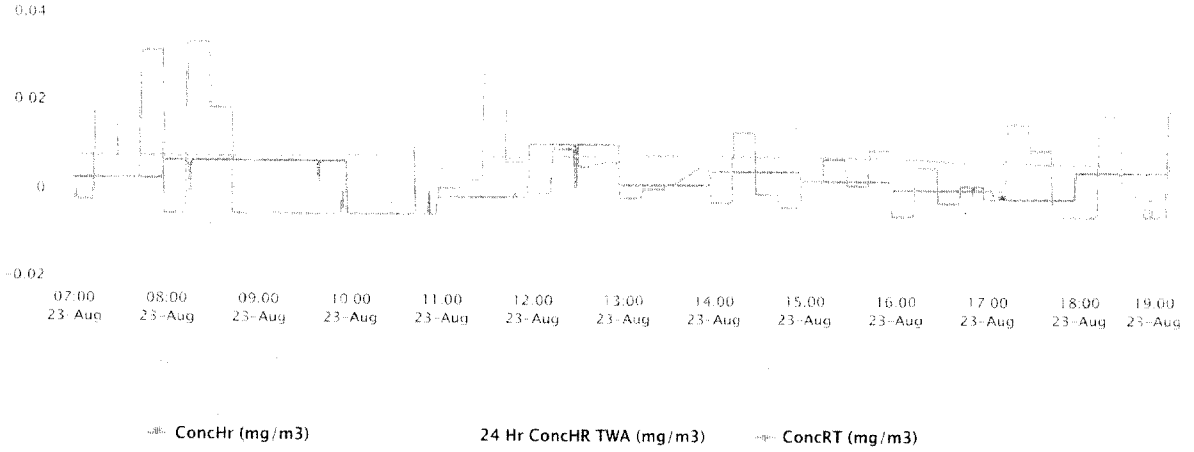
8/23/19 DAY Data for DustTrak 3 ($PM_{2.5}$) – Grace Costal Church



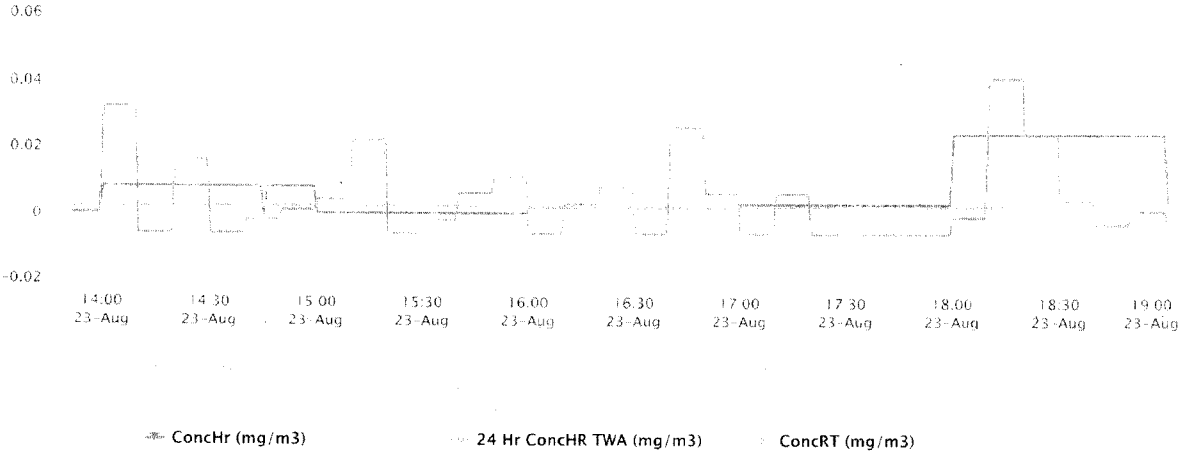
8/23/19 DAY Data for EBAM 1 (ConcRT) – Sun City



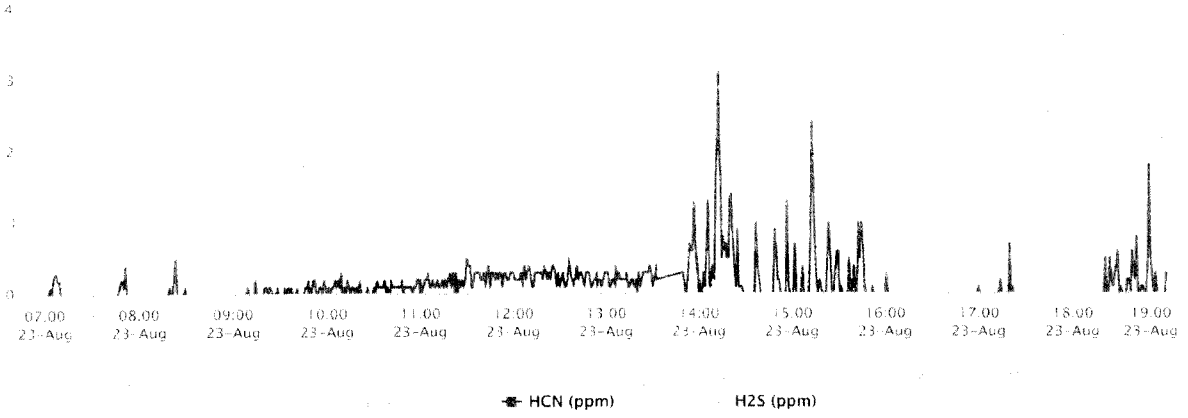
8/23/19 DAY Data for EBAM 2 (ConcRT) – Brooke Mill Apartments



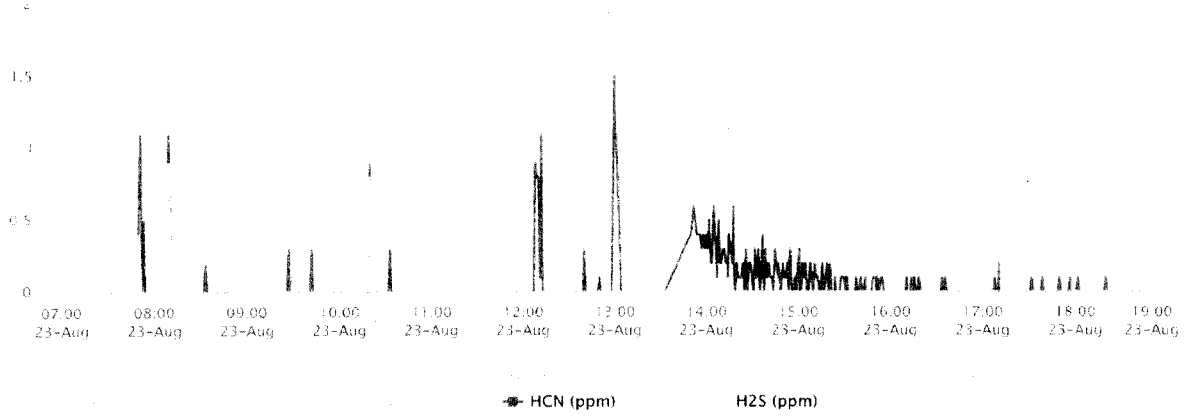
8/23/19 DAY Data for EBAM 3 (ConcRT) – EPA Mobile Command Post



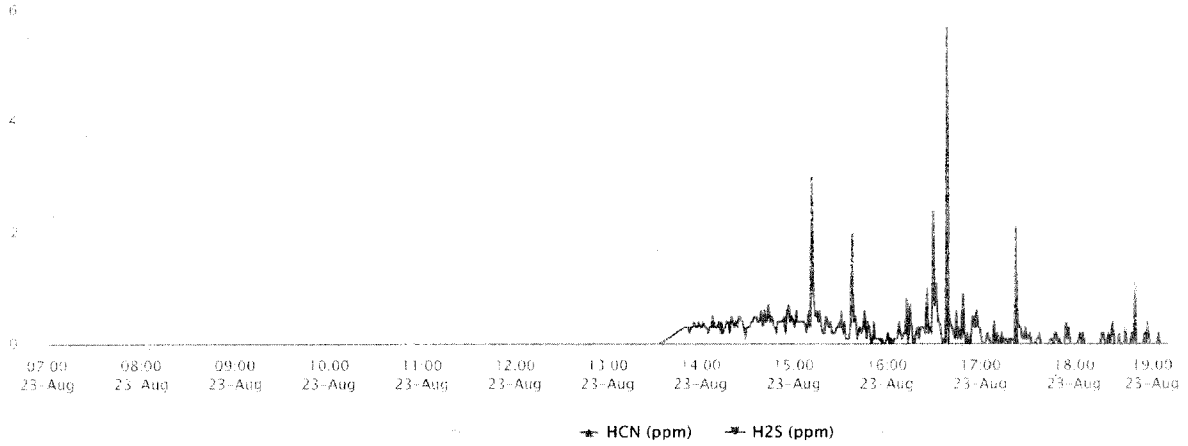
8/23/19 DAY Data for AREARAE PRO 1 (HCn) – Southwest of Pile



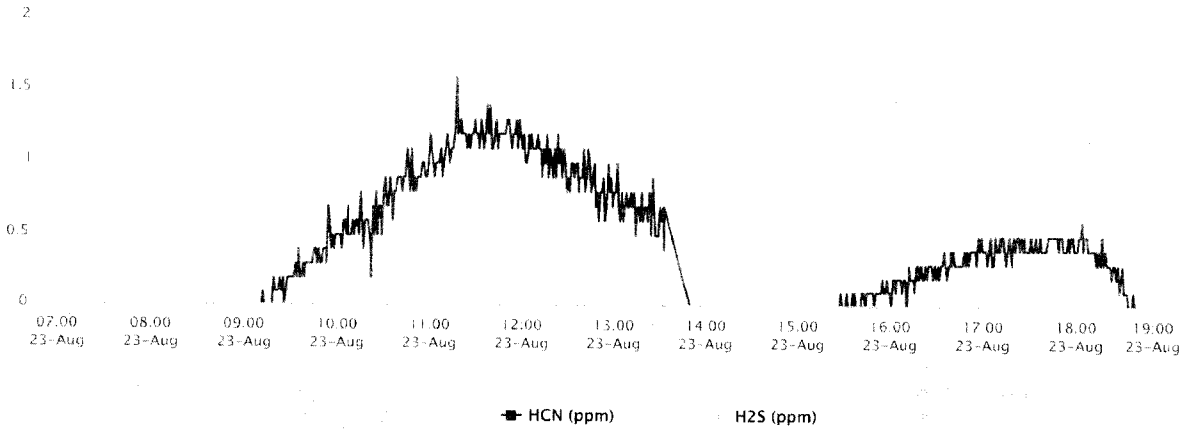
8/23/19 DAY Data for AREARAE PRO 2 (HCn) – Northwest of Pile



8/23/19 DAY Data for AREARAE PRO 3 (HCn) – Northeast of Pile



8/23/19 DAY Data for AREARAE PRO 4 (HCn) – Forrest Concrete



Threshold Values and Air Quality Index Categories for PM2.5

Level of Health Concern	Particulate Matter ≤2.5 microns measured in µg/m3		Interpretation
	1 hour average	24 hour average	
Good	0.0-40.0	0.0-12.0	Air quality is considered satisfactory, and air pollution poses little or no risk
Moderate	40.1-80.0	12.1-35.4	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
Unhealthy for Sensitive groups	80.1-175.0	35.5-55.4	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	175.1-300.0	55.5-150.4	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	300.1-500.0	150.5-250.4	Health warnings of emergency conditions. The entire population is more likely to be affected.
Hazardous	>500.0	>250.5	Health alert: everyone may experience more serious health effects

- Threshold values taken from original EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc for PM2.5 (24 hour) and Idaho Department of Environmental Quality AQI for PM2.5 (1 hour) taken from http://app.airsis.com/usfs/aqi.asp.
- Recommendations are from the EPA Air Now web site.
- People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
- Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air.

Armstrong, Kathy

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Friday, August 23, 2019 9:11 AM
To: Tanner, Terry
Cc: Huyser, Matthew; chris.jones@tetratech.com
Subject: Able Contracting Fire Data Summary Tables for 08/22/19 Night
Attachments: Able_Viper Summary Report_082219NIGHT.pdf

Terry,

Here are the updated data summary tables and associated charts for data collected from 1900 hrs on 08/22/19 through 0700 hrs on 08/23/19.

Let me know if you need anything else.

Paul Prys | Senior Environmental Scientist/Project Manager
Direct: 678.775.3106 | Cell: 404.849.7136 | Fax: 678.775.3138
paul.prys@tetratech.com

Tetra Tech | Atlanta Office
1955 Evergreen Blvd. Bldg. 200, Ste. 300, Duluth, GA 30096 www.tetratech.com | NASDAQ:TTEK

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire Site**

From: ***8/22/19 19:00*** ***To:*** ***8/23/19 7:00***

On Site, Southwest Corner of Fire

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	758	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	758	1	0 - 2 ppm	0 ppm	83 ppm
	H_2S	No	758	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	758	758	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	758	0	0 - 0 %	0 %	10%
	HCN	No	758	4	0 - 1.1 ppm	0 ppm	7.1 ppm

Peacock Collision

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 1	PM-2.5	Moderate	747	747	5 - 72 µg/m³	13.2 ug/m3	See SOG #: T106

On Site, Northwest Corner of Fire

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	762	1	0 - 36 ppb	0.05 ppb	1,000 ppb
	CO	No	762	62	0 - 19 ppm	0.5 ppm	83 ppm
	H_2S	Yes	762	3	0 - 0.7 ppm	0.002 ppm	0.5 ppm
	O_2	No	762	762	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	762	0	0 - 0 %	0 %	10%
	HCN	No	762	8	0 - 1.7 ppm	0.01 ppm	7.1 ppm

Short Cut Road

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 2	PM-2.5	Good	746	746	3 - 44 µg/m³	7 ug/m3	See SOG #: T106

Able Contracting Workshop, Northwest of Fire

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	762	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	762	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	762	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	762	762	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	762	762	2 - 3 %	2.4 %	10%
	HCN	No	762	0	0 - 0 ppm	0 ppm	7.1 ppm

Grace Costal Church

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 3	PM-2.5	Moderate	735	735	1 - 159 µg/m³	16 ug/m3	See SOG #: T106

Forness Concrete

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	757	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	757	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	757	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	757	757	20.4 - 20.5 %	20.5 %	<19.5 or >23%
	LEL	No	757	0	0 - 0 %	0 %	10%
	HCN	No	757	60	0 - 0.8 ppm	0.02 ppm	7.1 ppm

Sun City

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 1	PM-2.5	Moderate	743	245	0 - 109 ug/m3	14.1 ug/m3	See SOG #: T106

Brooke Mill Apartments

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 2	PM-2.5	Good	753	438	0 - 41 ug/m3	9.4 ug/m3	See SOG #: T106

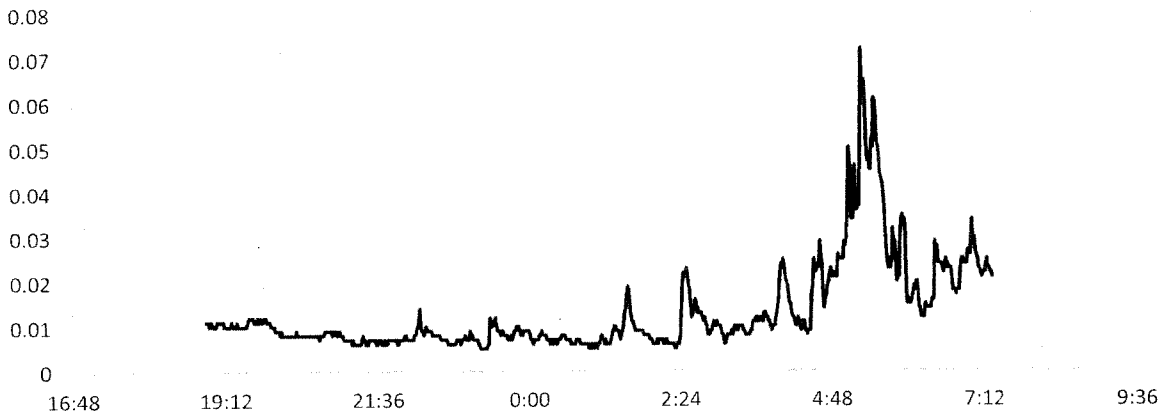
EPA Mobile Command Post

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 3	PM-2.5	Good	735	146	0 - 63 ug/m3	11.7 ug/m3	See SOG #: T106

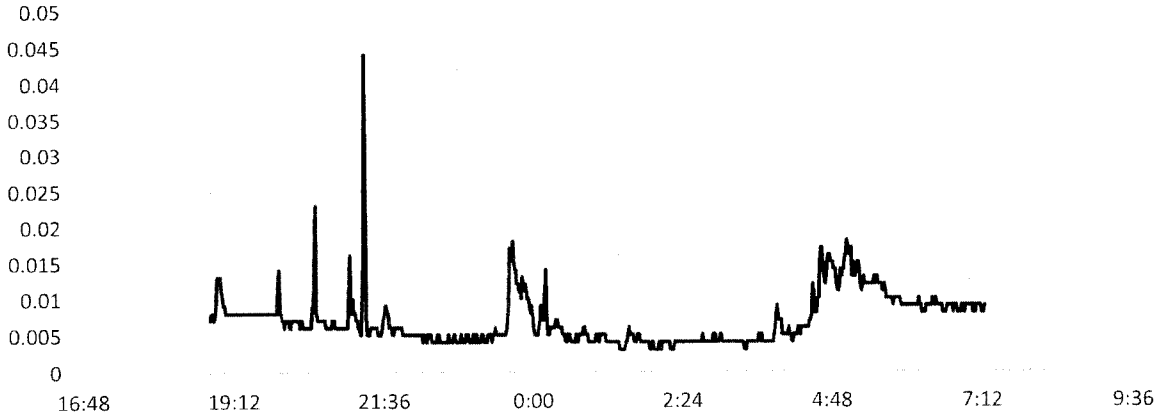
Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline Levels for Airborne Chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
HCN	Hydrogen Cyanide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

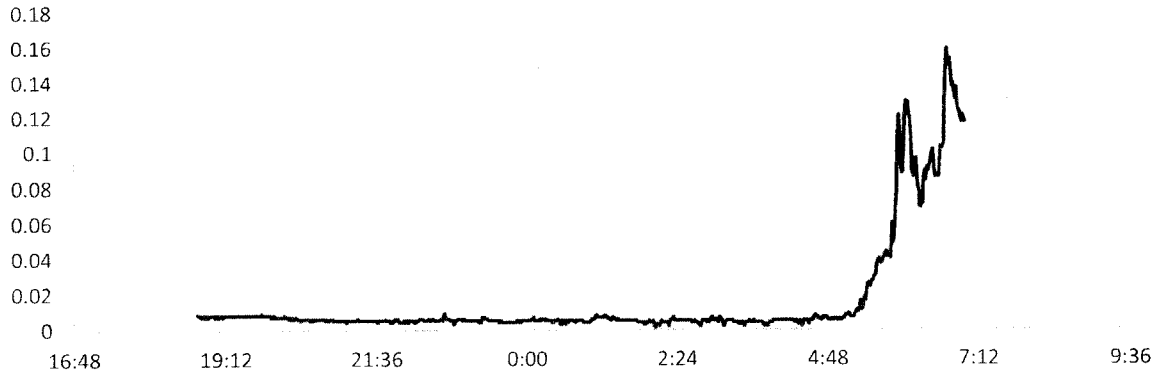
8/22/19 NIGHT Data for DustTrak 1 ($PM_{2.5}$) - Peacock Collision



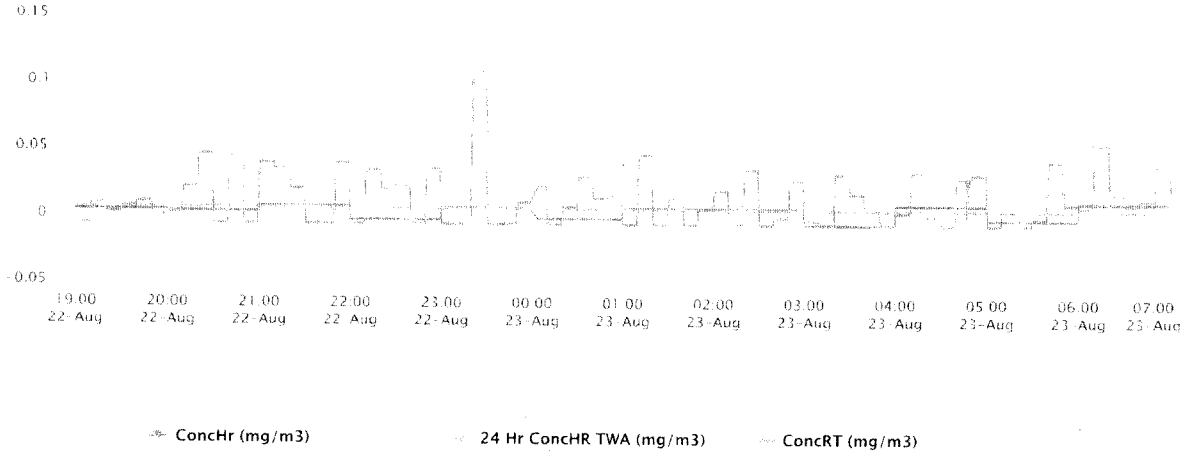
8/22/19 NIGHT Data for DustTrak 2 ($PM_{2.5}$) – Short Cut Road



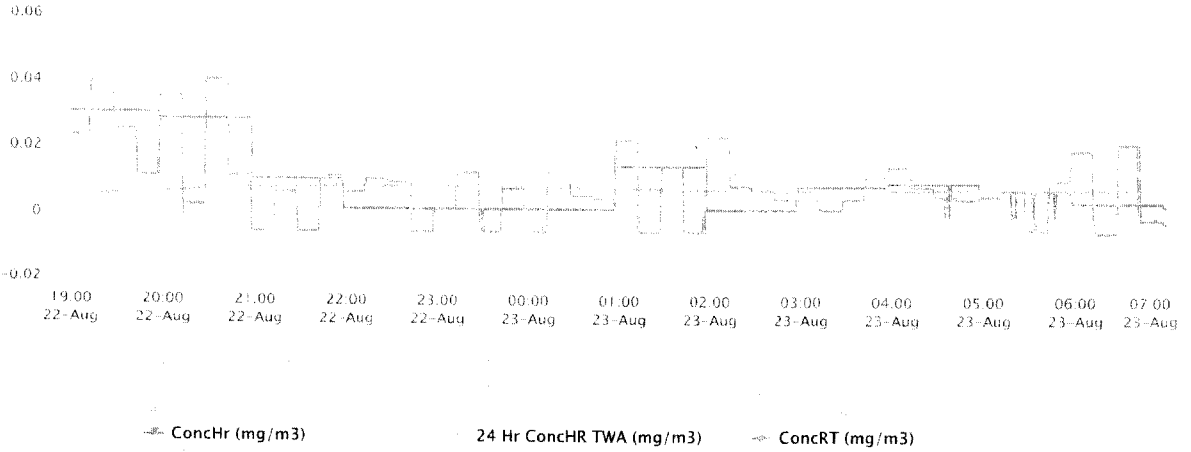
8/22/19 NIGHT Data for DustTrak 3 ($PM_{2.5}$) – Grace Costal Church



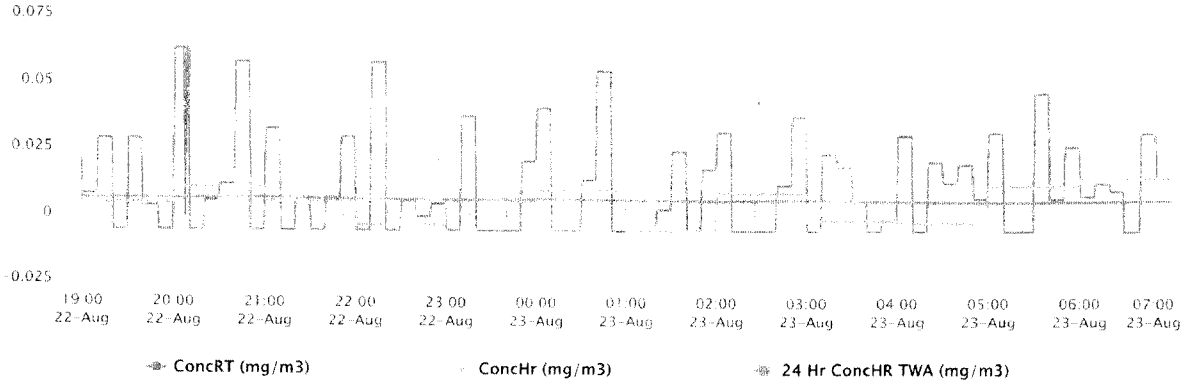
8/22/19 NIGHT Data for EBAM 1 (ConcRT) – Sun City



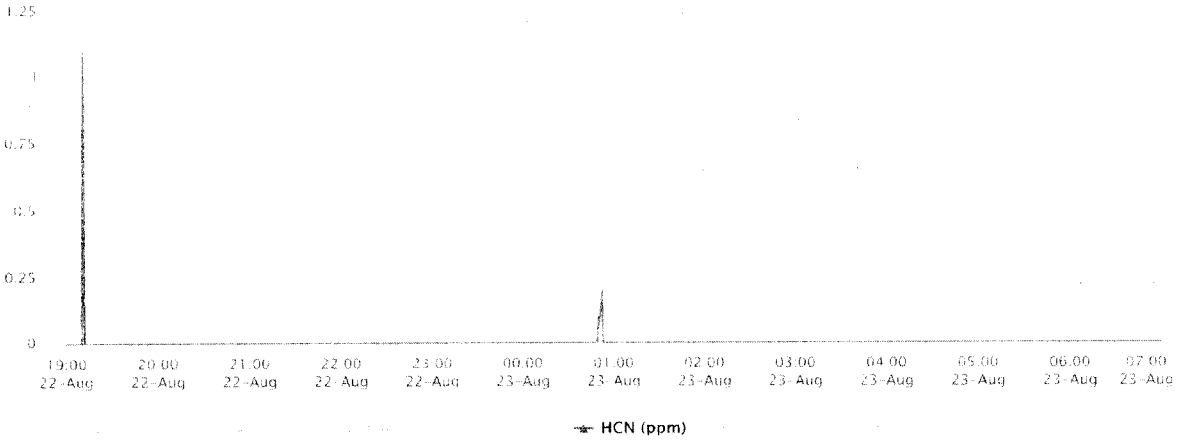
8/22/19 NIGHT Data for EBAM 2 (ConcRT) – Brooke Mill Apartments



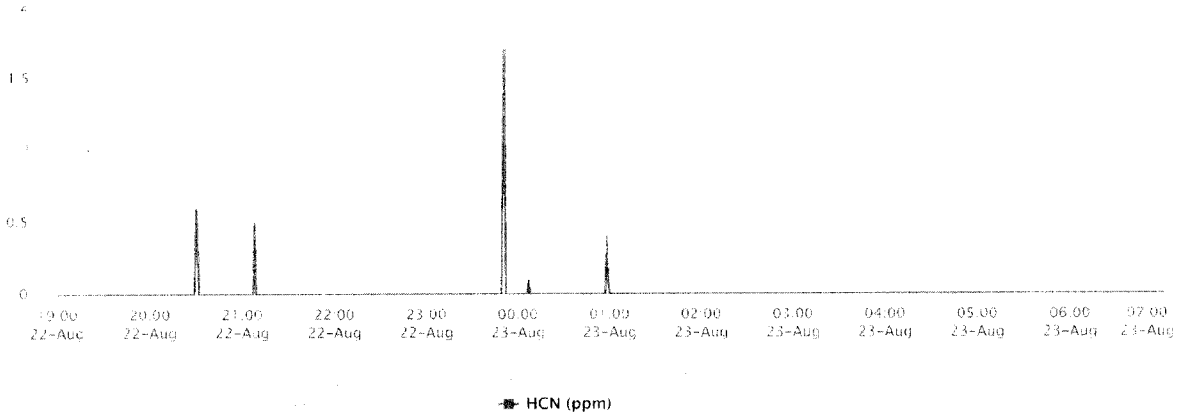
8/22/19 NIGHT Data for EBAM 3 (ConcRT) – EPA Mobile Command Post



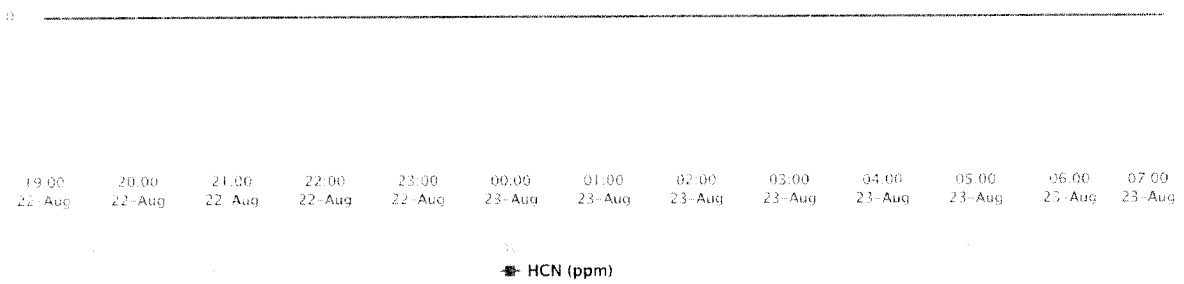
8/22/19 NIGHT Data for AREARAE PRO 1 (HCn) – Southwest of Pile



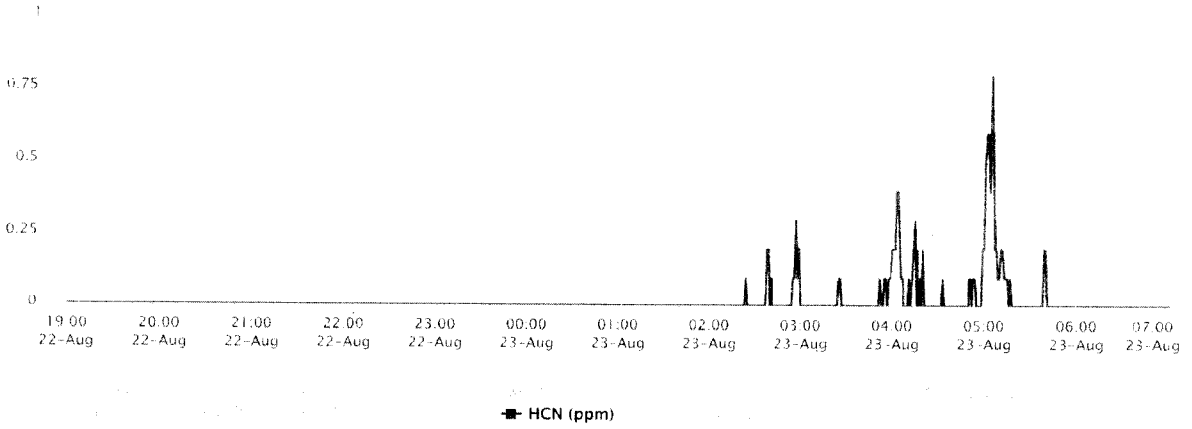
8/22/19 NIGHT Data for AREARAE PRO 2 (HCn) – Northwest of Pile



8/22/19 DAY Data for AREARAE PRO 3 (HCn) – Northeast of Pile



8/22/19 NIGHT Data for AREARAE PRO 4 (HCn) – Forrest Concrete



Threshold Values and Air Quality Index Categories for PM2.5

Level of Health Concern	Particulate Matter ≤2.5 microns measured in µg/m3		Interpretation
	1 hour average	24 hour average	
Good	0.0-40.0	0.0-12.0	Air quality is considered satisfactory, and air pollution poses little or no risk
Moderate	**40.1-80.0**	**12.1-35.4**	**Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.**
Unhealthy for Sensitive groups	80.1-175.0	35.5-55.4	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	175.1-300.0	55.5-150.4	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	300.1-500.0	150.5-250.4	Health warnings of emergency conditions. The entire population is more likely to be affected.
Hazardous	>500.0	>250.5	Health alert: everyone may experience more serious health effects

- Threshold values taken from original EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc for PM2.5 (24 hour) and Idaho Department of Environmental Quality AQI for PM2.5 (1 hour) taken from http://app.airsis.com/usfs/aqi.asp.
- Recommendations are from the EPA Air Now web site.
- People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
- Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air.

Armstrong, Kathy

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Thursday, August 22, 2019 9:12 AM
To: Tanner, Terry
Cc: Huyser, Matthew; chris.jones@tetratech.com
Subject: Able Contracting Fire Data Summary Tables for 08/21/19 Night
Attachments: Able_Viper Summary Report_82119NIGHT.pdf

Terry,

Here are the updated data summary tables and associated charts for data collected from 1900 hrs on 08/21/19 through 0700 hrs on 08/22/19.

Let me know if you need anything else.

Paul Prys | Senior Environmental Scientist/Project Manager
Direct: 678.775.3106 | Cell: 404.849.7136 | Fax: 678.775.3138
paul.prys@tetratech.com

Tetra Tech | Atlanta Office
1955 Evergreen Blvd. Bldg. 200, Ste. 300, Duluth, GA 30096 www.tetratech.com | NASDAQ:TTEK

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire Site**

From: **8/21/19 19:00** ***To:*** **8/22/19 7:00**

On Site, Southwest Corner of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	751	7	0 - 106 ppb	0.58 ppb	1,000 ppb
	CO	No	751	8	0 - 8 ppm	0.05 ppm	83 ppm
	H_2S	No	751	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	751	751	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	751	0	0 - 0 %	0 %	10%
	HCN	No	751	36	0 - 1.5 ppm	0.01 ppm	7.1 ppm

Personal Condition

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 1	PM-2.5	Moderate	590	590	4 - 229 µg/m³	15 ug/m3	See SOG #: T106

On Site, Northwest Corner of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	762	1	0 - 15 ppb	0.02 ppb	1,000 ppb
	CO	No	762	2	0 - 6 ppm	0.01 ppm	83 ppm
	H_2S	Yes	762	16	0 - 0.9 ppm	0.012 ppm	0.5 ppm
	O_2	No	762	762	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	762	0	0 - 0 %	0 %	10%
	HCN	No	762	246	0 - 5.3 ppm	0.33 ppm	7.1 ppm

Short Cut Road

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 2	PM-2.5	Good	743	651	0 - 36 µg/m³	4.8 ug/m3	See SOG #: T106

Able Contracting Workshop, Northeast of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	753	288	0 - 366 ppb	25.01 ppb	1,000 ppb
	CO	No	753	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	753	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	753	753	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	753	753	2 - 3 %	2.1 %	10%
	HCN	No	753	3	0 - 1.1 ppm	0 ppm	7.1 ppm

Grace Costal Church

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 3	PM-2.5	Good	744	744	4 - 14 µg/m³	6.3 ug/m3	See SOG #: T106

Former Concrete

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	759	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	759	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	759	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	759	759	20.5 - 20.9 %	20.7 %	<19.5 or >23%
	LEL	No	759	0	0 - 0 %	0 %	10%
	HCN	No	759	1	0 - 0.1 ppm	0 ppm	7.1 ppm

Sun City

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 1	PM-2.5	Good	742	261	0 - 66 ug/m3	9.9 ug/m3	See SOG #: T106

Brooks Mill Apartments

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 2	PM-2.5	Good	744	372	0 - 46 ug/m3	6.4 ug/m3	See SOG #: T106

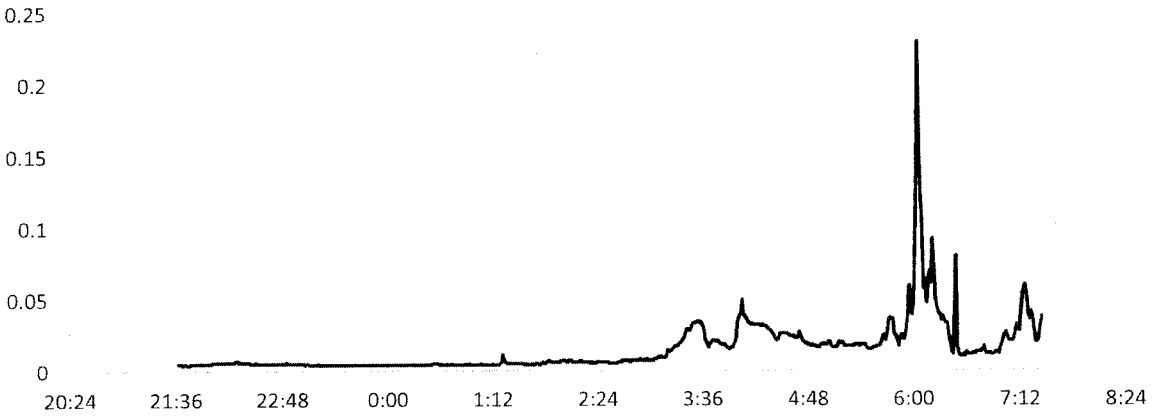
EPA Mobile Command Post

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 3	PM-2.5	Good	747	143	0 - 63 ug/m3	9.4 ug/m3	See SOG #: T106

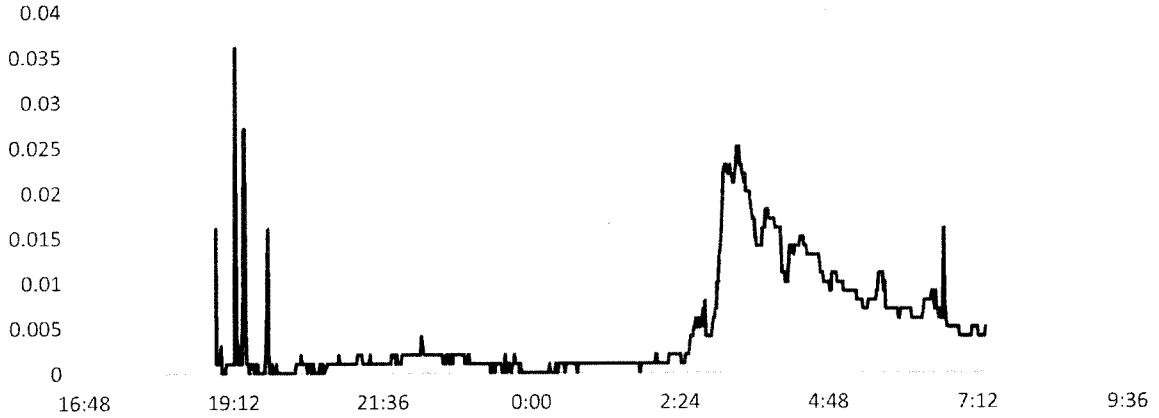
Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline Levels for Airborne Chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
HCN	Hydrogen Cyanide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

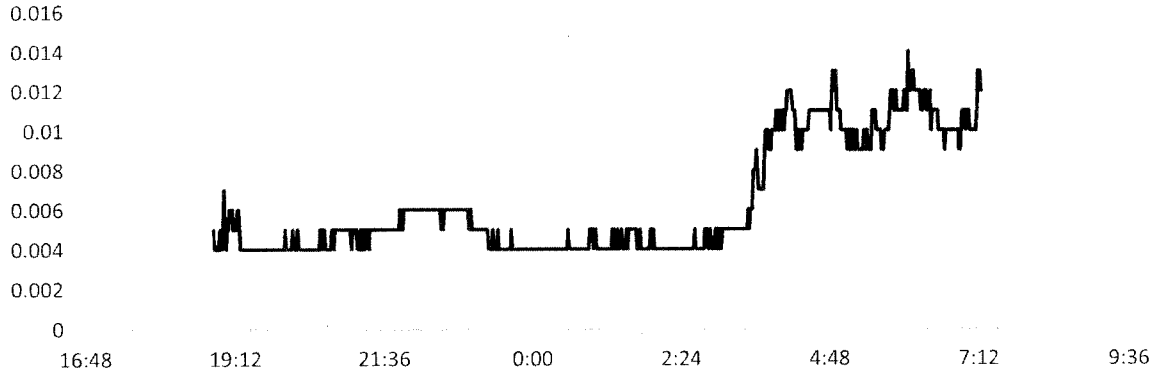
8/21/19 NIGHT Data for DustTrak 1 ($PM_{2.5}$) - Peacock Collision



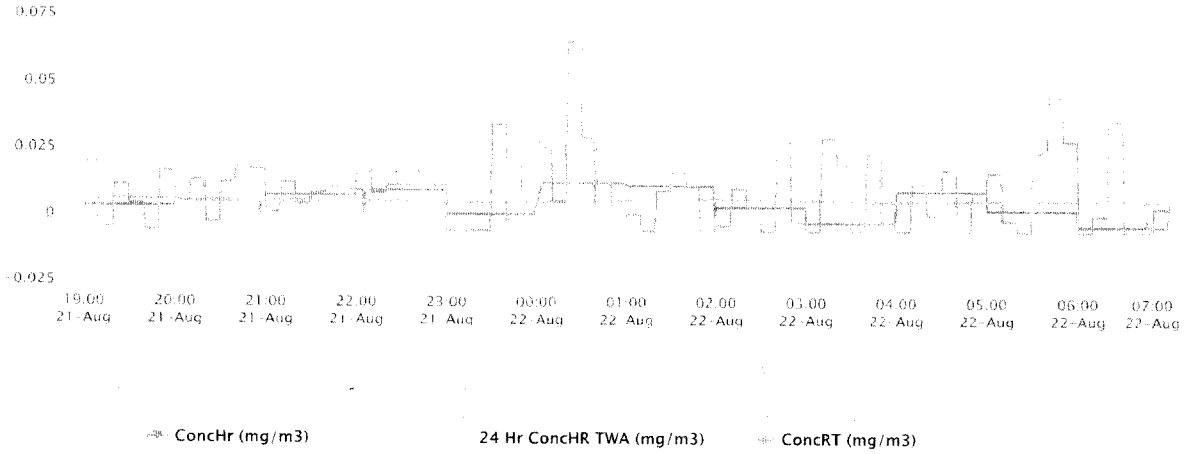
8/21/19 NIGHT Data for DustTrak 2 ($PM_{2.5}$) – Short Cut Road



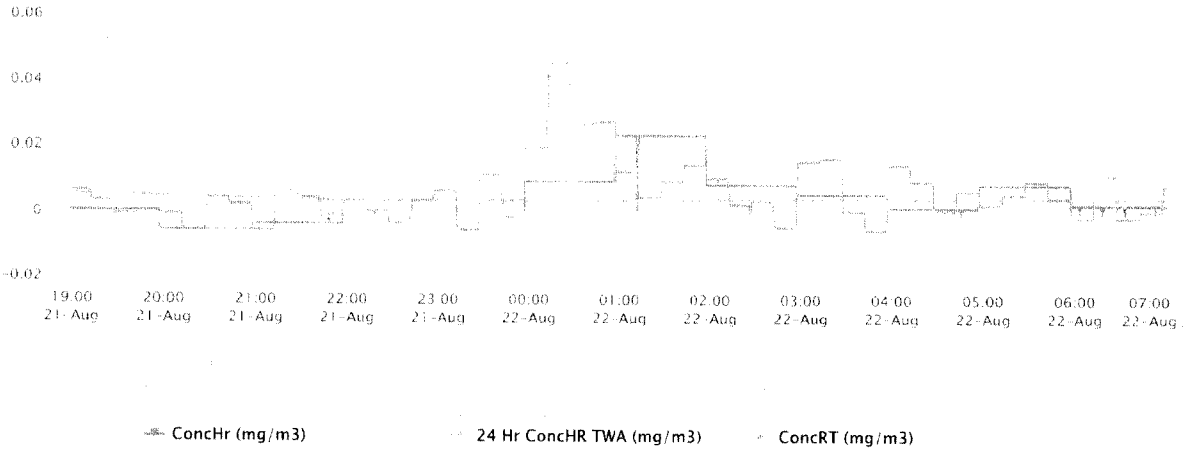
8/21/19 NIGHT Data for DustTrak 3 ($PM_{2.5}$) – Grace Costal Church



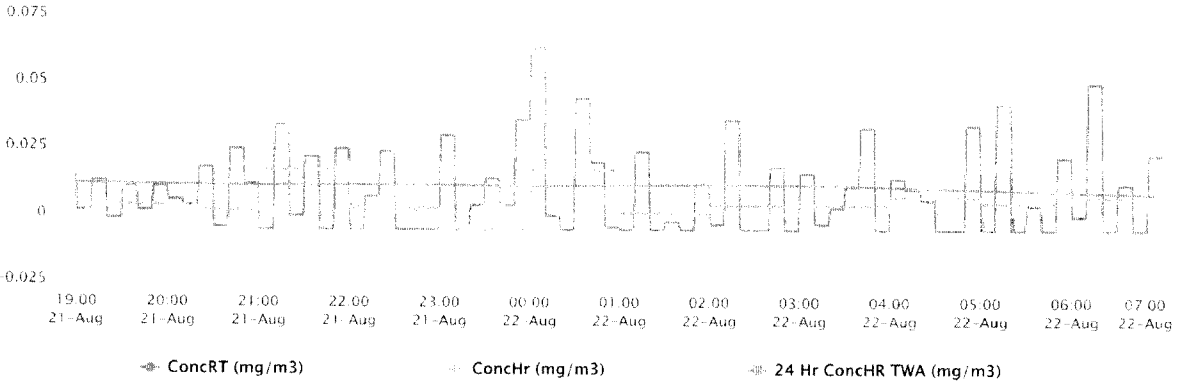
8/21/19 NIGHT Data for EBAM 1 (ConcRT) – Sun City



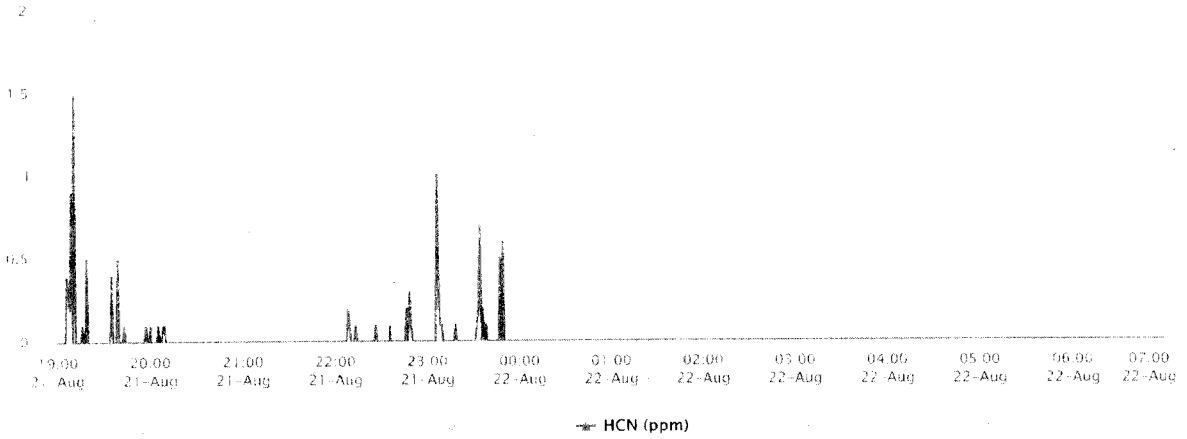
8/21/19 NIGHT Data for EBAM 2 (ConcRT) – Brooke Mill Apartments



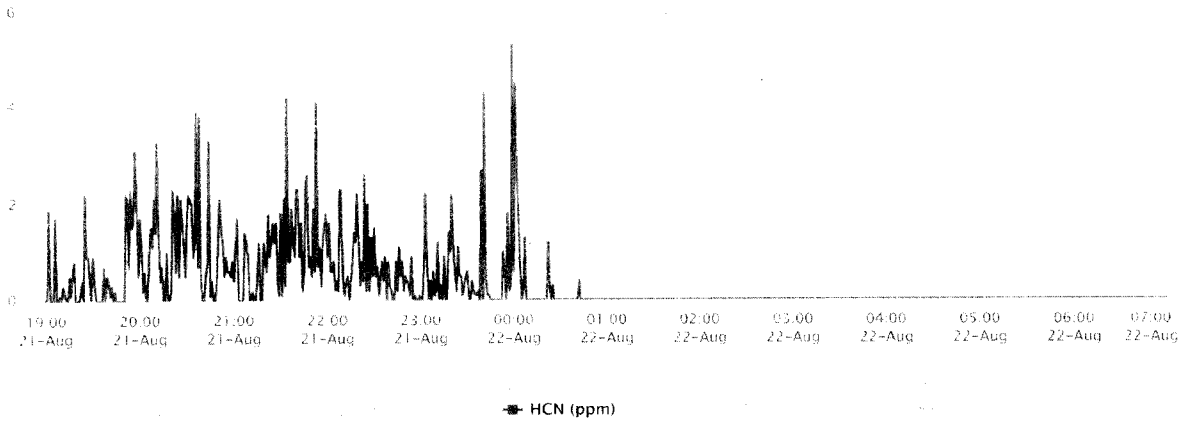
8/21/19 NIGHT Data for EBAM 3 (ConcRT) – EPA Mobile Command Post



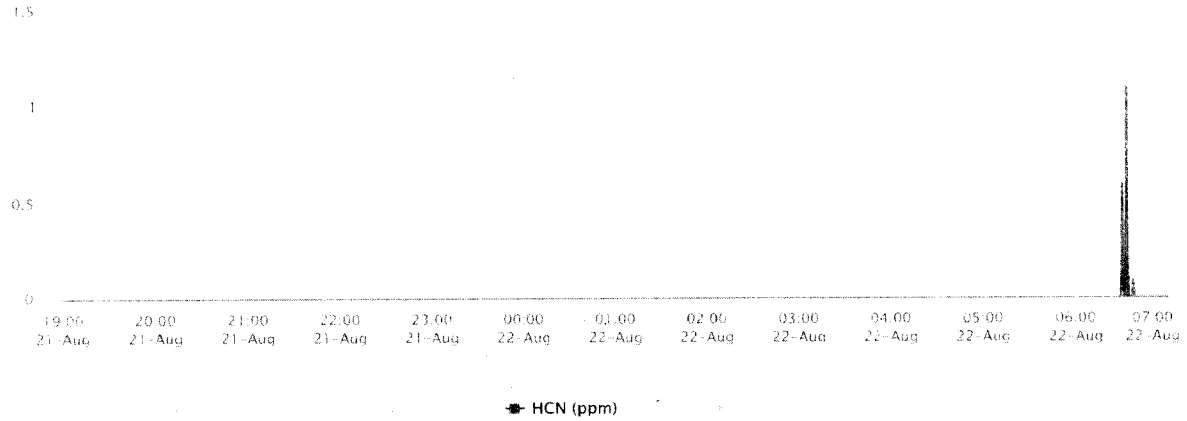
8/21/19 NIGHT Data for AREARAE PRO 1 (HCn) – Southwest of Pile



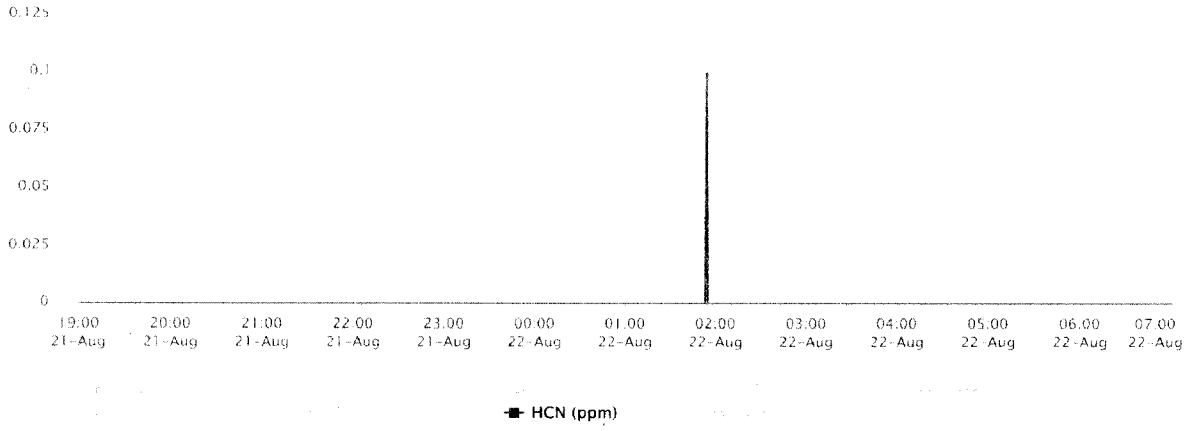
8/21/19 NIGHT Data for AREARAE PRO 2 (HCn) – Northwest of Pile



8/21/19 NIGHT Data for AREARAE PRO 3 (HCn) – Northeast of Pile



8/21/19 NIGHT Data for AREARAE PRO 4 (HCn) – Forrest Concrete



Threshold Values and Air Quality Index Categories for PM2.5

Level of Health Concern	Particulate Matter ≤2.5 microns measured in µg/m3		Interpretation
	1 hour average	24 hour average	
Good	0.0-40.0	0.0-12.0	Air quality is considered satisfactory, and air pollution poses little or no risk
Moderate	40.1-80.0	12.1-35.4	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
Unhealthy for Sensitive groups	80.1-175.0	35.5-55.4	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	175.1-300.0	55.5-150.4	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	300.1-500.0	150.5-250.4	Health warnings of emergency conditions. The entire population is more likely to be affected.
Hazardous	>500.0	>250.5	Health alert: everyone may experience more serious health effects

- Threshold values taken from original EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc for PM2.5 (24 hour) and Idaho Department of Environmental Quality AQI for PM2.5 (1 hour) taken from http://app.airsis.com/usfs/aqi.asp.
- Recommendations are from the EPA Air Now web site.
- People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
- Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air.

Armstrong, Kathy

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Wednesday, August 21, 2019 9:08 PM
To: Tanner, Terry
Cc: Huyser, Matthew; chris.jones@tetratech.com
Subject: Able Contracting Fire Data Summary Tables for 08/21/19 Day
Attachments: Able_Viper Summary Report_082119DAY.pdf

Terry,

Here are the updated data summary tables and associated charts for data collected from 0700 hrs through 1900 hrs on 08/21/19. This data summary does not have the DustTrak data for Peacock Collision. As Chris spoke to you earlier, we were unable to download the data because the DustTrak would not recognize the thumb drives when they were inserted into the USB port. We are currently working to resolve the issue and hope to be recording data soon.

Let me know if you need anything else.

Paul Prys | Senior Environmental Scientist/Project Manager
Direct: 678.775.3106 | Cell: 404.849.7136 | Fax: 678.775.3138
paul.prys@tetratech.com

Tetra Tech | Atlanta Office
1955 Evergreen Blvd. Bldg. 200, Ste. 300, Duluth, GA 30096 www.tetratech.com | NASDAQ:TTEK

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire Site**

From: **8/21/19 7:00** ***To:*** **8/21/19 19:00**

On Site, Southwest Corner of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	712	3	0 - 205 ppb	0.45 ppb	1,000 ppb
	CO	No	712	3	0 - 6 ppm	0.02 ppm	83 ppm
	H_2S	No	712	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	712	712	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	712	0	0 - 0 %	0 %	10%
	HCN	No	712	552	0 - 2.3 ppm	0.28 ppm	7.1 ppm

On Site, Northwest Corner of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	719	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	719	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	719	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	719	719	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	719	0	0 - 0 %	0 %	10%
	HCN	No	719	154	0 - 2 ppm	0.06 ppm	7.1 ppm

Short Cut Road

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 2	PM-2.5	Moderate	736	736	1 - 236 µg/m³	15.2 ug/m3	See SOG #: T106

Able Contracting Workshop, Northeast of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	Yes	716	56	0 - 1828 ppb	8.49 ppb	1,000 ppb
	CO	Yes	716	21	0 - 197 ppm	0.96 ppm	83 ppm
	H_2S	Yes	716	11	0 - 3.3 ppm	0.016 ppm	0.5 ppm
	O_2	No	716	716	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	716	537	0 - 3 %	1.6 %	10%
	HCN	Yes	716	134	0 - 13.2 ppm	0.09 ppm	7.1 ppm

Grace Coastal Church

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 3	PM-2.5	Good	740	740	4 - 40 µg/m³	9.2 ug/m3	See SOG #: T106

Forrest Concrete

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	711	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	711	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	711	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	711	711	20.5 - 21.3 %	20.9 %	<19.5 or >23%
	LEL	No	711	0	0 - 0 %	0 %	10%
	HCN	No	711	409	0 - 1.2 ppm	0.32 ppm	7.1 ppm

Sun City

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 1	PM-2.5	Good	748	250	0 - 93 ug/m3	10.6 ug/m3	See SOG #: T106

Brooke Mill Apartments

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 2	PM-2.5	Good	697	111	0 - 41 ug/m3	6.1 ug/m3	See SOG #: T106

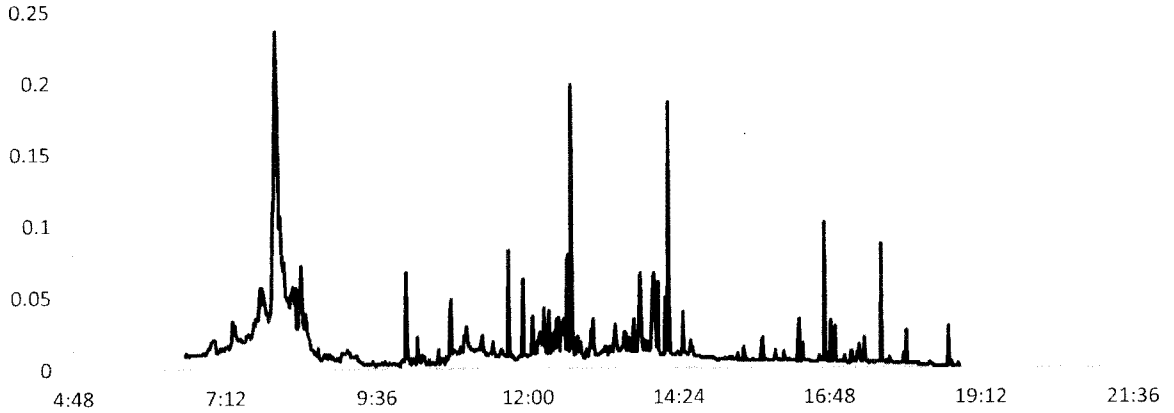
EPA Mobile Command Post

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 3	PM-2.5	Good	730	209	0 - 96 ug/m3	11.5 ug/m3	See SOG #: T106

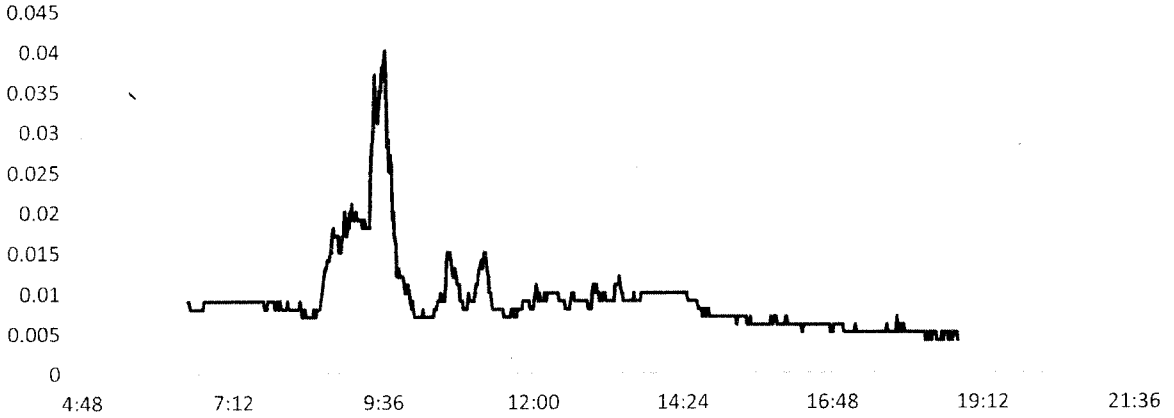
Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline Levels for Airborne Chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
HCN	Hydrogen Cyanide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

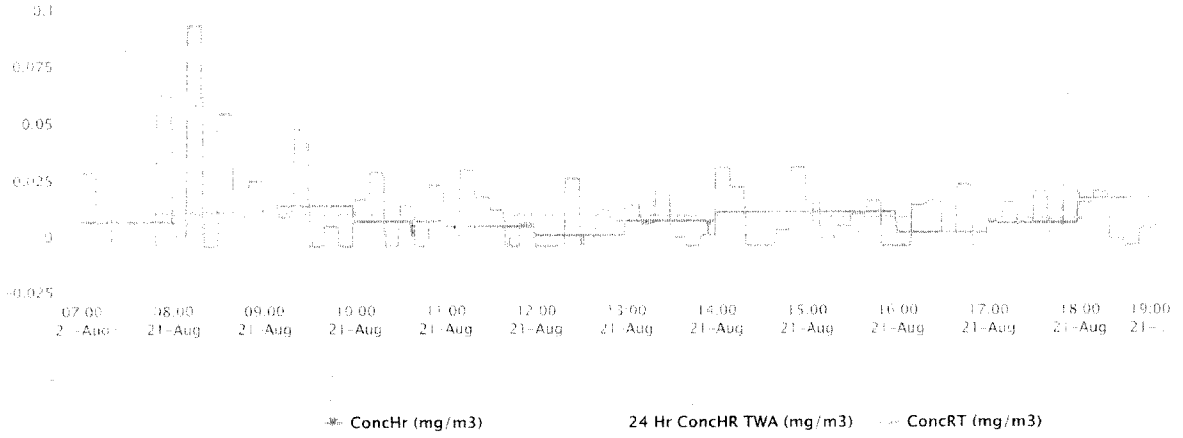
8/21/19 DAY Data for DustTrak 2 ($PM_{2.5}$) – Short Cut Road



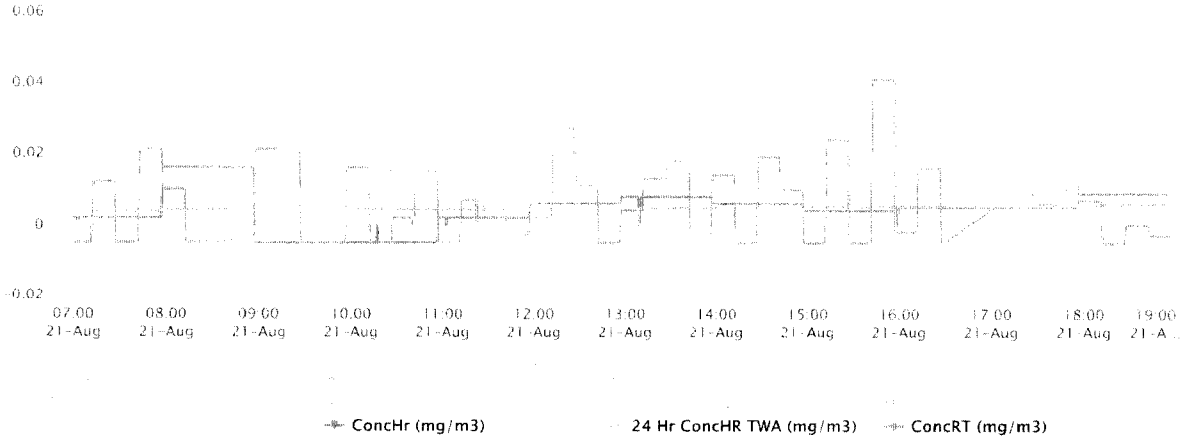
8/21/19 DAY Data for DustTrak 3 ($PM_{2.5}$) – Grace Costal Church



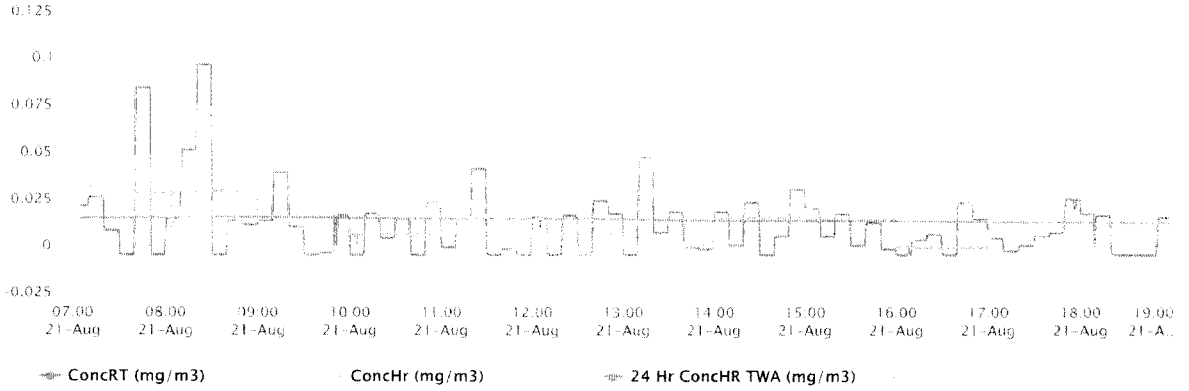
8/21/19 DAY Data for EBAM 1 (ConcRT) – Sun City



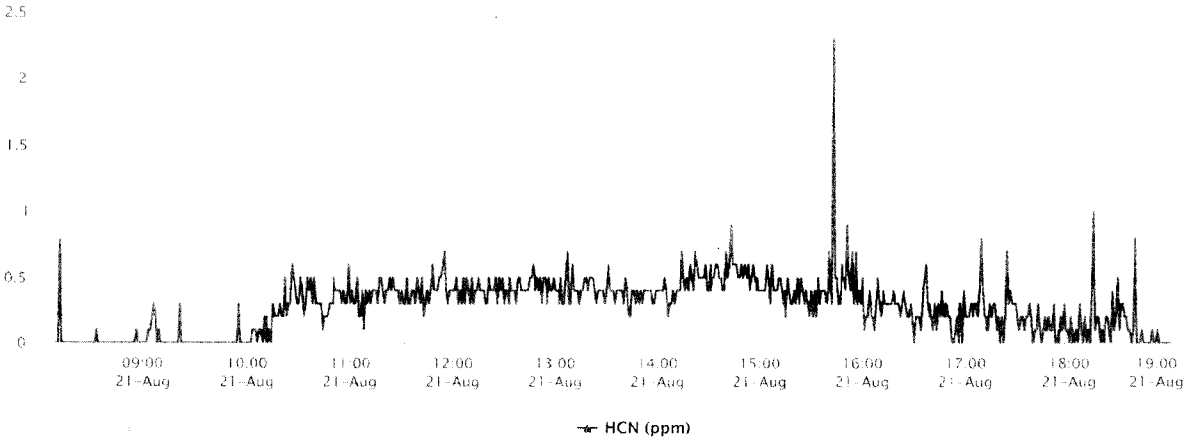
8/21/19 DAY Data for EBAM 2 (ConcRT) – Brooke Mill Apartments



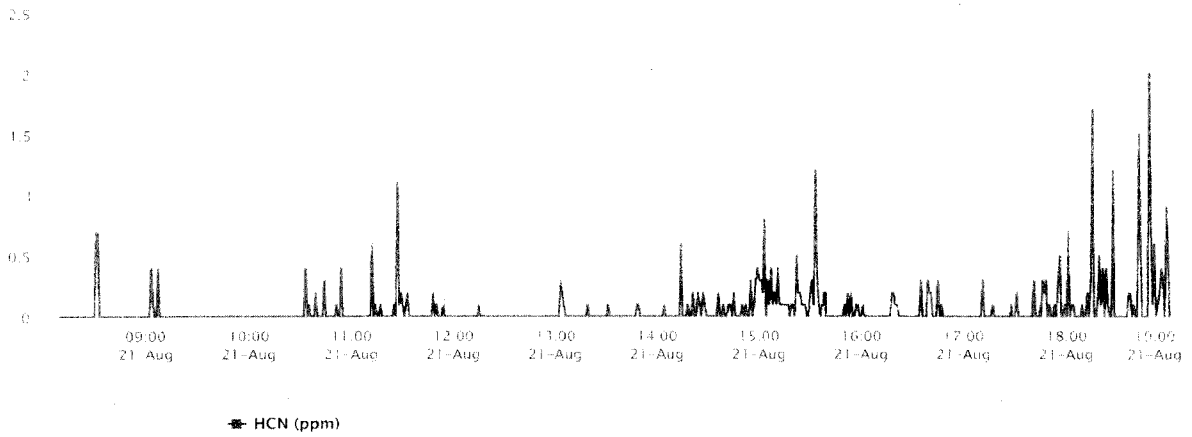
8/21/19 DAY Data for EBAM 3 (ConcRT) – EPA Mobile Command Post



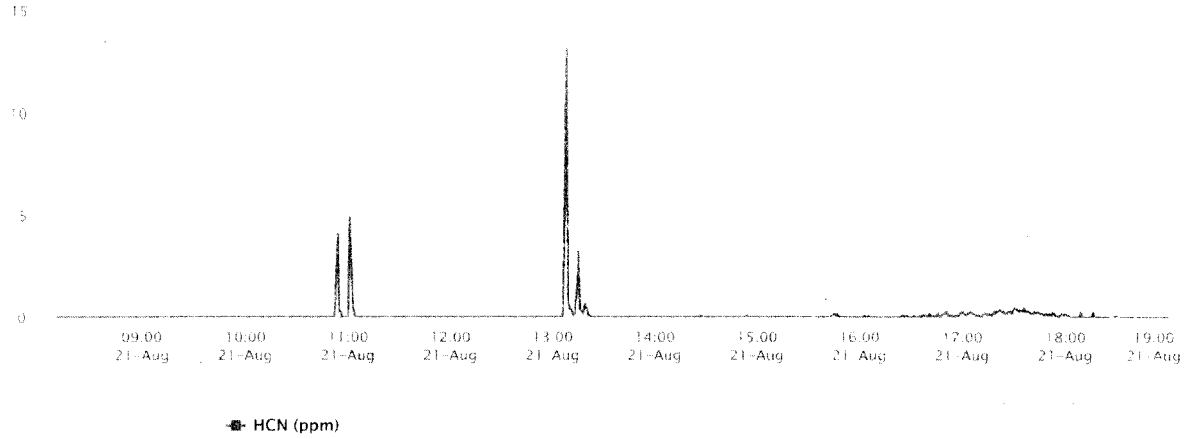
8/21/19 DAY Data for AREARAE PRO 1 (HCn) – Southwest of Pile



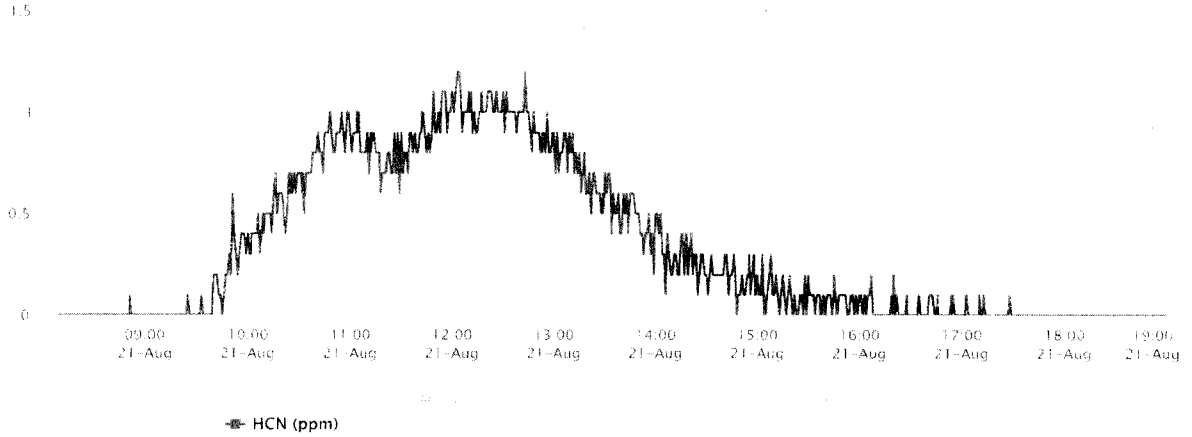
8/21/19 DAY Data for AREARAE PRO 2 (HCn) – Northwest of Pile



8/21/19 DAY Data for AREARAE PRO 3 (HCn) – Northeast of Pile



8/21/19 DAY Data for AREARAE PRO 4 (HCn) – Forrest Concrete



Threshold Values and Air Quality Index Categories for PM2.5

Level of Health Concern	Particulate Matter ≤2.5 microns measured in µg/m3		Interpretation
	1 hour average	24 hour average	
Good	0.0-40.0	0.0-12.0	Air quality is considered satisfactory, and air pollution poses little or no risk
Moderate	**40.1-80.0**	**12.1-35.4**	**Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.**
Unhealthy for Sensitive groups	**80.1-175.0**	**35.5-55.4**	**Members of sensitive groups may experience health effects. The general public is not likely to be affected.**
Unhealthy	175.1-300.0	55.5-150.4	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	300.1-500.0	150.5-250.4	Health warnings of emergency conditions. The entire population is more likely to be affected.
Hazardous	>500.0	>250.5	Health alert: everyone may experience more serious health effects

- Threshold values taken from original EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc for PM2.5 (24 hour) and Idaho Department of Environmental Quality AQI for PM2.5 (1 hour) taken from http://app.airsis.com/usfs/aqi.asp.
- Recommendations are from the EPA Air Now web site.
- People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
- Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air.

Armstrong, Kathy

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Wednesday, August 21, 2019 5:06 PM
To: Tanner, Terry
Cc: Huyser, Matthew; chris.jones@tetratech.com
Subject: Able Contracting Fire Data Summary Tables for 08/20/19 Day
Attachments: Able_Viper Summary Report_082019DAY.pdf

Terry,

Here are the updated data summary tables and associated charts for data collected from 0700 hrs through 1900 hrs on 08/20/19.

Let me know if you need anything else.

Paul Prys | Senior Environmental Scientist/Project Manager
Direct: 678.775.3106 | Cell: 404.849.7136 | Fax: 678.775.3138
paul.prys@tetratech.com

Tetra Tech | Atlanta Office
1955 Evergreen Blvd. Bldg. 200, Ste. 300, Duluth, GA 30096 www.tetratech.com | NASDAQ:TTEK

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire Site**

From: **8/20/19 7:00** ***To:*** **8/20/19 19:00**

On Site, Southwest Corner of Site

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	Yes	6,752	235	0 - 47274 ppb	49.75 ppb	1,000 ppb
	CO	No	6,752	196	0 - 14 ppm	0.13 ppm	83 ppm
	H_2S	No	6,752	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,752	6,752	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	6,752	111	0 - 2 %	0 %	10%
	HCN	No	6,752	6,751	0 - 2.4 ppm	0.66 ppm	7.1 ppm

Note: High analyte concentrations were the result of AreaRAE unit calibration.

Peacock Collection

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 1	PM-2.5	Good	745	745	5 - 74 ug/m^3	10.5 ug/m^3	See SOG #: T106

On Site, Southeast Corner of Site

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	Yes	6,461	20	0 - 3068 ppb	2.36 ppb	1,000 ppb
	CO	No	6,461	18	0 - 7 ppm	0.01 ppm	83 ppm
	H_2S	Yes	6,461	3	0 - 0.6 ppm	0 ppm	0.5 ppm
	O_2	No	6,461	6,461	20.9 - 21.3 %	21.1 %	<19.5 or >23%
	LEL	No	6,461	0	0 - 0 %	0 %	10%
	HCN	No	6,461	6,378	0 - 2.1 ppm	0.64 ppm	7.1 ppm

Short Cut Road

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 2	PM-2.5	Moderate	733	733	4 - 129 ug/m^3	12.7 ug/m^3	See SOG #: T106

Able Contracting Workshop, Northeast of Site

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	6,642	6	0 - 161 ppb	0.07 ppb	1,000 ppb
	CO	No	6,642	29	0 - 12 ppm	0.02 ppm	83 ppm
	H_2S	No	6,642	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,642	6,642	20.9 - 21.3 %	21.1 %	<19.5 or >23%
	LEL	No	6,642	0	0 - 0 %	0 %	10%
	HCN	No	6,642	5,922	0 - 1 ppm	0.2 ppm	7.1 ppm

Grace Christ Church

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 3	PM-2.5	Moderate	742	742	9 - 118 ug/m^3	18.1 ug/m^3	See SOG #: T106

Fenton Commons

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	6,519	2	0 - 28 ppb	0.01 ppb	1,000 ppb
	CO	No	6,519	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	6,519	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,519	6,519	20 - 21.5 %	20.8 %	<19.5 or >23%
	LEL	No	6,519	0	0 - 0 %	0 %	10%
	HCN	No	6,519	1,258	0 - 0.8 ppm	0.03 ppm	7.1 ppm

Sun City

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 1	PM-2.5	Moderate	692	519	0 - 84 ug/m3	15 ug/m3	See SOG #: T106

Brooke Hill Apartments

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 2	PM-2.5	Good	558	316	0 - 38 ug/m3	9.5 ug/m3	See SOG #: T106

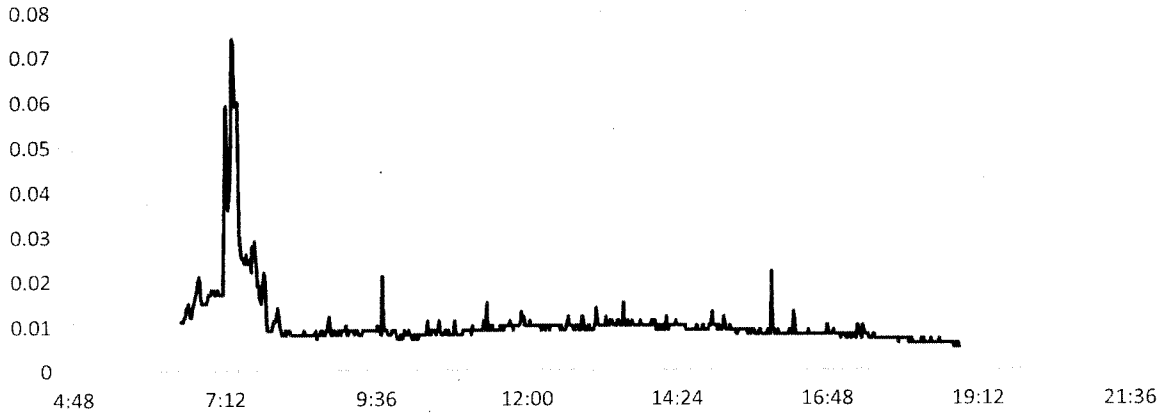
EPA Mobile Command Post

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 3	PM-2.5	Moderate	574	439	0 - 72 ug/m3	16.4 ug/m3	See SOG #: T106

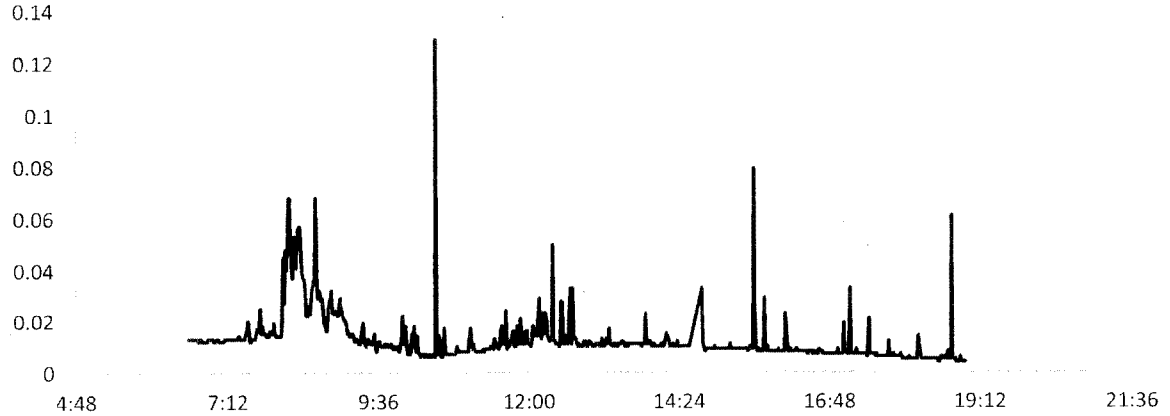
Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline Levels for Airborne Chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
HCN	Hydrogen Cyanide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m^3	Micrograms per cubic meter
VOC	Volatile organic compoud

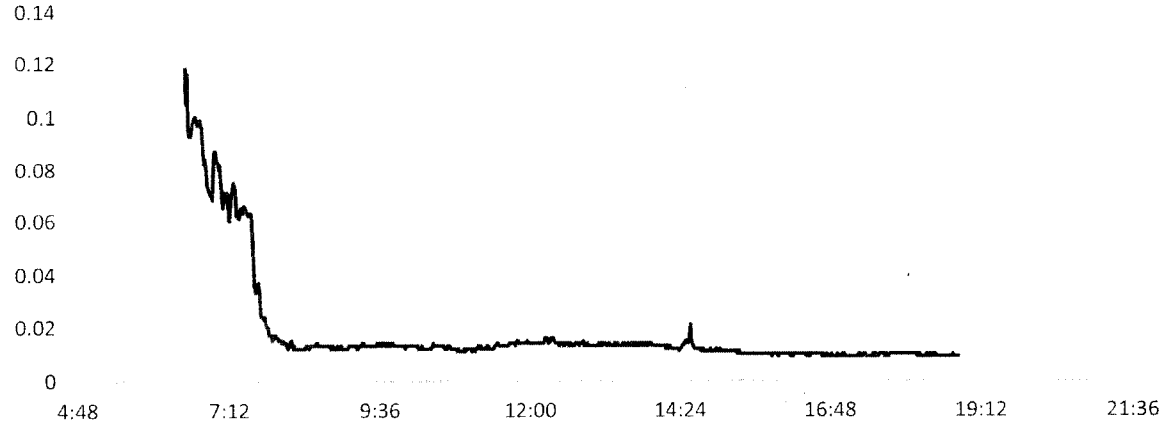
8/20/19 Day Data for DustTrak 1 ($PM_{2.5}$) - Peacock Collision



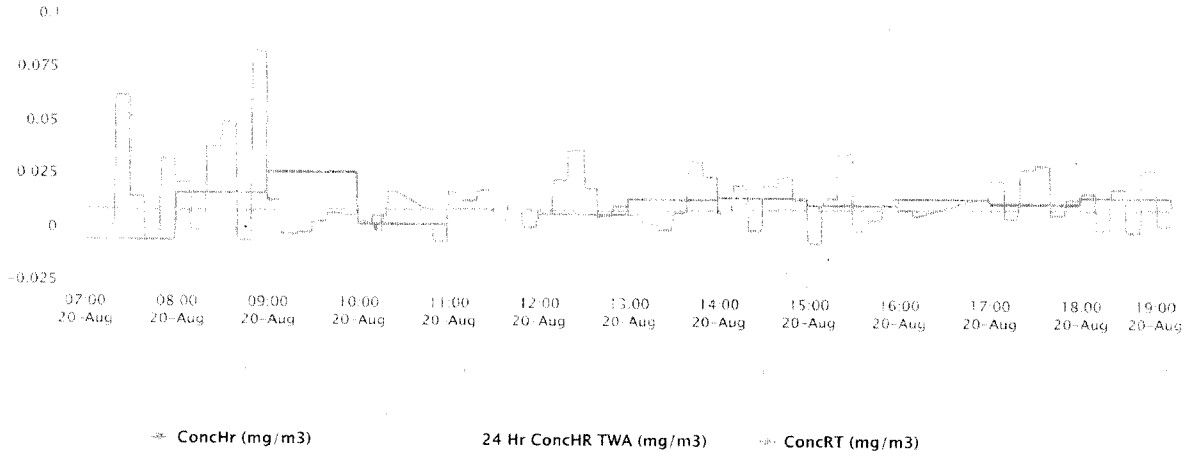
8/20/19 DAY Data for DustTrak 2 ($PM_{2.5}$) – Short Cut Road



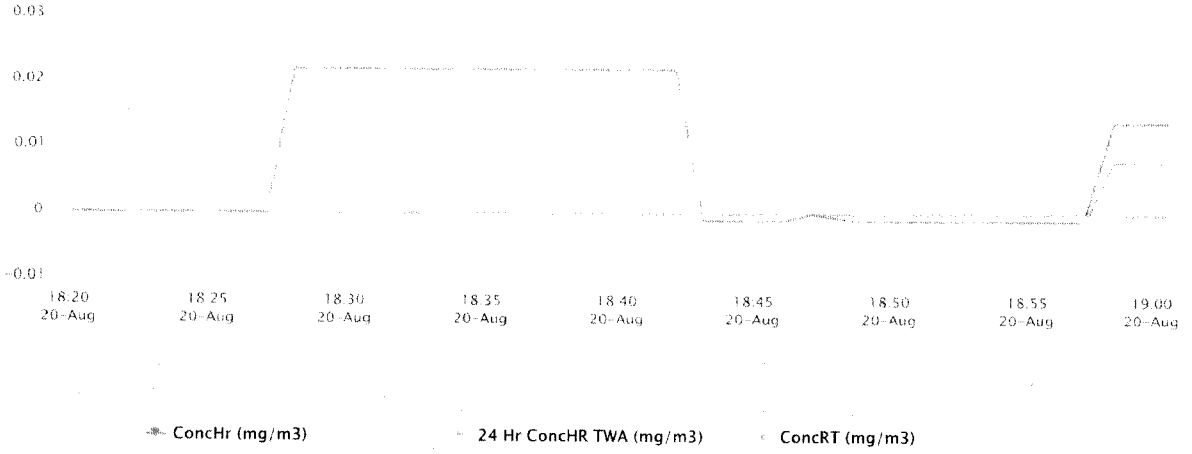
8/20/19 DAY Data for DustTrak 3 ($PM_{2.5}$) - Grace Coastal Church



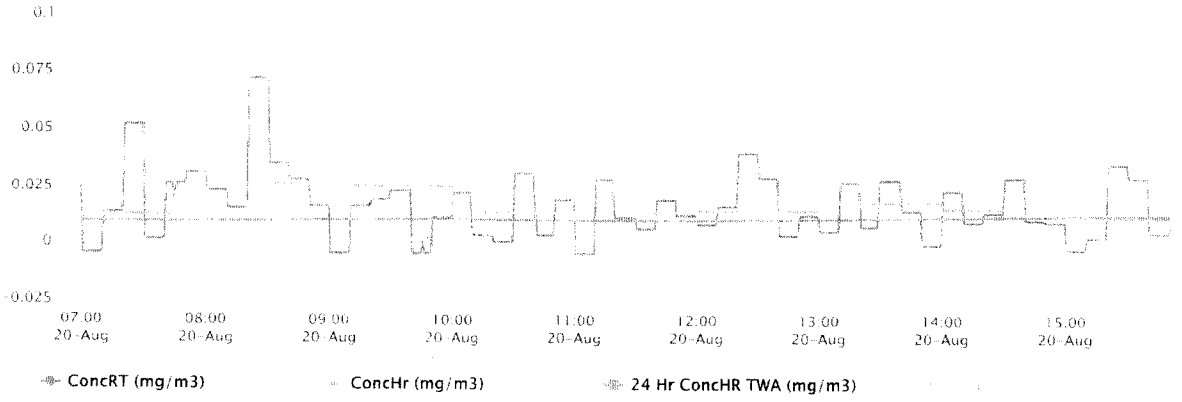
8/20/19 DAY Data for EBAM 1 (ConcRT) – Sun City



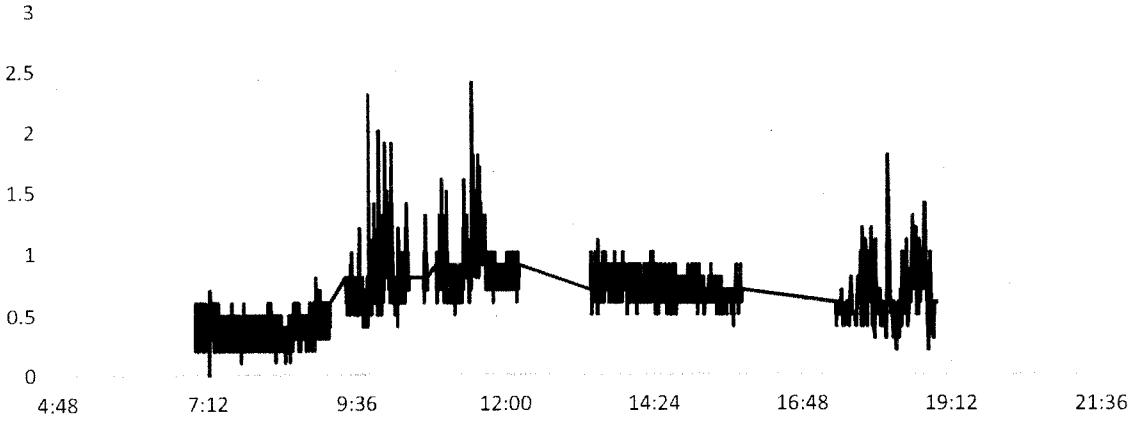
8/20/19 DAY Data for EBAM 2 (ConcRT) – Brooke Mill Apartments



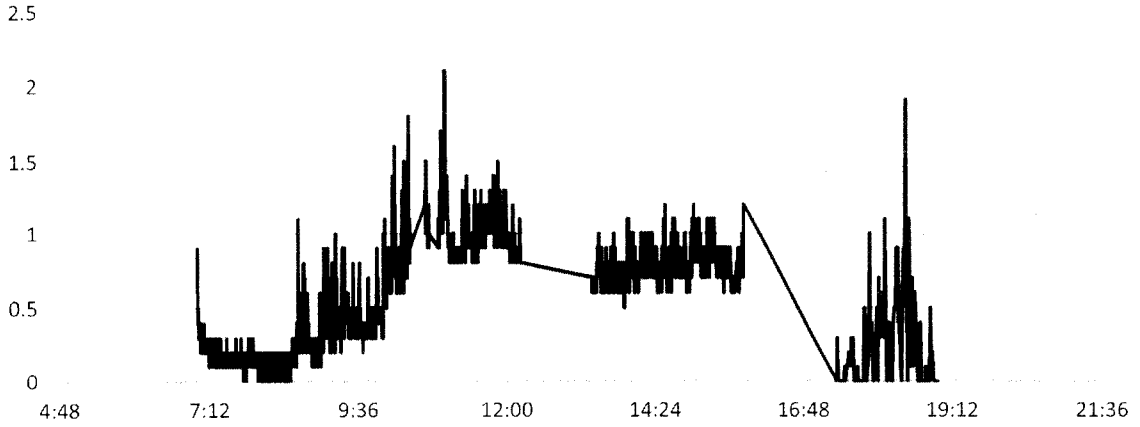
8/20/19 DAY Data for EBAM 3 (ConcRT) – EPA Mobile Command Post



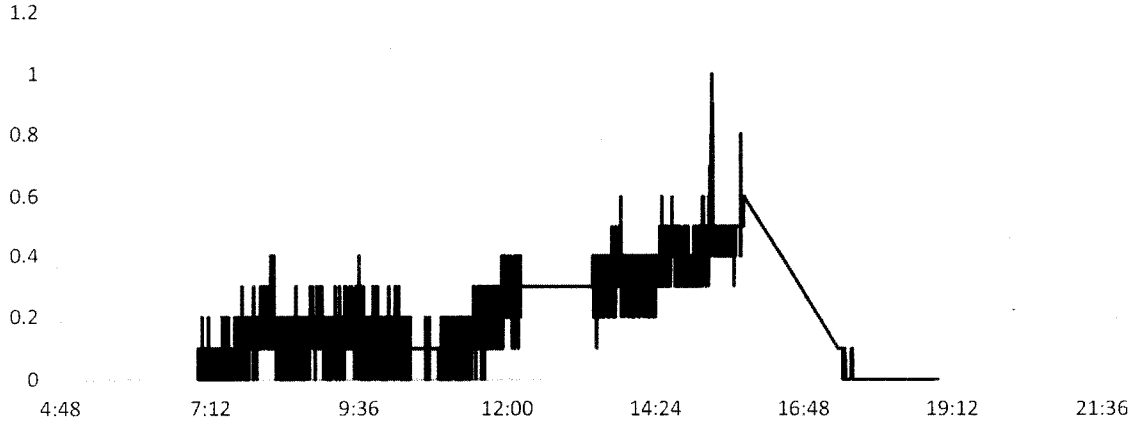
8/20/19 DAY Data for AREARAE PRO 1 (HCn) – Southwest of Pile



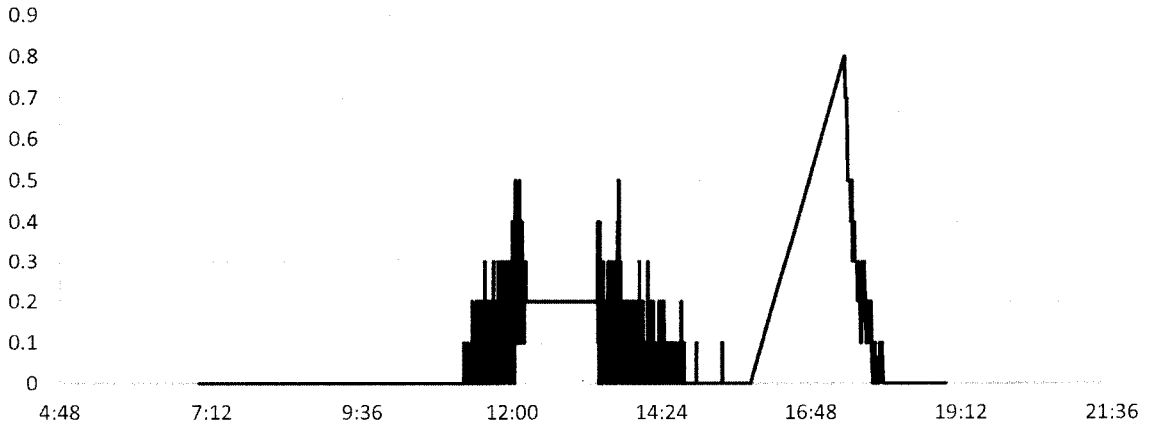
8/20/19 DAY Data for AREARAE PRO 2 (HCn) – Northwest of Pile



8/20/19 DAY Data for AREARAE PRO 3 (HCn) – Northeast of Pile



8/20/19 DAY Data for AREARAE PRO 4 (HCn) – Forrest Concrete



Threshold Values and Air Quality Index Categories for PM2.5

Level of Health Concern	Particulate Matter ≤2.5 microns measured in µg/m3		Interpretation
	1 hour average	24 hour average	
Good	0.0-40.0	0.0-12.0	Air quality is considered satisfactory, and air pollution poses little or no risk
Moderate	40.1-80.0	12.1-35.4	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
Unhealthy for Sensitive groups	80.1-175.0	35.5-55.4	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	175.1-300.0	55.5-150.4	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	300.1-500.0	150.5-250.4	Health warnings of emergency conditions. The entire population is more likely to be affected.
Hazardous	>500.0	>250.5	Health alert: everyone may experience more serious health effects

- Threshold values taken from original EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc for PM2.5 (24 hour) and Idaho Department of Environmental Quality AQI for PM2.5 (1 hour) taken from http://app.airsis.com/usfs/aqi.asp.
- Recommendations are from the EPA Air Now web site.
- People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
- Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air.

Armstrong, Kathy

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Wednesday, August 21, 2019 4:04 PM
To: Tanner, Terry
Cc: Huyser, Matthew; chris.jones@tetratech.com
Subject: Able Contracting Fire Data Summary Tables for 08/20/19 Night
Attachments: Able_Viper Summary Report_082019NIGHT.pdf

Terry,

Here are the data summary tables and associated charts for data collected from 1900 hrs on 08/20/19 through 0700 hrs on 08/21/19.

Let me know if you need anything else.

Paul Prys | Senior Environmental Scientist/Project Manager
Direct: 678.775.3106 | Cell: 404.849.7136 | Fax: 678.775.3138
paul.prys@tetratech.com

Tetra Tech | Atlanta Office
1955 Evergreen Blvd. Bldg. 200, Ste. 300, Duluth, GA 30096 www.tetratech.com | NASDAQ:TTEK

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire Site**

From: **8/20/19 19:00** ***To:*** **8/21/19 7:00**

On Site, Southwest Corner of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	385	2	0 - 312 ppb	1.06 ppb	1,000 ppb
	CO	No	385	2	0 - 7 ppm	0.03 ppm	83 ppm
	H_2S	No	385	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	385	385	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	385	110	0 - 2 %	0.6 %	10%
	HCN	No	385	332	0 - 1.8 ppm	0.55 ppm	7.1 ppm

Peacock Collision

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 1	PM-2.5	Moderate	741	741	2 - 117 $\mu g/m^3$	12.2 ug/m3	See SOG #: T106

On Site, Northwest Corner of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	381	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	381	60	0 - 12 ppm	0.71 ppm	83 ppm
	H_2S	Yes	381	8	0 - 0.6 ppm	0.01 ppm	0.5 ppm
	O_2	No	381	381	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	381	0	0 - 0 %	0 %	10%
	HCN	No	381	289	0 - 3.7 ppm	0.81 ppm	7.1 ppm

Short Cut Road

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 2	PM-2.5	Good	480	287	0 - 25 $\mu g/m^3$	3.2 ug/m3	See SOG #: T106

Able Contracting Workshop, Northeast of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	387	7	0 - 172 ppb	0.73 ppb	1,000 ppb
	CO	No	387	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	387	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	387	387	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	387	0	0 - 0 %	0 %	10%
	HCN	No	387	0	0 - 0 ppm	0 ppm	7.1 ppm

Grace Costal Church

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 3	PM-2.5	Good	692	692	3 - 63 $\mu g/m^3$	7.5 ug/m3	See SOG #: T106

Forrest Concrete

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	387	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	387	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	387	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	387	387	20.5 - 20.9 %	20.7 %	<19.5 or >23%
	LEL	No	387	0	0 - 0 %	0 %	10%
	HCN	No	387	0	0 - 0 ppm	0 ppm	7.1 ppm

Sun City

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 1	PM-2.5	Good	736	229	0 - 53 ug/m3	9.4 ug/m3	See SOG #: T106

Apple Mill Apartments

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 2	PM-2.5	Good	740	456	0 - 34 ug/m3	7.9 ug/m3	See SOG #: T106

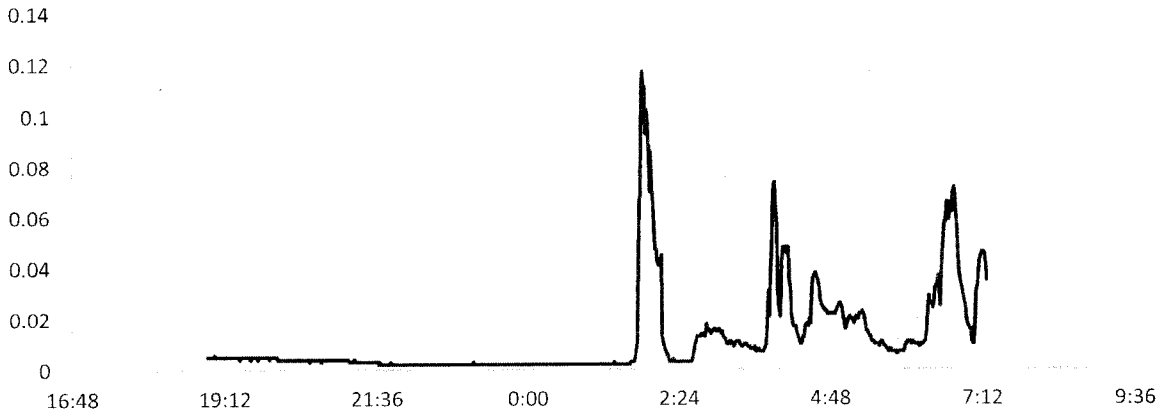
EPA Mobile Command Post

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 3	PM-2.5	Good	468	135	0 - 61 ug/m3	9 ug/m3	See SOG #: T106

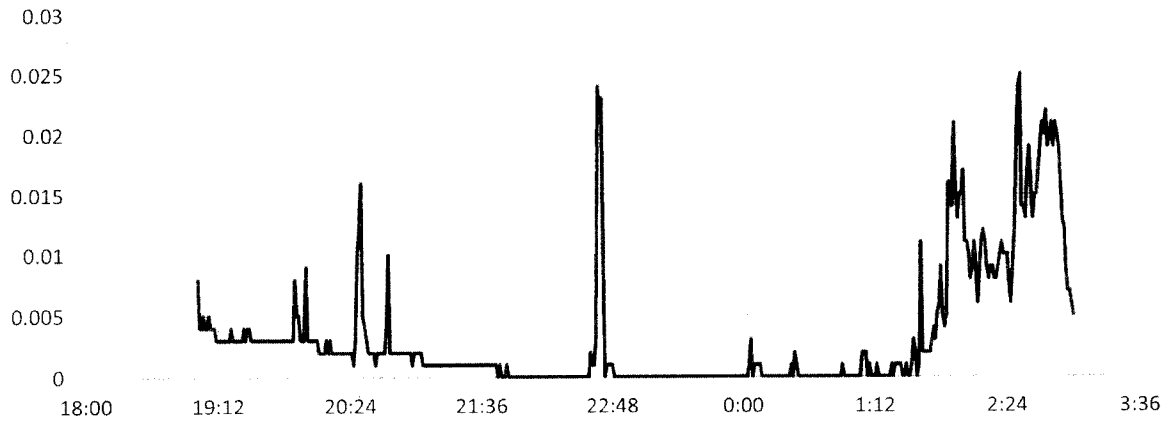
Notes:

%	Percent	O_2	Oxygen
<	Less than	PEL	Permissible exposure limit
>	Greater than	ppb	Parts per billion
AEGL	Acute Exposure Guideline Levels for Airborne Chemicals	ppm	Parts per million
CO	Carbon monoxide	PM	Particulate matter
H_2S	Hydrogen Sulfide	SOG	Standard Operating Guidelines
HCN	Hydrogen Cyanide	TLV	Threshold limit value
LEL	Lower Explosive Level	$\mu g/m^3$	Micrograms per cubic meter
min	Minute	VOC	Volatile organic compoud

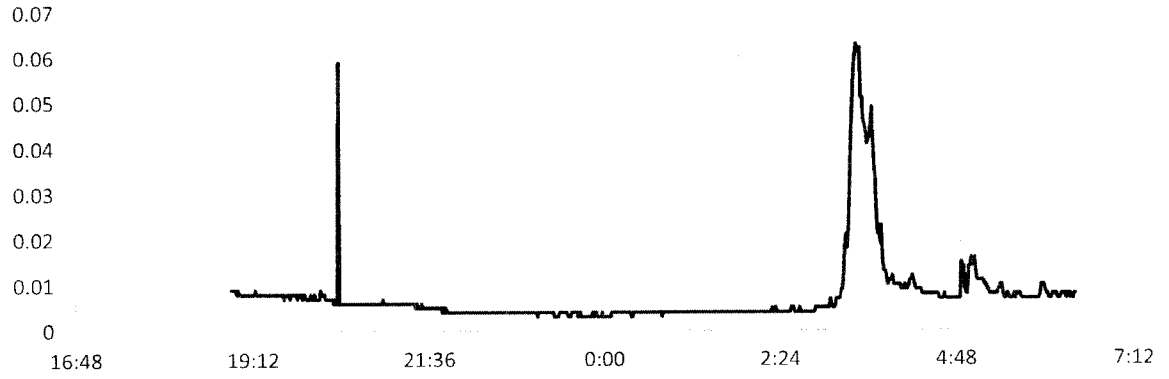
8/20/19 NIGHT Data for DustTrak 1 ($PM_{2.5}$) - Peacock Collision



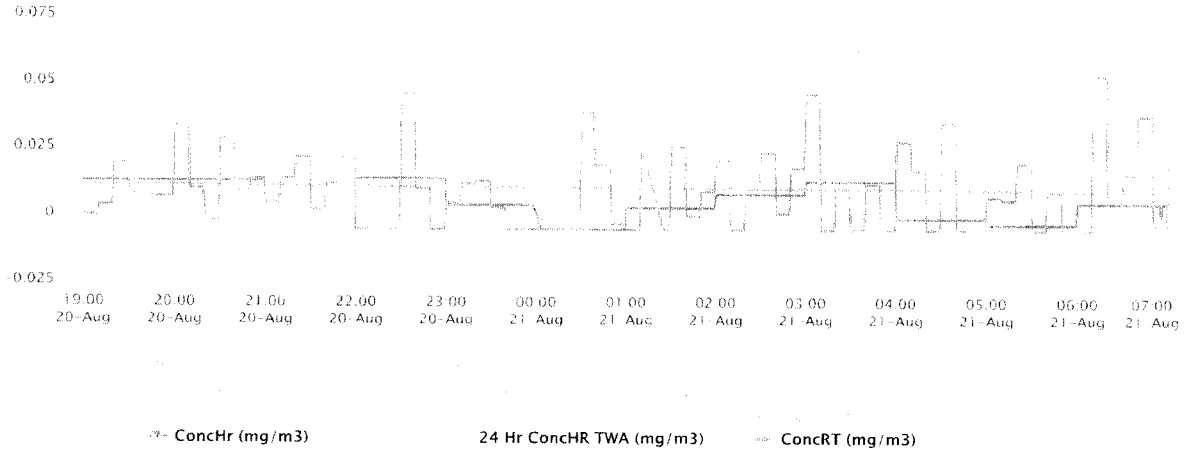
8/20/19 NIGHT Data for DustTrak 2 ($PM_{2.5}$) – Short Cut Road



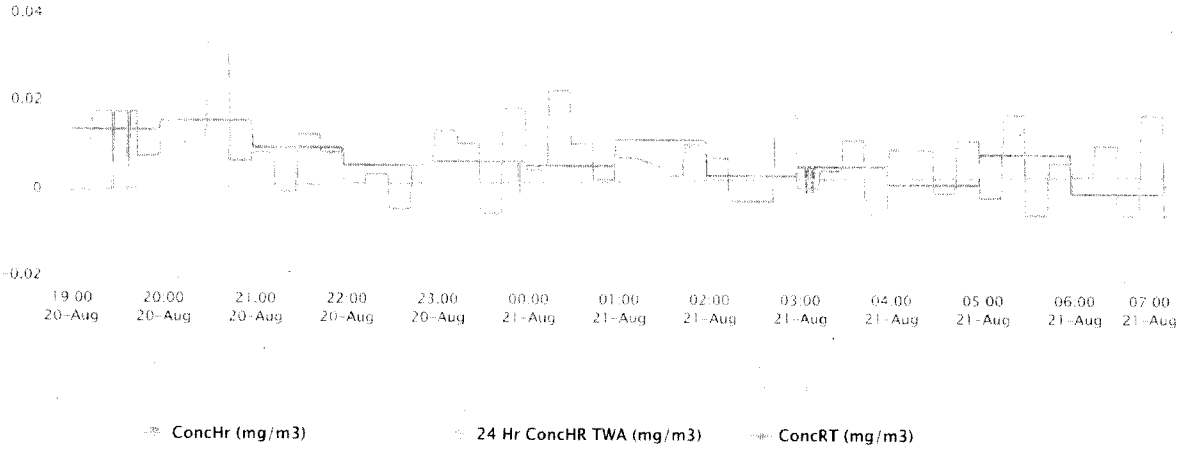
8/20/19 NIGHT Data for DustTrak 3 ($PM_{2.5}$) – Grace Costal Church



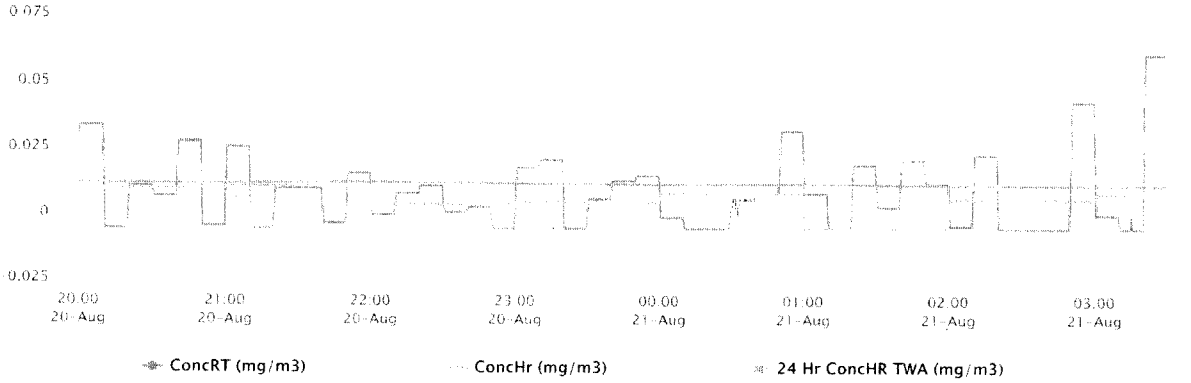
8/20/19 NIGHT Data for EBAM 1 (ConcRT) – Sun City



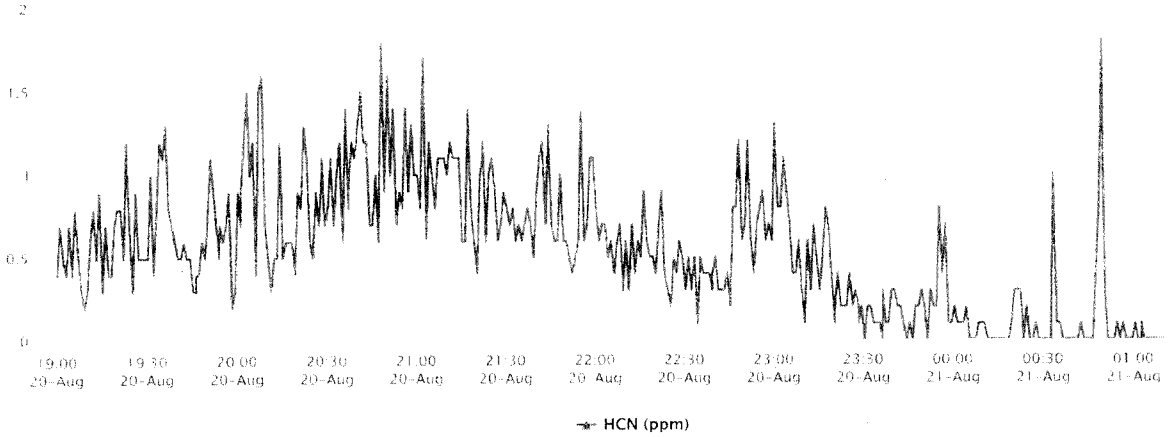
8/20/19 NIGHT Data for EBAM 2 (ConcRT) – Brooke Mill Apartments



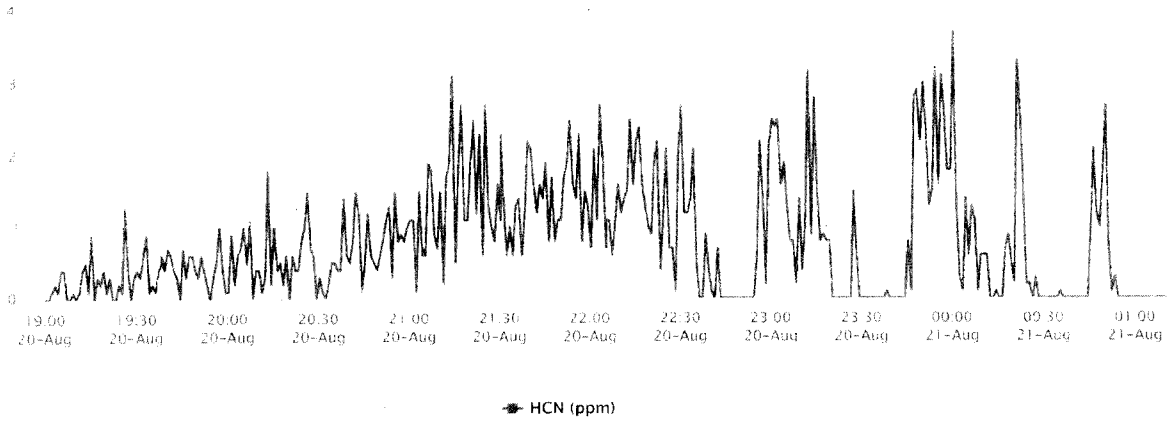
8/20/19 NIGHT Data for EBAM 3 (ConcRT) – EPA Mobile Command Post



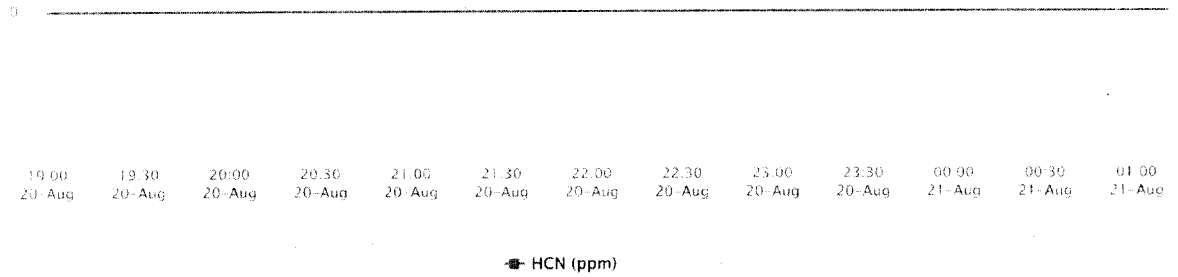
8/20/19 NIGHT Data for AREARAE PRO 1 (HCn) – Southwest of Pile



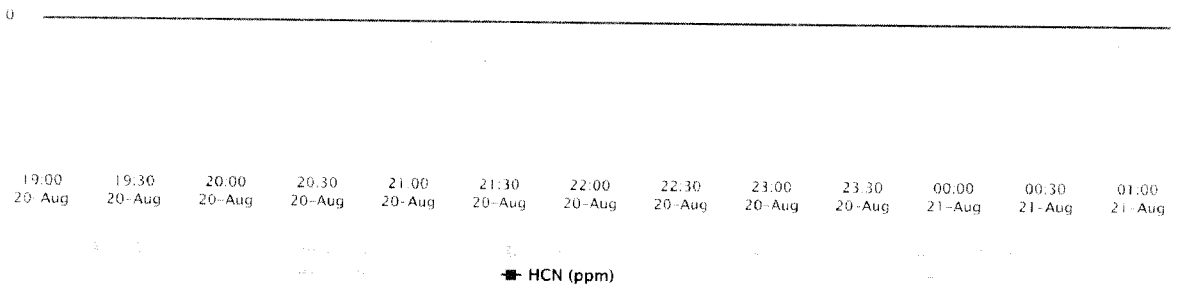
8/20/19 NIGHT Data for AREARAE PRO 2 (HCn) – Northwest of Pile



8/20/19 NIGHT Data for AREARAE PRO 3 (HCn) – Northeast of Pile



8/20/19 NIGHT Data for AREARAE PRO 4 (HCn) – Forrest Concrete



Threshold Values and Air Quality Index Categories for PM2.5

Level of Health Concern	Particulate Matter ≤2.5 microns measured in µg/m3		Interpretation
	1 hour average	24 hour average	
Good	0.0-40.0	0.0-12.0	Air quality is considered satisfactory, and air pollution poses little or no risk
Moderate	**40.1-80.0**	**12.1-35.4**	**Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.**
Unhealthy for Sensitive groups	80.1-175.0	35.5-55.4	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	175.1-300.0	55.5-150.4	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	300.1-500.0	150.5-250.4	Health warnings of emergency conditions. The entire population is more likely to be affected.
Hazardous	>500.0	>250.5	Health alert: everyone may experience more serious health effects

- Threshold values taken from original EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc for PM2.5 (24 hour) and Idaho Department of Environmental Quality AQI for PM2.5 (1 hour) taken from http://app.airsis.com/usfs/aqi.asp.
- Recommendations are from the EPA Air Now web site.
- People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
- Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air.

Armstrong, Kathy

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Tuesday, August 20, 2019 10:35 PM
To: Huyser, Matthew
Cc: Tanner, Terry
Subject: Able Contracting Fire Data Summary Tables for 08/20/19 Day
Attachments: Able_Viper Summary Report_082019.pdf

Matt,

Here are the data summary tables and associated charts for data collected from 0700 hrs through 1900 hrs on 08/20/19.

Let me know if you need anything else.

Paul Prys | Senior Environmental Scientist/Project Manager
Direct: 678.775.3106 | Cell: 404.849.7136 | Fax: 678.775.3138
paul.prys@tetratech.com

Tetra Tech | Atlanta Office
1955 Evergreen Blvd. Bldg. 200, Ste. 300, Duluth, GA 30096 www.tetratech.com | NASDAQ:TTEK

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire Site**

From: **8/20/19 7:00** ***To:*** **8/20/19 19:00**

On Site, Southwest Corner of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	Yes	7,091	253	0 - 47274 ppb	48.31 ppb	1,000 ppb
	CO	No	7,091	196	0 - 14 ppm	0.12 ppm	83 ppm
	H_2S	Yes	7,091	23	0 - 5.1 ppm	0.006 ppm	0.5 ppm
	O_2	No	7,091	7,091	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	7,091	131	0 - 2 %	0 %	10%
	HCN	Yes	7,091	7,090	0 - 20 ppm	0.7 ppm	7.1 ppm

Note: High analyte concentrations were the result of AreaRAE unit calibration.

Pumpkin Collection

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 1	PM-2.5	Good	745	745	5 - 74 µg/m³	10.5 ug/m3	See SOG #: T106

On Site, Northwest Corner of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	Yes	6,612	22	0 - 100063 ppb	17.47 ppb	1,000 ppb
	CO	No	6,612	18	0 - 7 ppm	0.01 ppm	83 ppm
	H_2S	Yes	6,612	4	0 - 0.7 ppm	0 ppm	0.5 ppm
	O_2	No	6,612	6,612	20.4 - 21.3 %	21.1 %	<19.5 or >23%
	LEL	No	6,612	0	0 - 0 %	0 %	10%
	HCN	Yes	6,612	6,521	0 - 7.6 ppm	0.65 ppm	7.1 ppm

Note: High analyte concentrations were the result of AreaRAE unit calibration.

Short Cut Road

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 2	PM-2.5	Moderate	733	733	4 - 129 µg/m³	12.7 ug/m3	See SOG #: T106

Able Contracting Workshop, Northeast of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	Yes	6,761	58	0 - 95153 ppb	24.99 ppb	1,000 ppb
	CO	No	6,761	39	0 - 50 ppm	0.06 ppm	83 ppm
	H_2S	Yes	6,761	15	0 - 10.5 ppm	0.008 ppm	0.5 ppm
	O_2	Yes	6,761	6,761	2.2 - 21.3 %	21 %	<19.5 or >23%
	LEL	Yes	6,761	11	0 - 50 %	0 %	10%
	HCN	Yes	6,761	6,035	0 - 36.6 ppm	0.26 ppm	7.1 ppm

Note: High analyte concentrations were the result of AreaRAE unit calibration.

Grace Costal Church

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 3	PM-2.5	Moderate	742	742	9 - 118 µg/m³	18.1 ug/m3	See SOG #: T106

Bennett Concrete

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	Yes	6,661	14	0 - 104151 ppb	16.43 ppb	1,000 ppb
	CO	No	6,661	2	0 - 51 ppm	0.01 ppm	83 ppm
	H_2S	Yes	6,661	3	0 - 10.7 ppm	0.002 ppm	0.5 ppm
	O_2	Yes	6,661	6,661	2 - 21.5 %	20.8 %	<19.5 or >23%
	LEL	Yes	6,661	2	0 - 48 %	0 %	10%
	HCN	Yes	6,661	1,274	0 - 37.9 ppm	0.05 ppm	7.1 ppm

Note: High analyte concentrations were the result of AreaRAE unit calibration.

Sun City

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 1	PM-2.5	Moderate	705	527	0 - 84 ug/m3	14.9 ug/m3	See SOG #: T106

Brooke Hill Apartments

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 2	PM-2.5	Good	568	322	0 - 38 ug/m3	9.5 ug/m3	See SOG #: T106

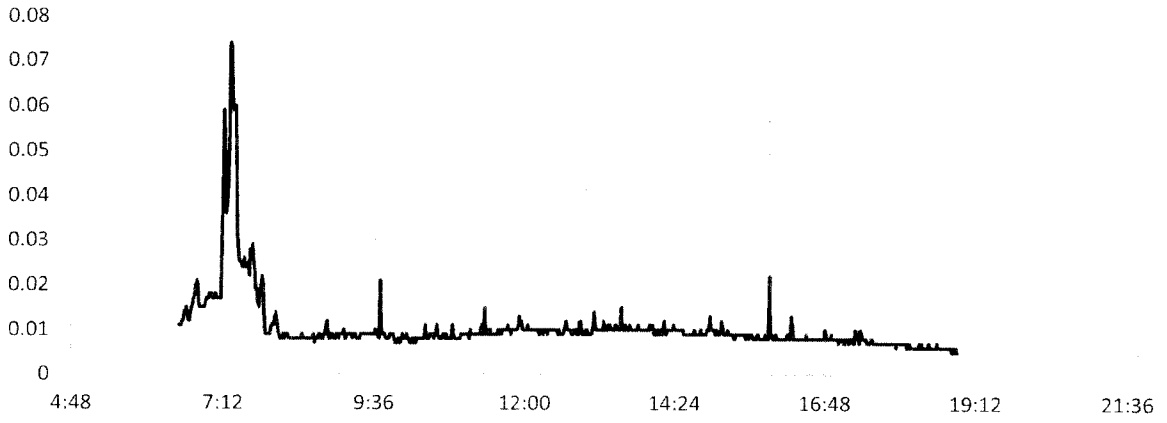
EPA Mobile Command Post

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 3	PM-2.5	Moderate	583	446	0 - 72 ug/m3	16.4 ug/m3	See SOG #: T106

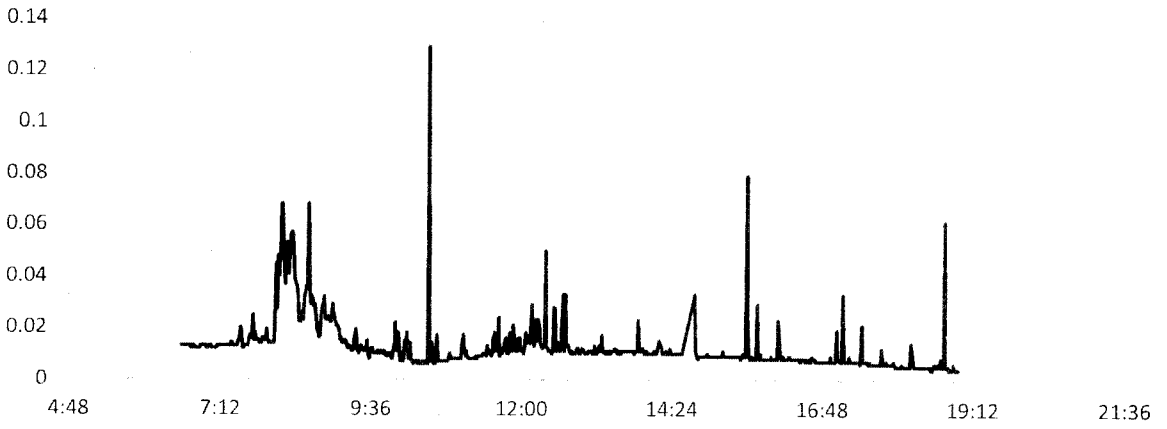
Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline Levels for Airborne Chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
HCN	Hydrogen Cyanide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

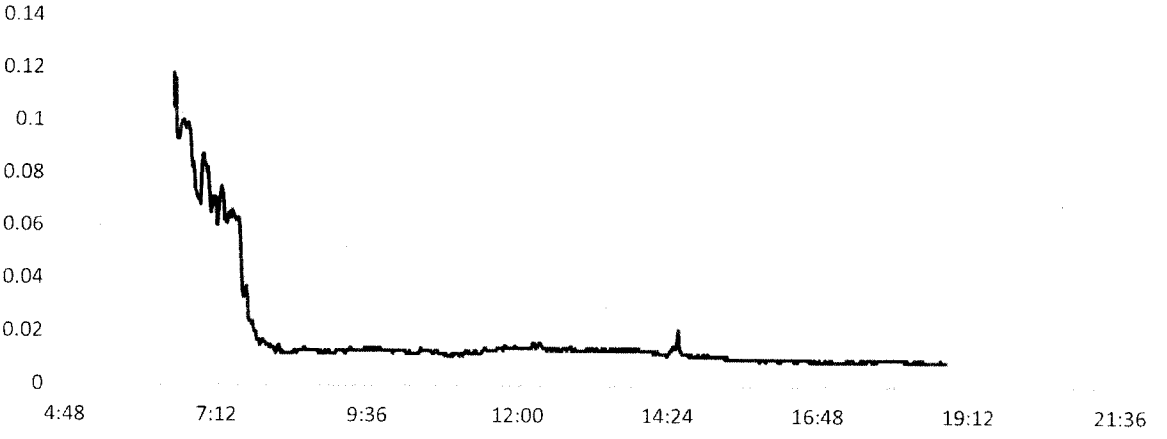
8/20/19 Day Data for DustTrak 1 ($PM_{2.5}$) - Peacock Collision



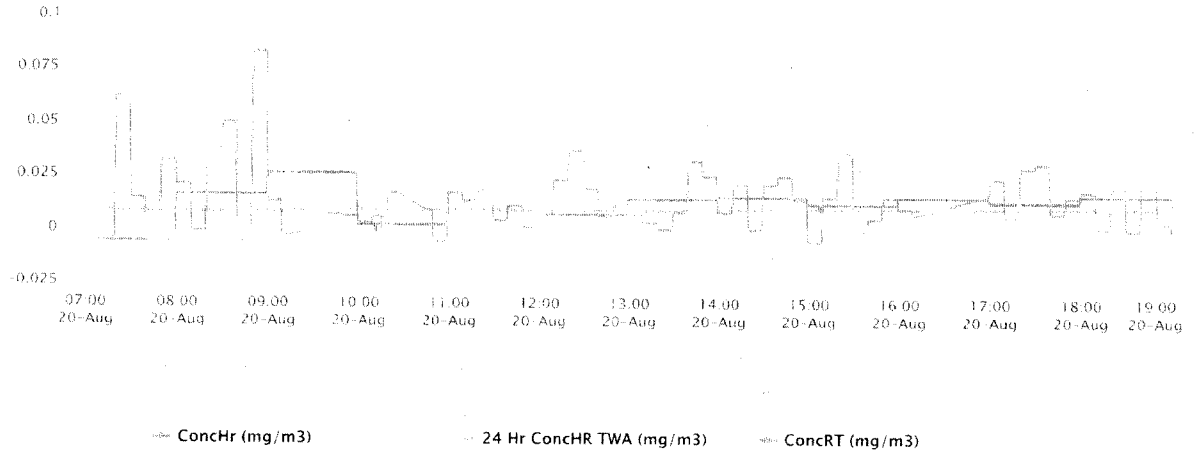
8/20/19 DAY Data for DustTrak 2 ($PM_{2.5}$) – Short Cut Road



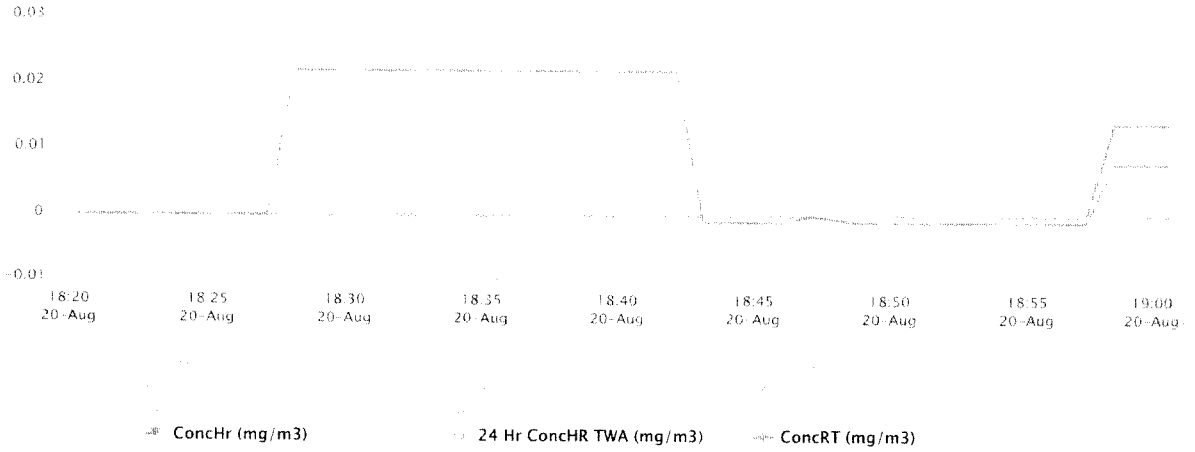
8/20/19 DAY Data for DustTrak 3 ($PM_{2.5}$) - Grace Coastal Church



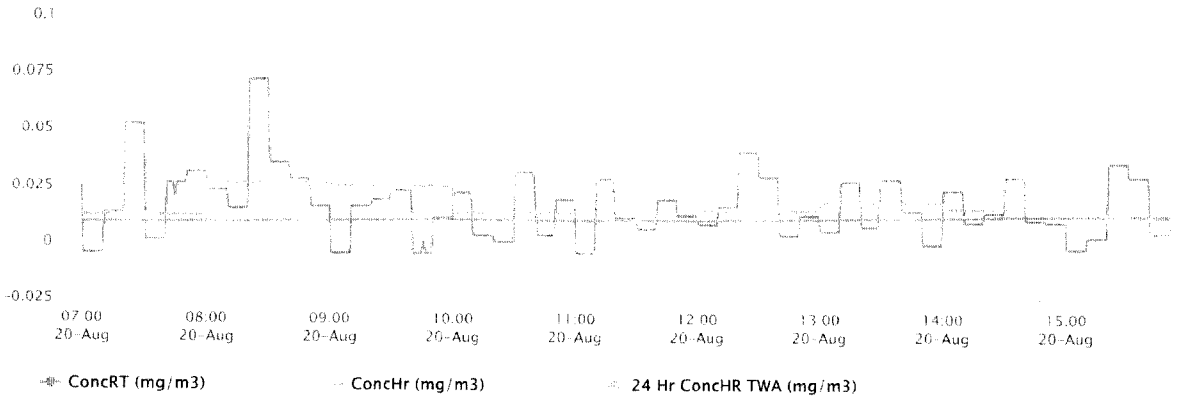
8/20/19 DAY Data for EBAM 1 (ConcRT) – Sun City



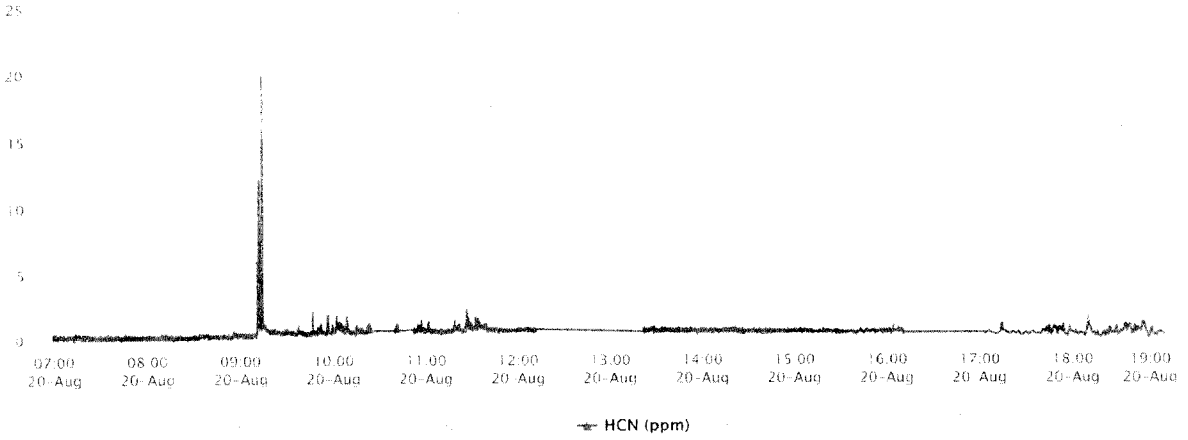
8/20/19 DAY Data for EBAM 2 (ConcRT) – Brooke Mill Apartments



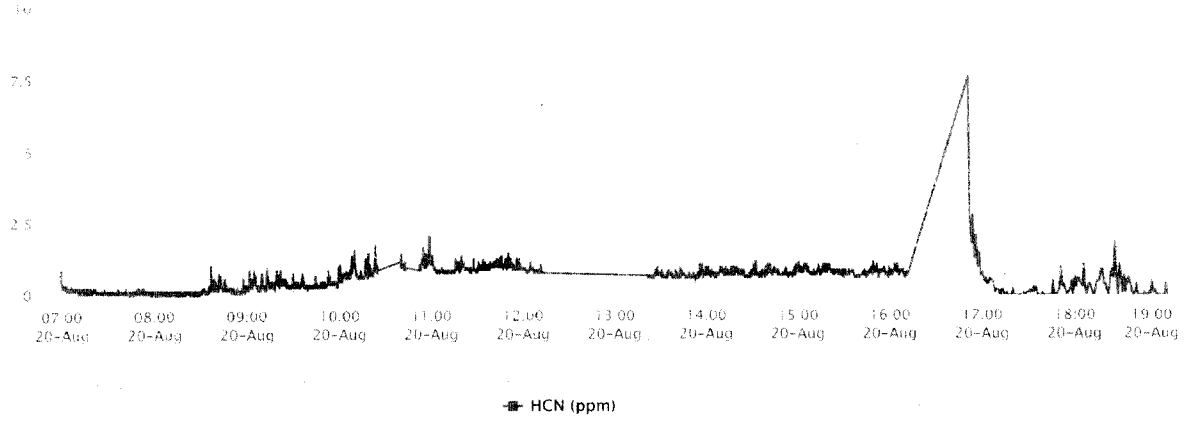
8/20/19 DAY Data for EBAM 3 (ConcRT) – EPA Mobile Command Post



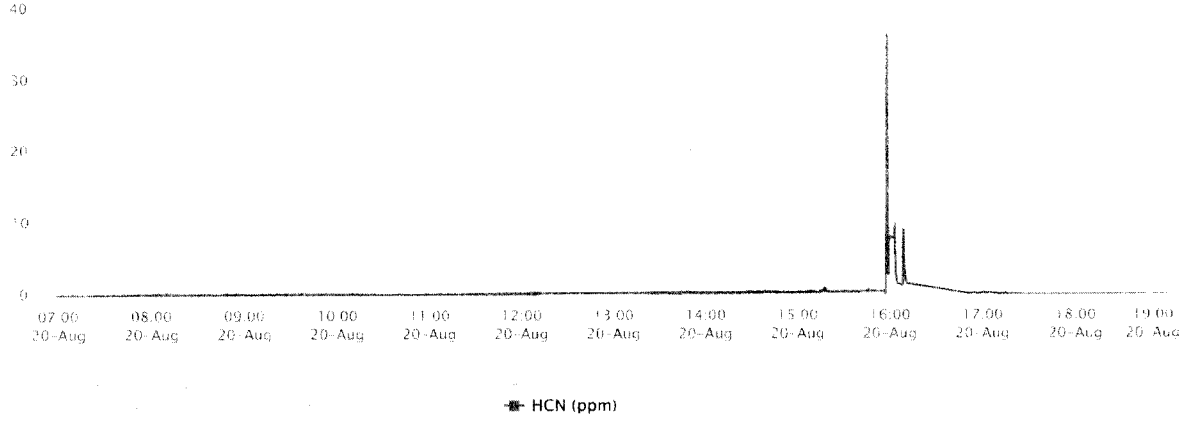
8/20/19 DAY Data for AREARAE PRO 1 (HCn) – Southwest of Pile



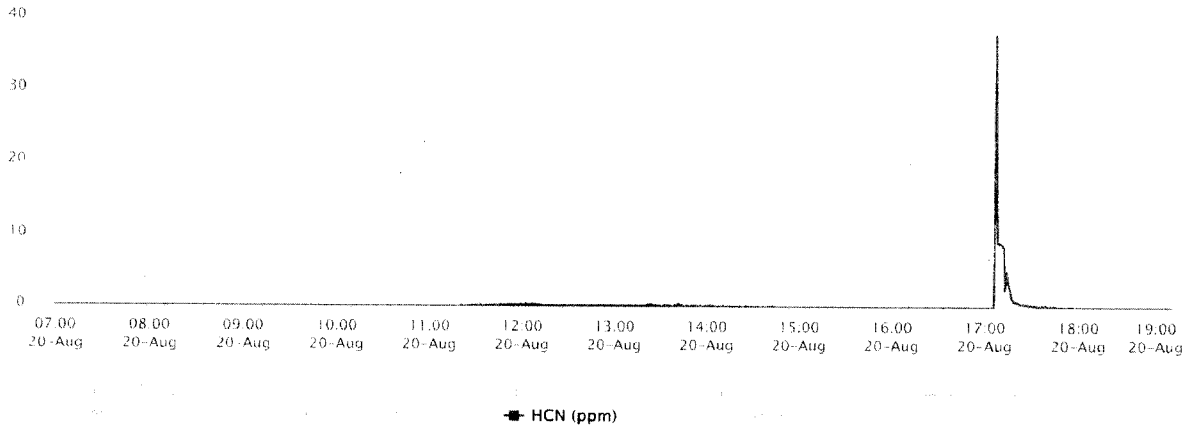
8/20/19 DAY Data for AREARAE PRO 2 (HCn) – Northwest of Pile



8/20/19 DAY Data for AREARAE PRO 3 (HCn) – Northeast of Pile



8/20/19 DAY Data for AREARAE PRO 4 (HCn) – Forrest Concrete



Threshold Values and Air Quality Index Categories for PM2.5

Level of Health Concern	Particulate Matter ≤2.5 microns measured in µg/m3		Interpretation
	1 hour average	24 hour average	
Good	0.0-40.0	0.0-12.0	Air quality is considered satisfactory, and air pollution poses little or no risk
Moderate	**40.1-80.0**	**12.1-35.4**	**Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.**
Unhealthy for Sensitive groups	80.1-175.0	35.5-55.4	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	175.1-300.0	55.5-150.4	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	300.1-500.0	150.5-250.4	Health warnings of emergency conditions. The entire population is more likely to be affected.
Hazardous	>500.0	>250.5	Health alert: everyone may experience more serious health effects

- Threshold values taken from original EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc for PM2.5 (24 hour) and Idaho Department of Environmental Quality AQI for PM2.5 (1 hour) taken from http://app.airsis.com/usfs/aqi.asp.
- Recommendations are from the EPA Air Now web site.
- People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
- Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air.

Armstrong, Kathy

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Tuesday, August 20, 2019 11:20 AM
To: Huyser, Matthew
Cc: chris.jones@tetratech.com; Tanner, Terry
Subject: Able Contracting Fire Data Summary Tables for 08/19/19 Night
Attachments: Able_Viper Summary Report_081919NIGHT.pdf

Matt,

Here are the data summary tables and associated charts for data collected from 1900 hrs on 08/19/19 through 0700 hrs on 08/20/19.

Let me know if you need anything else.

Paul Prys | Senior Environmental Scientist/Project Manager
Direct: 678.775.3106 | Cell: 404.849.7136 | Fax: 678.775.3138
paul.prys@tetratech.com

Tetra Tech | Atlanta Office
1955 Evergreen Blvd. Bldg. 200, Ste. 300, Duluth, GA 30096 www.tetratech.com | NASDAQ:TTEK

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire Site**

From: **8/19/19** ***19:00*** ***To:*** ***8/20/19*** ***7:00***

On Site, Southwest Corner of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	6,861	327	0 - 444 ppb	3.25 ppb	1,000 ppb
	CO	No	6,861	130	0 - 5 ppm	0.06 ppm	83 ppm
	H_2S	No	6,861	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,861	6,861	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	6,861	0	0 - 0 %	0 %	10%
	HCN	No	6,861	6,861	0.1 - 1.4 ppm	0.47 ppm	7.1 ppm

Peacock Collision

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 1	PM-2.5	Good	692	692	4 - 20 µg/m³	5.9 ug/m3	See SOG #: T106

On Site, Northwest Corner of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	6,617	5	0 - 73 ppb	0.02 ppb	1,000 ppb
	CO	No	6,617	570	0 - 17 ppm	0.42 ppm	83 ppm
	H_2S	Yes	6,617	16	0 - 0.6 ppm	0.001 ppm	0.5 ppm
	O_2	No	6,617	6,617	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	6,617	0	0 - 0 %	0 %	10%
	HCN	No	6,617	6,517	0 - 2.7 ppm	0.42 ppm	7.1 ppm

Short Cut Road

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 2	PM-2.5	Good	617	617	2 - 22 µg/m³	5.7 ug/m3	See SOG #: T106

Able Contracting Workshop, Northeast of Pile

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	6,695	5	0 - 7 ppb	0 ppb	1,000 ppb
	CO	No	6,695	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	6,695	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,695	6,695	20.9 - 21.2 %	21 %	<19.5 or >23%
	LEL	No	6,695	308	0 - 2 %	0.1 %	10%
	HCN	No	6,695	2,713	0 - 0.3 ppm	0.04 ppm	7.1 ppm

Grace Coastal Church

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 3	PM-2.5	Moderate	694	694	6 - 122 µg/m³	14.4 ug/m3	See SOG #: T106

Forrest Concrete

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	6,654	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	6,654	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	6,654	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,654	6,654	20 - 20.5 %	20.1 %	<19.5 or >23%
	LEL	No	6,654	0	0 - 0 %	0 %	10%
	HCN	No	6,654	0	0 - 0 ppm	0 ppm	7.1 ppm

Sun City

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 1	PM-2.5	Moderate	746	237	0 - 60 ug/m3	13.6 ug/m3	See SOG #: T106

Brooke Mill Apartments

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 2	PM-2.5	Good	751	550	0 - 45 ug/m3	11.9 ug/m3	See SOG #: T106

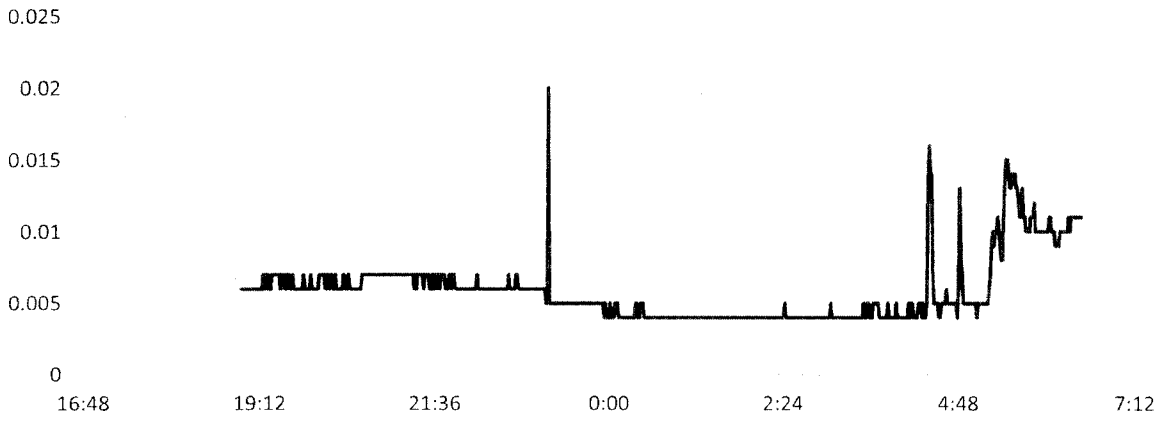
EPA Mobile Command Post

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 3	PM-2.5	Moderate	738	178	0 - 54 ug/m3	12.2 ug/m3	See SOG #: T106

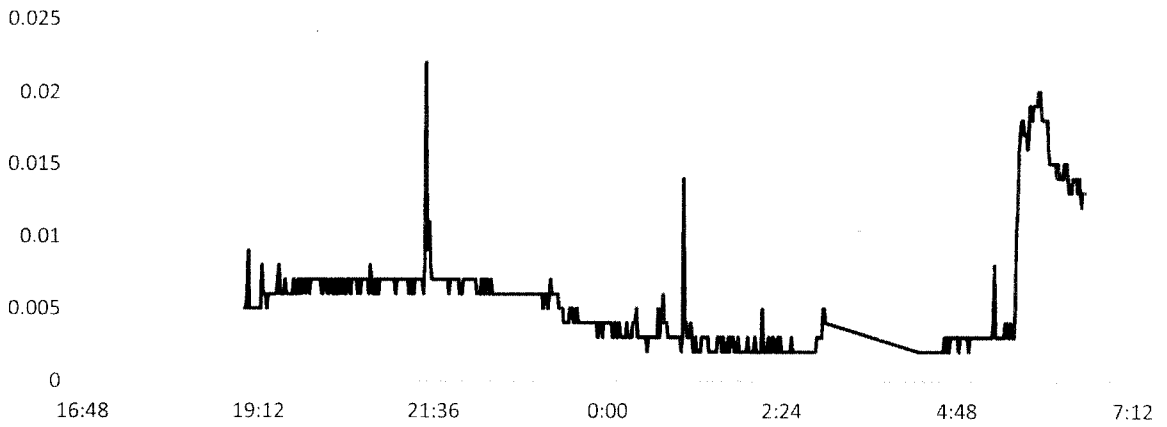
Notes:

%	Percent	O_2	Oxygen
<	Less than	PEL	Permissible exposure limit
>	Greater than	ppb	Parts per billion
AEGL	Acute Exposure Guideline Levels for Airborne Chemicals	ppm	Parts per million
CO	Carbon monoxide	PM	Particulate matter
H_2S	Hydrogen Sulfide	SOG	Standard Operating Guidelines
HCN	Hydrogen Cyanide	TLV	Threshold limit value
LEL	Lower Explosive Level	µg/m³	Micrograms per cubic meter
min	Minute	VOC	Volatile organic compoud

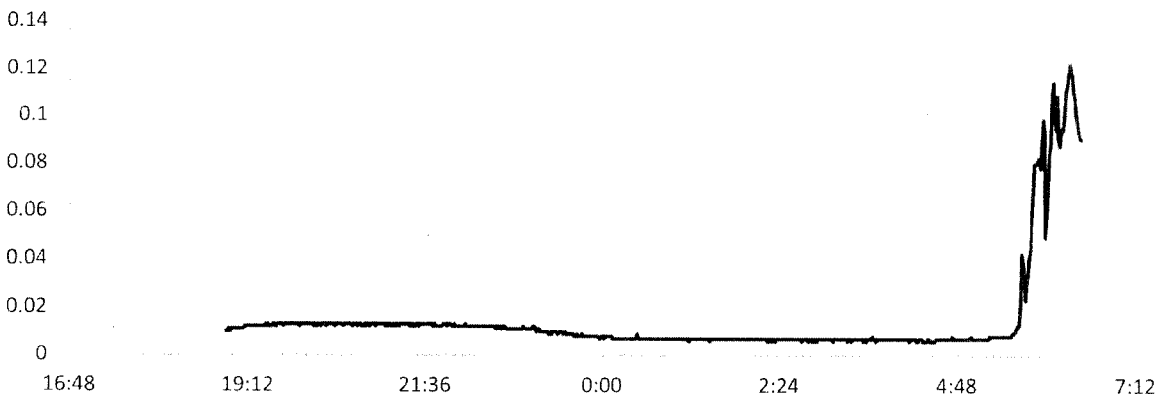
8/19/19 NIGHT Data for DustTrak 1 ($PM_{2.5}$) - Peacock Collision



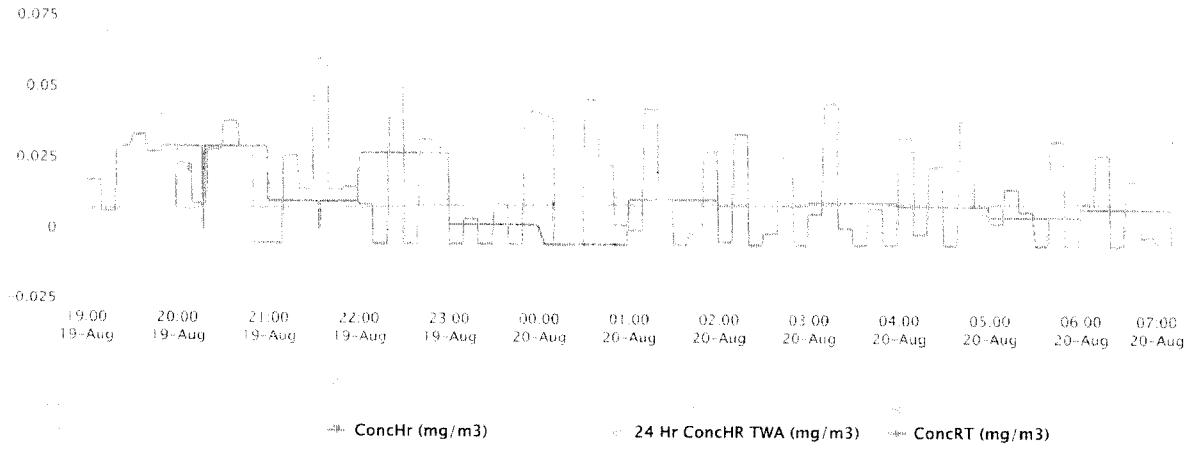
8/19/19 NIGHT Data for DustTrak 2 ($PM_{2.5}$) – Short Cut Road



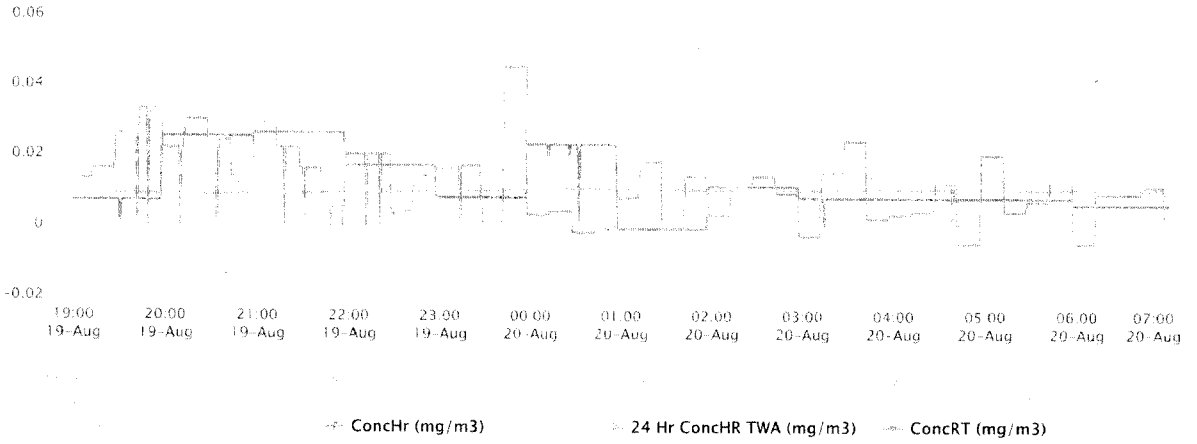
8/19/19 NIGHT Data for DustTrak 3 ($PM_{2.5}$) – Grace Costal Church



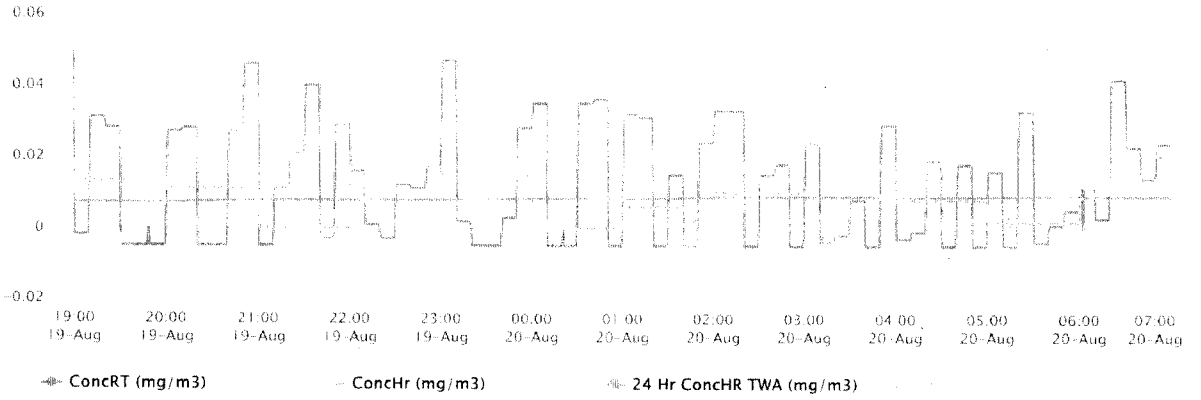
8/19/19 NIGHT Data for EBAM 1 (ConcRT) – Sun City



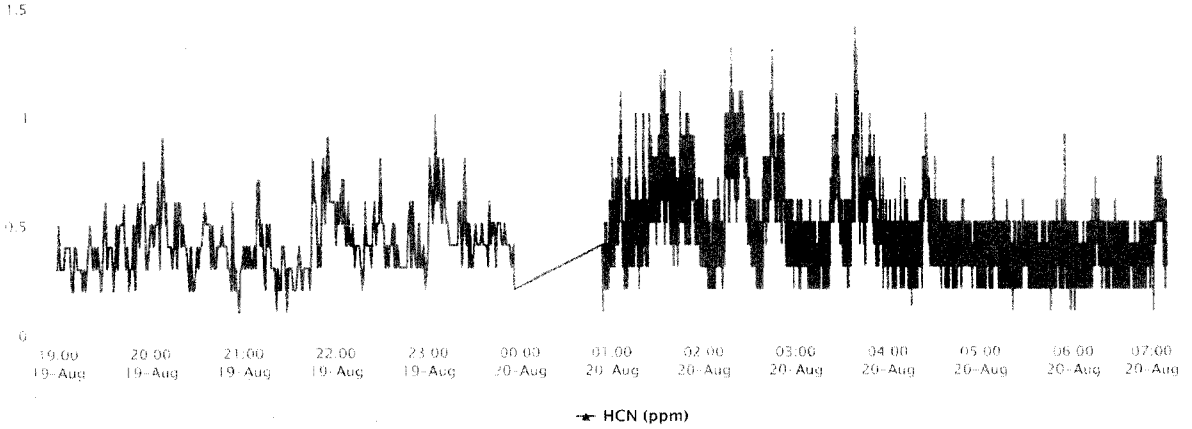
8/19/19 NIGHT Data for EBAM 2 (ConcRT) – Brooke Mill Apartments



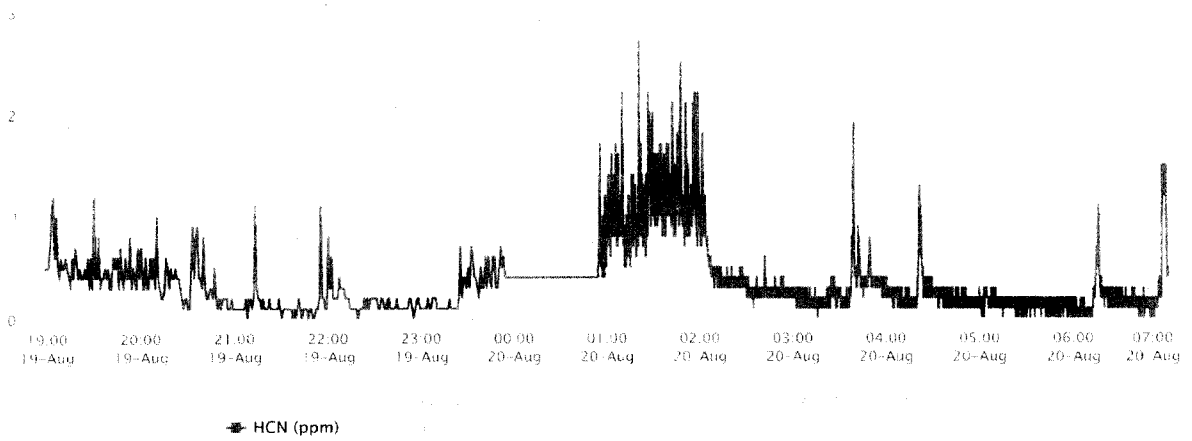
8/19/19 NIGHT Data for EBAM 3 (ConcRT) – EPA Mobile Command Post



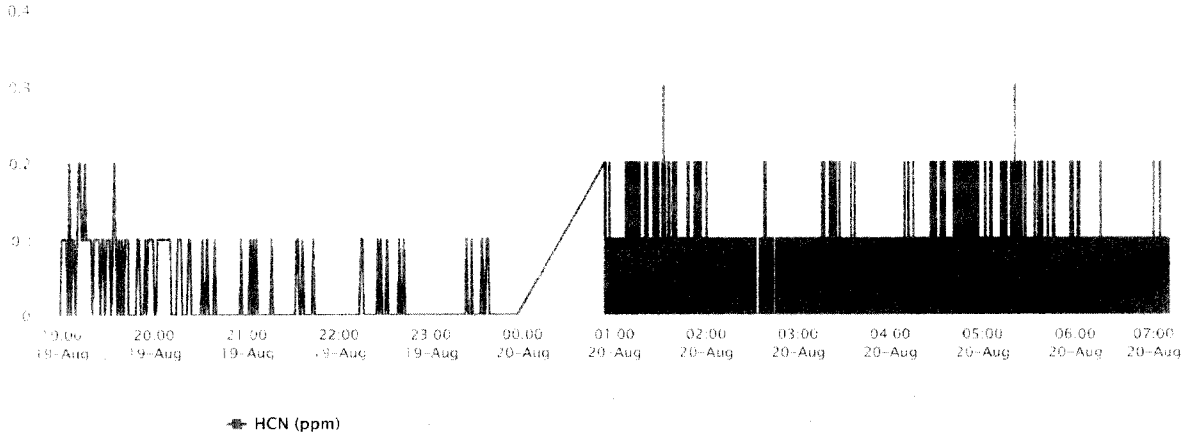
8/19/19 NIGHT Data for AREARAE PRO 1 (HCn) – Southwest of Pile



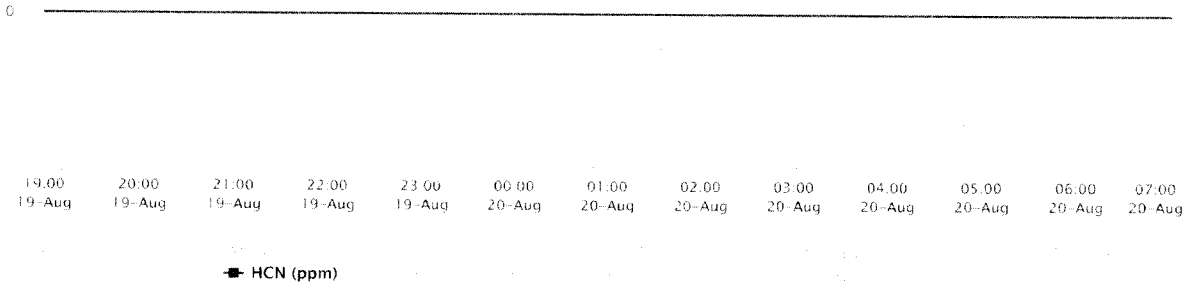
8/19/19 NIGHT Data for AREARAE PRO 2 (HCn) – Northwest of Pile



8/19/19 NIGHT Data for AREARAE PRO 3 (HCn) – Northeast of Pile



8/19/19 NIGHT Data for AREARAE PRO 4 (HCn) – Forrest Concrete



Threshold Values and Air Quality Index Categories for PM2.5

Level of Health Concern	Particulate Matter ≤2.5 microns measured in µg/m3		Interpretation
	1 hour average	24 hour average	
Good	0.0-40.0	0.0-12.0	Air quality is considered satisfactory, and air pollution poses little or no risk
Moderate	**40.1-80.0**	**12.1-35.4**	**Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.**
Unhealthy for Sensitive groups	80.1-175.0	35.5-55.4	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	175.1-300.0	55.5-150.4	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	300.1-500.0	150.5-250.4	Health warnings of emergency conditions. The entire population is more likely to be affected.
Hazardous	>500.0	>250.5	Health alert: everyone may experience more serious health effects

- Threshold values taken from original EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc for PM2.5 (24 hour) and Idaho Department of Environmental Quality AQI for PM2.5 (1 hour) taken from http://app.airsis.com/usfs/aqi.asp.
- Recommendations are from the EPA Air Now web site.
- People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
- Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air.

Armstrong, Kathy

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Tuesday, August 20, 2019 10:47 AM
To: ERT Support; Huyser, Matthew; chris.jones@tetratech.com
Subject: RE: Posted Viper Data

I'm not here at night so I don't know all of the specifics that you are asking for. We have a mix of 3 EBAMs and 4 AreaRAE Pros. When Viper "goes down", it's my understanding that this mostly deals with the AreaRAE Pros and all of the lights for them are red in Survey Controller. According ProRAE Guardian logs, it did have difficulty "cascading out". The person on the night shift did not try to stop and start in PRG2CAP and just defaulted to restarting the run. From here forward, we will begin with stopping and starting PRG2CAP.

We see you on the VM now so just let us know when you are finished.

Thanks and I hope this info was helpful.

From: ERT Support <ERTSupport@epa.gov>
Sent: Tuesday, August 20, 2019 10:25 AM
To: Prys, Paul <Paul.Prys@tetratech.com>; Huyser, Matthew <huyser.matthew@epa.gov>; Jones, Chris <chris.jones@tetratech.com>
Subject: Re: Posted Viper Data

⚠ **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠

Hi Paul,

If you could provide more details, that would be helpful. I see that your run is a mix of 2 E-Bams and 4 AreaRAE Pros. When Viper "goes down", does Survey Controller show red lights for all of the instruments or just some instruments? If just the AreaRAEs go down, do you see any message in ProRAE Guardian indicating that it is having difficulty "cascading out"? And how about PRG2CAP - do the number of samples stop incrementing, and if so, have you tried just stopping and starting PRG2CAP? When time permits, please provide more details as to the symptoms you observe when viper "goes down".

I am on your VM right now and will turn logging on for Survey Controller and PRG2CAP so please don't login to the VM until you hear back from me that I am done.

Thanks,

For Additional Information Please Contact

ERT Software Support

1-800-999-6990

1-732-321-6724 (fax)

ertsupport@epa.gov

www.ertsupport.org

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Tuesday, August 20, 2019 9:55 AM
To: ERT Support <ERTSupport@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: RE: Posted Viper Data

The reason for these runs being restarted in the middle of the night are because Viper has been going down. After much troubleshooting, the only way they knew how to get Viper going again was to start a new run. As far as the data dump goes, I'm amenable to whatever the EPA would like to do.

From: ERT Support <ERTSupport@epa.gov>
Sent: Tuesday, August 20, 2019 8:18 AM
To: Prys, Paul <Paul.Prys@tetratech.com>; Huyser, Matthew <huyser.matthew@epa.gov>
Subject: Posted Viper Data

⚠ **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠

Paul/Matt,

I saw that you started a new Viper run at 1am last night, but by the time I assigned it in Deployment Manager, we missed the 7am automated data export. I have since created and posted the export from 7pm last night to 7am this morning.

Can you fill me in a little on why the runs are stopped and started during the night? Maybe there is something I can help you with. If not, perhaps we could consider changing the times of the automated exports to be 9pm and 9am so the run is assigned in time for the export.

Thanks,

Melissa

For Additional Information Please Contact

ERT Software Support

1-800-999-6990

1-732-321-6724 (fax)

ertsupport@epa.gov

www.ertsupport.org

Armstrong, Kathy

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Tuesday, August 20, 2019 9:56 AM
To: Huyser, Matthew
Subject: RE: Air Monitoring at Atlas Surveying, Inc.

We used the MultiRAE Pro so the VOCs are reported in ppm.

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Tuesday, August 20, 2019 9:11 AM
To: Prys, Paul <Paul.Prys@tetratech.com>
Subject: RE: Air Monitoring at Atlas Surveying, Inc.

⚠ **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠

Paul, was this 0.1 ppm or 0.1 ppb?

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Monday, August 19, 2019 11:02 AM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Air Monitoring at Atlas Surveying, Inc.

Matt,

At approximately 0945 hrs, Tetra Tech START and the USCG Strike Team conducted air monitoring at Atlas Surveying, Inc. located at 49 Brown's Cove Rd, Suite 5, Ridgeland, South Carolina. At the request of William Gray, Jr., air monitoring was conducted at the entrance of Units 4, 5, and 6 operated by Atlas Surveying. Air monitoring results for both Tetra Tech START and USCG are as follows:

O2 – 20.9%
CO – 0 ppm
VOC – 0.1 ppm
LEL – 0%
H2S – 0 ppm
HCn – 0 ppm

Please let me know if you need anything else.

Paul Prys | Senior Environmental Scientist/Project Manager
Direct: 678.775.3106 | Cell: 404.849.7136 | Fax: 678.775.3138

paul.prys@tetratech.com

Tetra Tech | Atlanta Office
1955 Evergreen Blvd. Bldg. 200, Ste. 300, Duluth, GA 30096 www.tetratech.com | NASDAQ:TTEK

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Armstrong, Kathy

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Tuesday, August 20, 2019 9:55 AM
To: ERT Support; Huyser, Matthew
Subject: RE: Posted Viper Data

The reason for these runs being restarted in the middle of the night are because Viper has been going down. After much troubleshooting, the only way they knew how to get Viper going again was to start a new run. As far as the data dump goes, I'm amenable to whatever the EPA would like to do.

From: ERT Support <ERTSupport@epa.gov>
Sent: Tuesday, August 20, 2019 8:18 AM
To: Prys, Paul <Paul.Prys@tetratech.com>; Huyser, Matthew <huyser.matthew@epa.gov>
Subject: Posted Viper Data

⚠ **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠

Paul/Matt,

I saw that you started a new Viper run at 1am last night, but by the time I assigned it in Deployment Manager, we missed the 7am automated data export. I have since created and posted the export from 7pm last night to 7am this morning.

Can you fill me in a little on why the runs are stopped and started during the night? Maybe there is something I can help you with. If not, perhaps we could consider changing the times of the automated exports to be 9pm and 9am so the run is assigned in time for the export.

Thanks,

Melissa

For Additional Information Please Contact

ERT Software Support

1-800-999-6990

1-732-321-6724 (fax)

ertsupport@epa.gov

www.ertsupport.org

Armstrong, Kathy

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Monday, August 19, 2019 8:38 PM
To: Huyser, Matthew
Cc: chris.jones@tetratech.com
Subject: Able Contracting Data Summary Report for 08/19/19 Day
Attachments: Able_Viper Summary Report_081919DAY.pdf

Matt,

Here is the data summary report for data gathered from 0700 hrs on 08/19/19 through 1900 hrs on 08/19/19. There are some high spikes we may want to look at, but the period averages were low. Two of the DustTraks stopped early due to battery failure. We will be looking into that in the morning and Josiah will be keeping a watchful eye during the night. Also, I would like to talk to you about the data for DustTrak 3. For some reason the data did not fully graph and some of it was not shown.

Let me know if you need anything else.

Paul Prys | Senior Environmental Scientist/Project Manager
Direct: 678.775.3106 | Cell: 404.849.7136 | Fax: 678.775.3138
paul.prys@tetratech.com

Tetra Tech | Atlanta Office
1955 Evergreen Blvd. Bldg. 200, Ste. 300, Duluth, GA 30096 www.tetratech.com | NASDAQ:TTEK

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire Site**

From: **8/19/19 7:00** ***To:*** ***8/19/19 19:00***

On Site, Southwest Corner of Site

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	Yes	4,617	117	0 - 10213 ppb	28.08 ppb	1,000 ppb
	CO	No	4,617	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	4,617	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	4,617	4,617	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	4,617	0	0 - 0 %	0 %	10%
	HCN	No	4,617	4,612	0 - 0.8 ppm	0.33 ppm	7.1 ppm

Pleasant Grove

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 1	PM-2.5	Good	133	132	0 - 16 µg/m³	6.6 ug/m3	See SOG #: T106

On Site, Northwest Corner of Site

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	4,213	7	0 - 645 ppb	0.37 ppb	1,000 ppb
	CO	No	4,213	181	0 - 8 ppm	0.14 ppm	83 ppm
	H_2S	No	4,213	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	4,213	4,213	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	4,213	0	0 - 0 %	0 %	10%
	HCN	No	4,213	2,703	0 - 1.4 ppm	0.17 ppm	7.1 ppm

Short Oak Street

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 2	PM-2.5	Good	480	480	4 - 58 µg/m³	9.3 ug/m3	See SOG #: T106

Able Contracting Warehouse, Northeast of Site

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	Yes	4,332	485	0 - 14223 ppb	48.96 ppb	1,000 ppb
	CO	Yes	4,332	535	0 - 500 ppm	8.42 ppm	83 ppm
	H_2S	Yes	4,332	376	0 - 7.6 ppm	0.132 ppm	0.5 ppm
	O_2	No	4,332	4,332	20.9 - 21.3 %	21.1 %	<19.5 or >23%
	LEL	No	4,332	1,647	0 - 5 %	0.8 %	10%
	HCN	Yes	4,332	3,934	0 - 38.4 ppm	1.06 ppm	7.1 ppm

Grace Covital Church

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 3	PM-2.5	Good	753	753	7 - 76 µg/m³	10.8 ug/m3	See SOG #: T106

Forklift Company

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	4,237	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	4,237	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	4,237	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	4,237	4,237	20.1 - 20.9 %	20.4 %	<19.5 or >23%
	LEL	No	4,237	0	0 - 0 %	0 %	10%
	HCN	No	4,237	1	0 - 0.1 ppm	0 ppm	7.1 ppm

Sue Clay

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 1	PM-2.5	Moderate	710	391	0 - 76 ug/m3	13 ug/m3	See SOG #: T106

Scooter Mill Apartments

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 2	PM-2.5	Good	566	226	0 - 34 ug/m3	9.6 ug/m3	See SOG #: T106

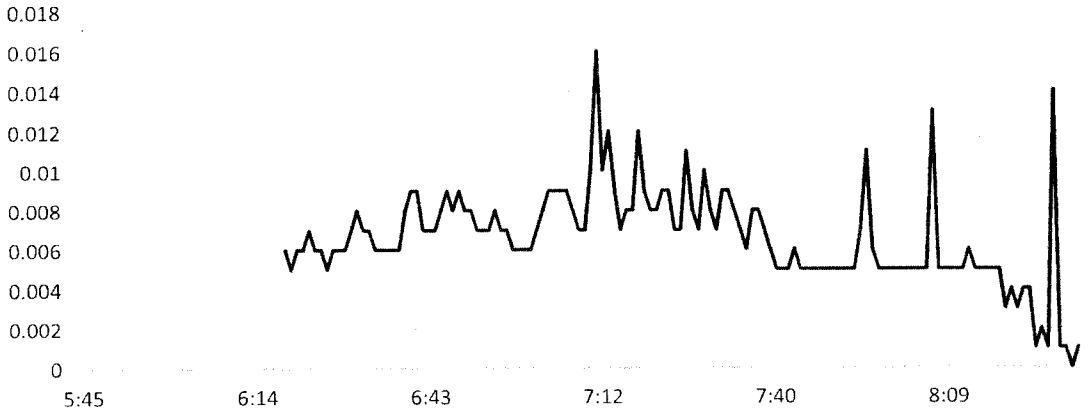
EPA Mobile Command Post

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 3	PM-2.5	Moderate	583	267	0 - 109 ug/m3	15.6 ug/m3	See SOG #: T106

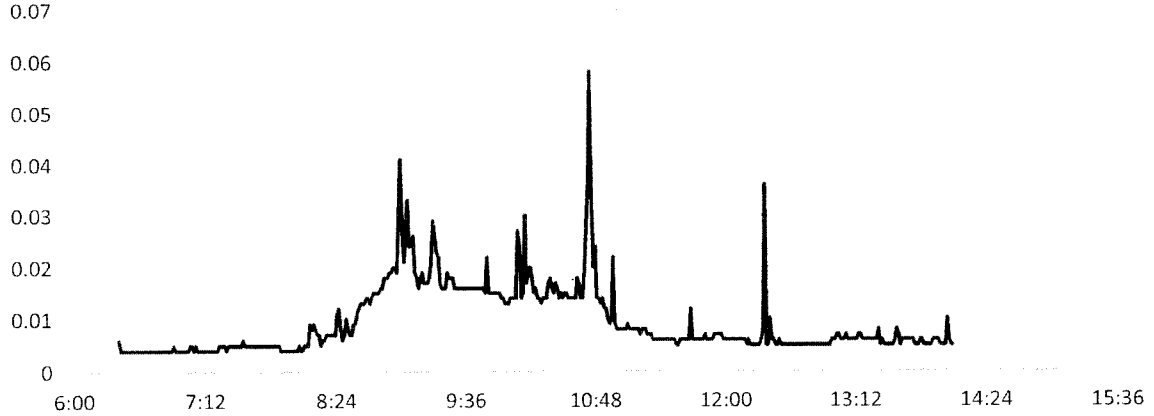
Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline Levels for Airborne Chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
HCN	Hydrogen Cyanide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

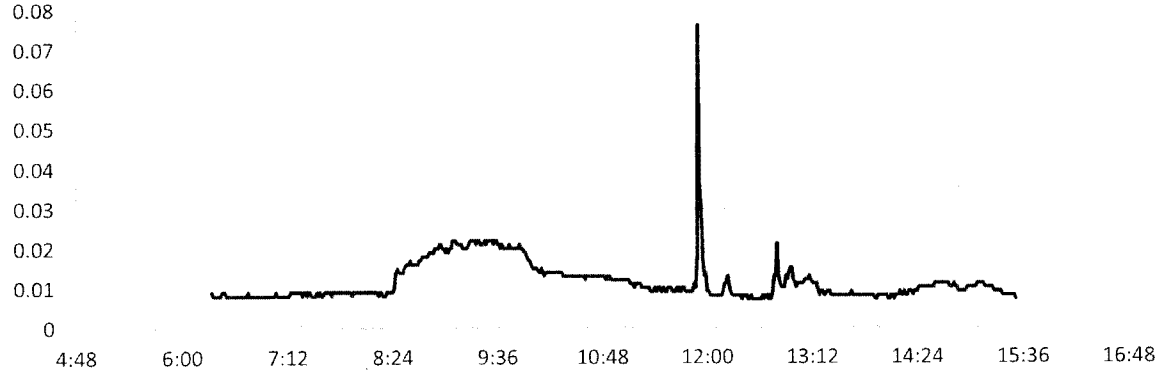
8/19/19 DAY Data for DustTrak 1 ($PM_{2.5}$) - Peacock Collision



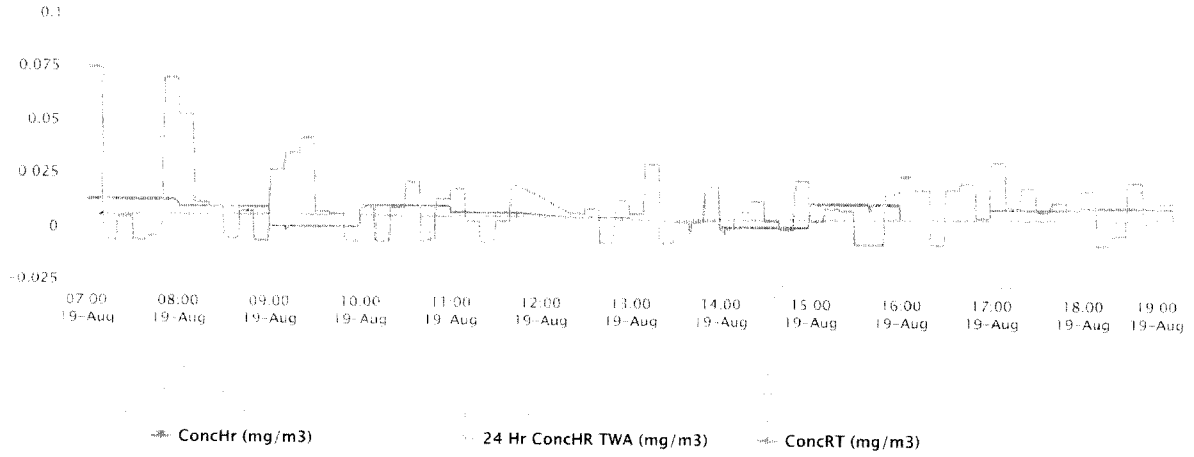
8/19/19 DAY Data for DustTrak 2 ($PM_{2.5}$) – Short Cut Road



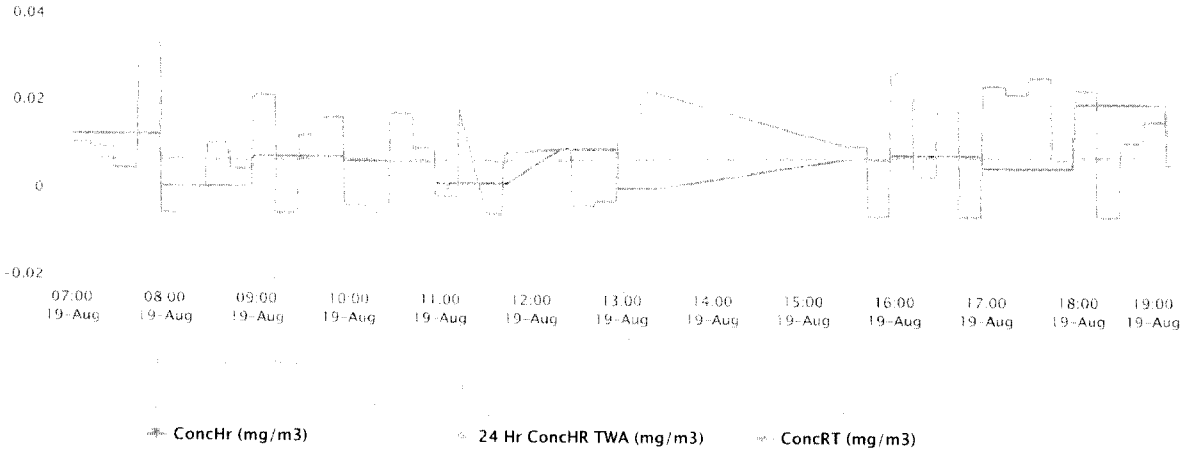
8/19/19 DAY Data for DustTrak 3 ($PM_{2.5}$) – Grace Costal Church



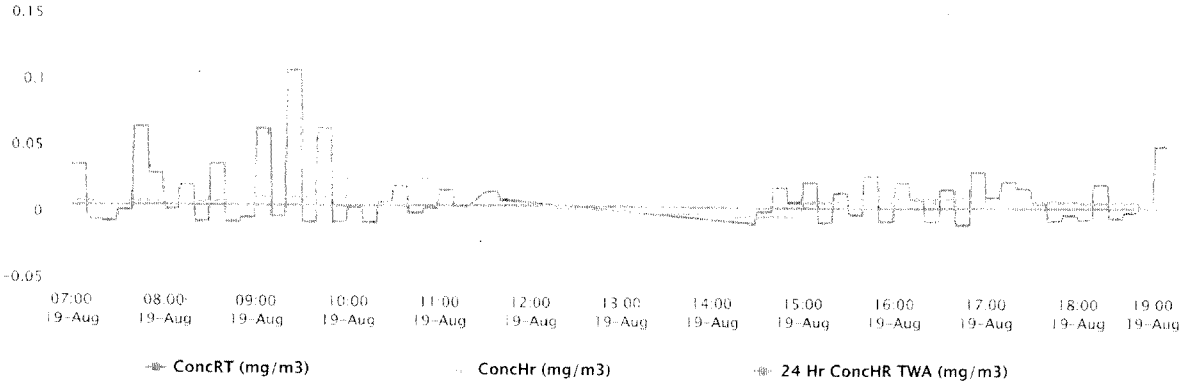
8/19/19 DAY Data for EBAM 1 (ConcRT) – Sun City



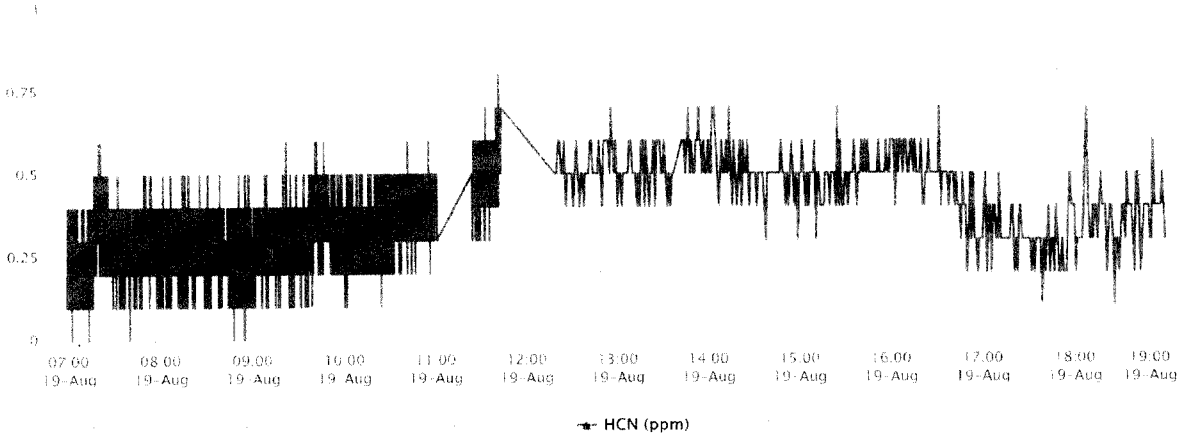
8/19/19 DAY Data for EBAM 2 (ConcRT) – Brooke Mill Apartments



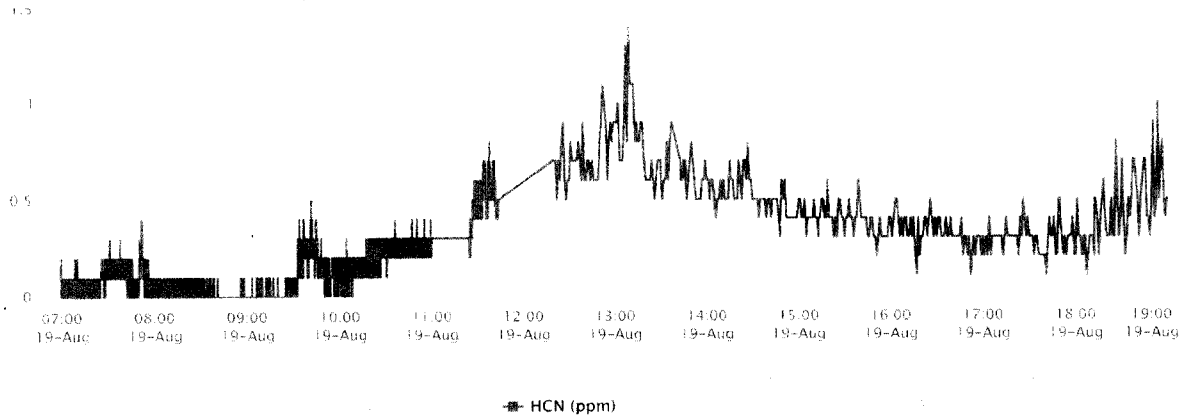
8/19/19 DAY Data for EBAM 3 (ConcRT) – EPA Mobile Command Post



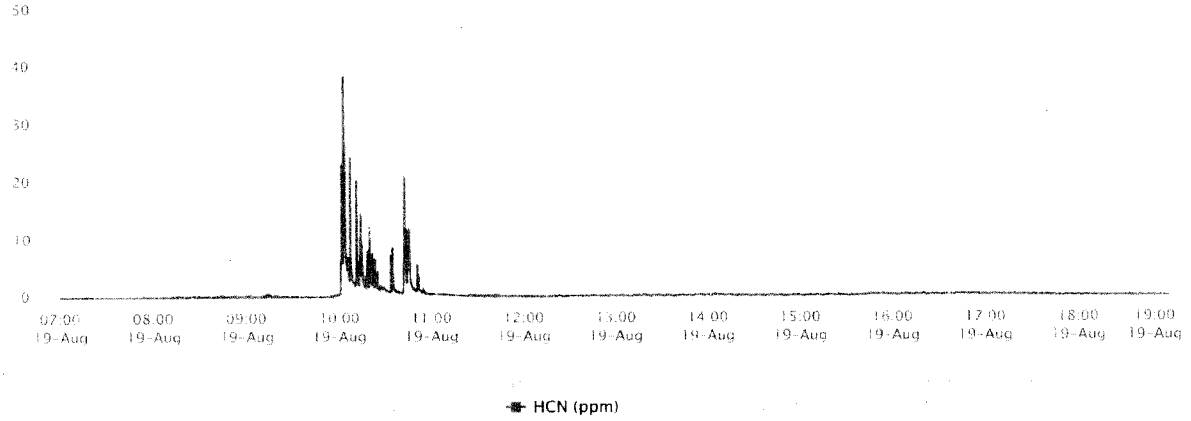
8/19/19 DAY Data for AREARAE PRO 1 (HCn) – Southwest of Pile



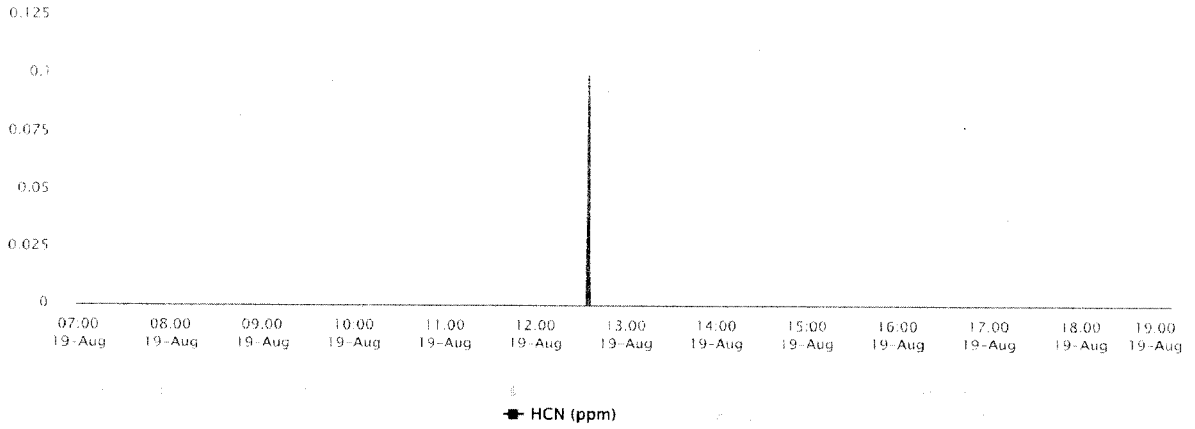
8/19/19 DAY Data for AREARAE PRO 2 (HCn) – Northwest of Pile



8/19/19 DAY Data for AREARAE PRO 3 (HCn) – Northeast of Pile



8/19/19 DAY Data for AREARAE PRO 4 (HCn) – Forrest Concrete



Threshold Values and Air Quality Index Categories for PM2.5

Level of Health Concern	Particulate Matter ≤2.5 microns measured in µg/m3		Interpretation
	1 hour average	24 hour average	
Good	0.0-40.0	0.0-12.0	Air quality is considered satisfactory, and air pollution poses little or no risk
Moderate	**40.1-80.0**	**12.1-35.4**	**Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.**
Unhealthy for Sensitive groups	80.1-175.0	35.5-55.4	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	175.1-300.0	55.5-150.4	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	300.1-500.0	150.5-250.4	Health warnings of emergency conditions. The entire population is more likely to be affected.
Hazardous	>500.0	>250.5	Health alert: everyone may experience more serious health effects

- Threshold values taken from original EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc for PM2.5 (24 hour) and Idaho Department of Environmental Quality AQI for PM2.5 (1 hour) taken from http://app.airsis.com/usfs/aqi.asp.
- Recommendations are from the EPA Air Now web site.
- People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
- Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air.

Armstrong, Kathy

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Monday, August 19, 2019 5:21 PM
To: Huyser, Matthew
Subject: Able Contracting Fire Data Summary Tables for 08/18/19 Night
Attachments: Able_Viper Summary Report_081819NIGHT.pdf

Here's the summary data tables and charts for air monitoring conducted from 1900 hrs 08/18/19 through 0700 hrs 08/19/19. Sorry about the first report, I inadvertently attached the wrong set of charts to the report.

Please let me know if you need anything else.

Paul Prys | Senior Environmental Scientist/Project Manager
Direct: 678.775.3106 | Cell: 404.849.7136 | Fax: 678.775.3138
paul.prys@tetratech.com

Tetra Tech | Atlanta Office
1955 Evergreen Blvd. Bldg. 200, Ste. 300, Duluth, GA 30096 www.tetratech.com | NASDAQ:TTEK

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire Site**

From: **8/18/19 19:00** ***To:*** ***8/19/19 7:00***

On Site, Southeast Corner of Site

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	13,060	569	0 - 272 ppb	2.35 ppb	1,000 ppb
	CO	No	13,060	266	0 - 6 ppm	0.07 ppm	83 ppm
	H_2S	No	13,060	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	13,060	13,060	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	13,060	0	0 - 0 %	0 %	10%
	HCN	No	13,060	13,055	0 - 1.4 ppm	0.39 ppm	7.1 ppm

Peasley Collision

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 1	PM-2.5	Good	681	681	3 - 13 µg/m³	4.2 ug/m3	See SOG #: T106

On Site, Northwest Corner of Site

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	12,794	4	0 - 152 ppb	0.02 ppb	1,000 ppb
	CO	No	12,794	2,800	0 - 22 ppm	1.12 ppm	83 ppm
	H_2S	No	12,794	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	12,794	12,794	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	12,794	0	0 - 0 %	0 %	10%
	HCN	No	12,794	10,538	0 - 1.6 ppm	0.25 ppm	7.1 ppm

Short Cut Road

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 2	PM-2.5	Good	615	606	0 - 28 µg/m³	4.8 ug/m3	See SOG #: T106

Able Contracting Workshop, Northeast of Site

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	12,871	1,251	0 - 156 ppb	3.27 ppb	1,000 ppb
	CO	No	12,871	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	12,871	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	12,871	12,871	21.1 - 21.3 %	21.1 %	<19.5 or >23%
	LEL	No	12,871	0	0 - 0 %	0 %	10%
	HCN	No	12,871	11,266	0 - 0.8 ppm	0.16 ppm	7.1 ppm

Grace Crystal Church

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 3	PM-2.5	Good	681	681	4 - 19 µg/m³	5.8 ug/m3	See SOG #: T106

Forrest Concrete

Instrument	Analyte	Action Level Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	12,813	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	12,813	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	12,813	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	12,813	12,813	20.1 - 20.9 %	20.2 %	<19.5 or >23%
	LEL	No	12,813	0	0 - 0 %	0 %	10%
	HCN	No	12,813	0	0 - 0 ppm	0 ppm	7.1 ppm

San City

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 1	PM-2.5	Good	748	264	0 - 57 ug/m3	10.1 ug/m3	See SOG #: T106

Bayside Mill Apartments

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 2	PM-2.5	Good	751	484	0 - 35 ug/m3	10 ug/m3	See SOG #: T106

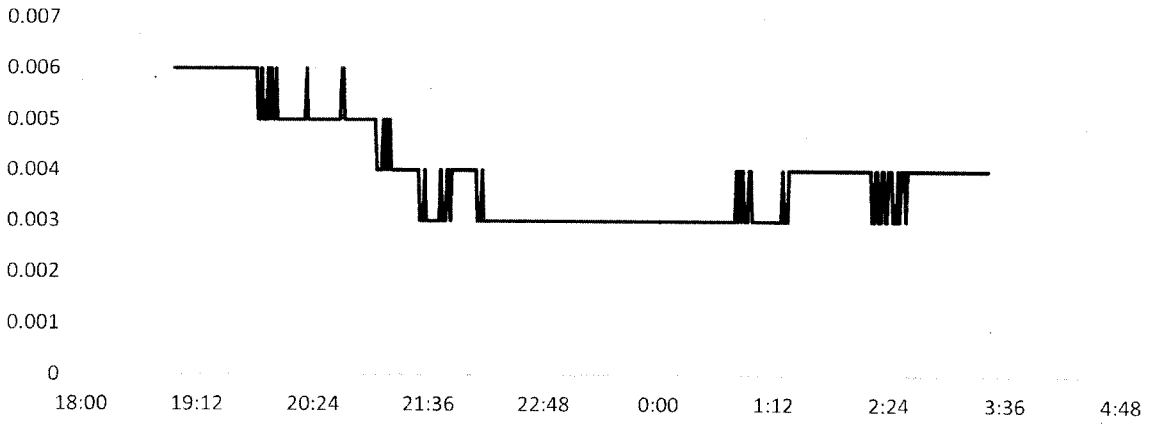
EPA Mobile Command Post

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 3	PM-2.5	Moderate	737	126	0 - 82 ug/m3	13 ug/m3	See SOG #: T106

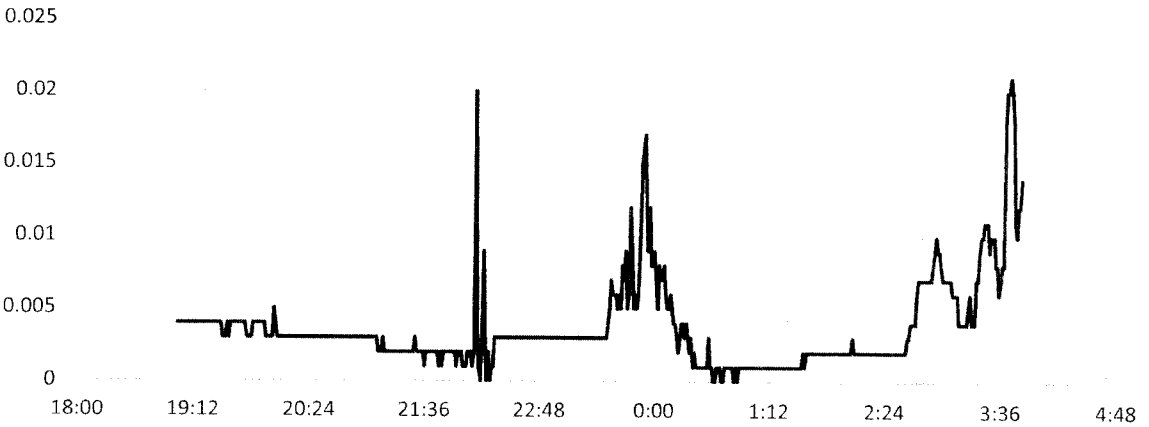
Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline Levels for Airborne Chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
HCN	Hydrogen Cyanide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

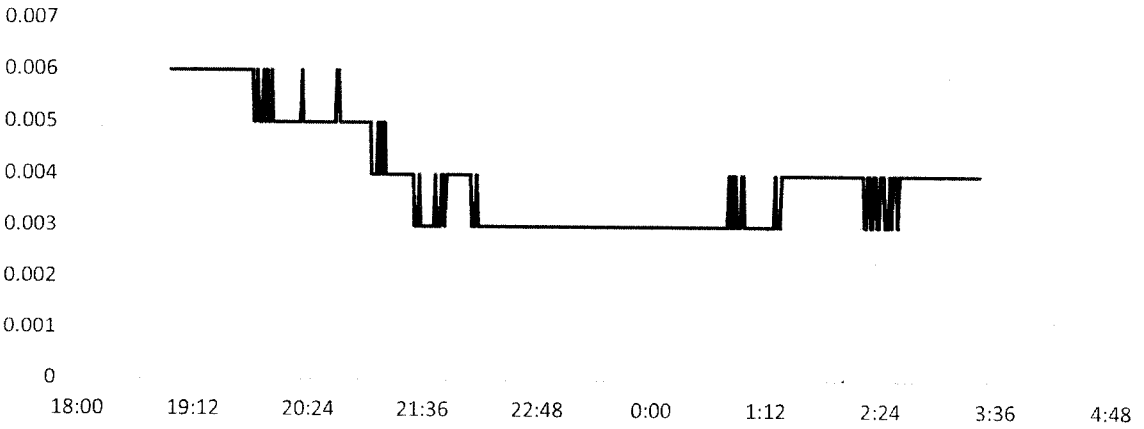
8/18/19 NIGHT Data for DustTrak 1 ($PM_{2.5}$) - Sun



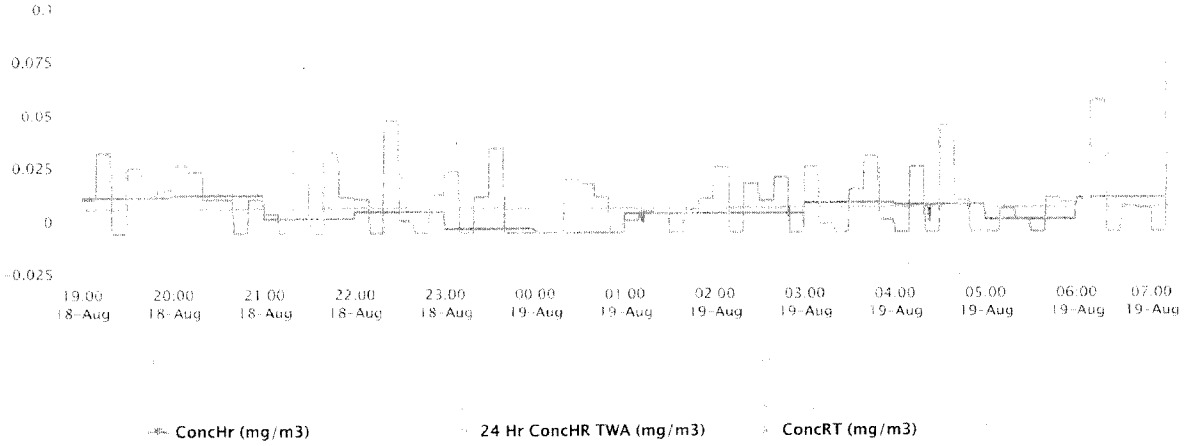
8/18/19 NIGHT Data for DustTrak 2 ($PM_{2.5}$) - Short Cut



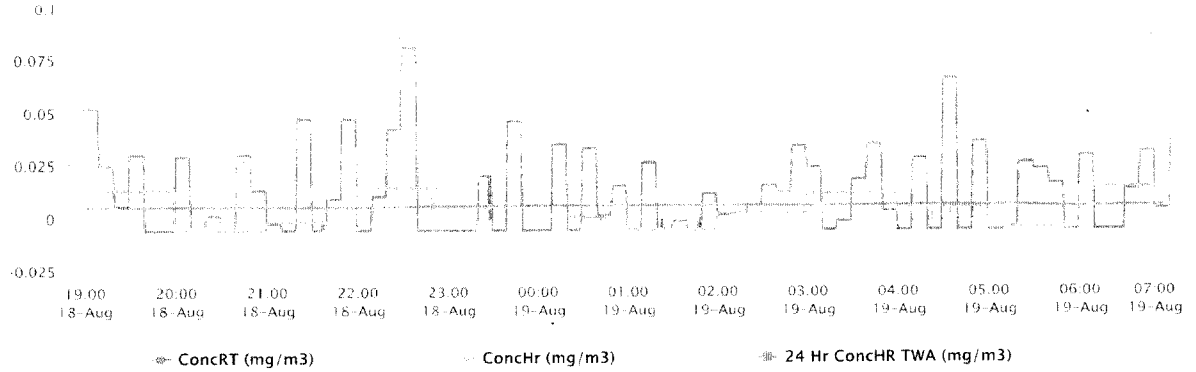
8/18/19 NIGHT Data for DustTrak 1 ($PM_{2.5}$) - Sun



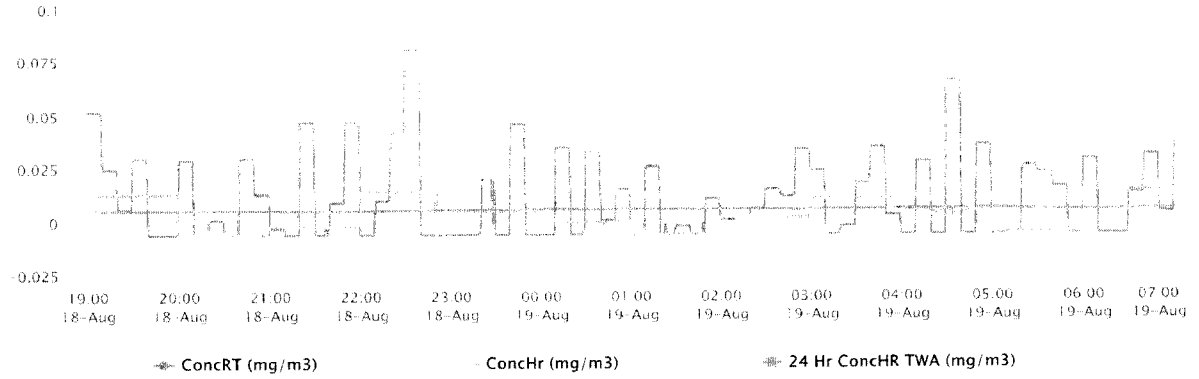
8/18/19 NIGHT Data for EBAM 1 (ConcRT) – Sun City



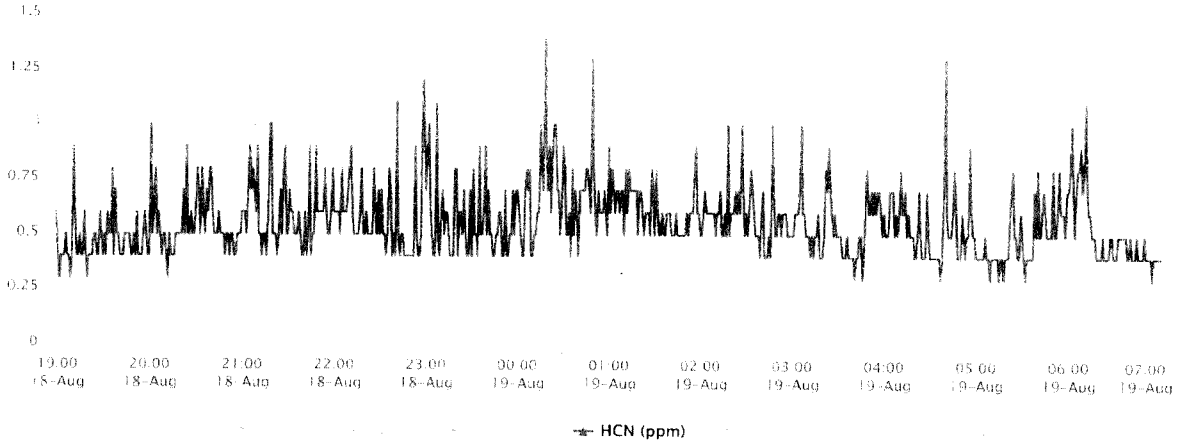
8/18/19 NIGHT Data for EBAM 2 (ConcRT) – Brooke Mill Apartments



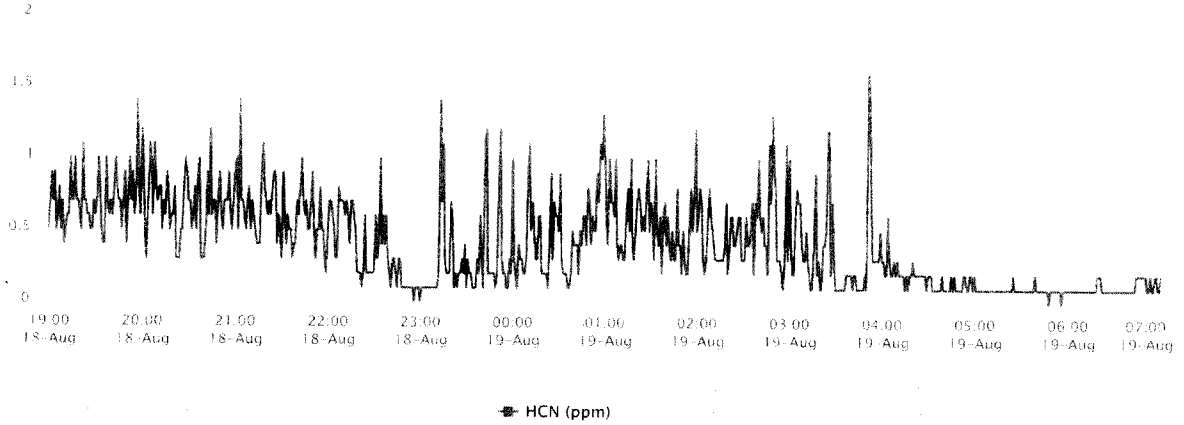
8/18/19 NIGHT Data for EBAM 3 (ConcRT) – EPA Mobile Command Post



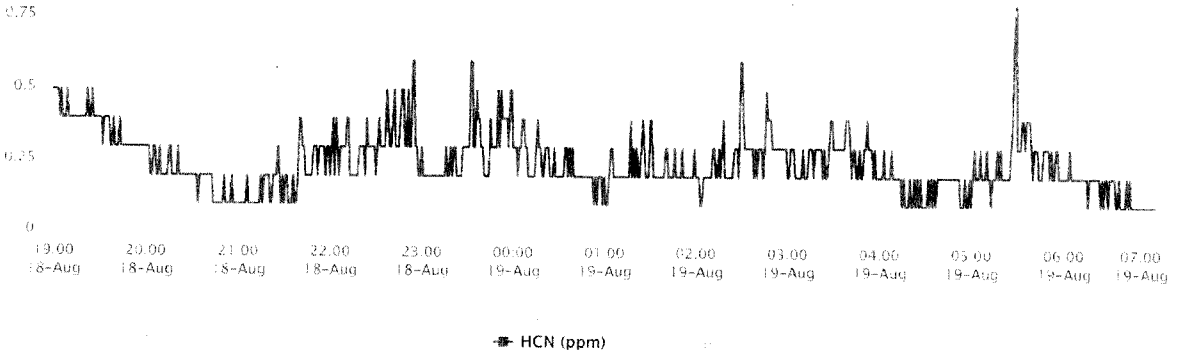
8/18/19 NIGHT Data for AREARAE PRO 1 (HCn) – Southwest of Pile



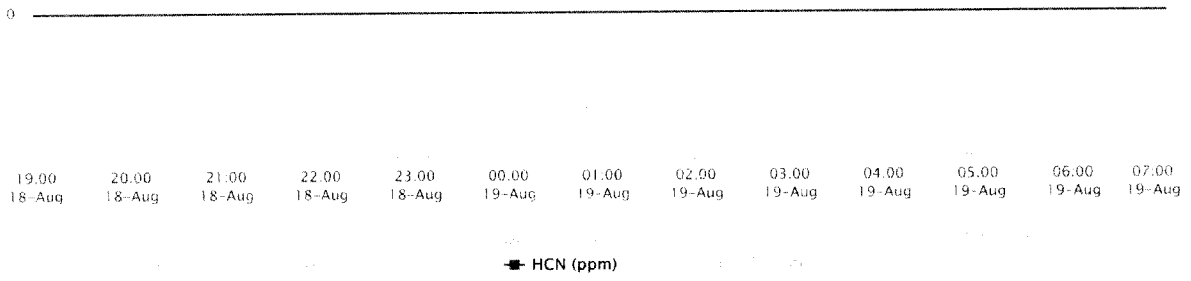
8/18/19 NIGHT Data for AREARAE PRO 2 (HCn) – Northwest of Pile



8/18/19 NIGHT Data for AREARAE PRO 3 (HCn) – Northeast of Pile



8/18/19 NIGHT Data for AREARAE PRO 4 (HCn) – Forrest Concrete



Threshold Values and Air Quality Index Categories for PM2.5

Level of Health Concern	Particulate Matter ≤2.5 microns measured in µg/m3		Interpretation
	1 hour average	24 hour average	
Good	0.0-40.0	0.0-12.0	Air quality is considered satisfactory, and air pollution poses little or no risk
Moderate	**40.1-80.0**	**12.1-35.4**	**Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.**
Unhealthy for Sensitive groups	80.1-175.0	35.5-55.4	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	175.1-300.0	55.5-150.4	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	300.1-500.0	150.5-250.4	Health warnings of emergency conditions. The entire population is more likely to be affected.
Hazardous	>500.0	>250.5	Health alert: everyone may experience more serious health effects

- Threshold values taken from original EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc for PM2.5 (24 hour) and Idaho Department of Environmental Quality AQI for PM2.5 (1 hour) taken from http://app.airsis.com/usfs/aqi.asp.
- Recommendations are from the EPA Air Now web site.
- People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
- Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air.

Armstrong, Kathy

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Monday, August 19, 2019 5:05 PM
To: Huyser, Matthew
Subject: RE: Viper Data Summary Reports for Able Contracting 081619 Night and 08-17-19 Day

Will do

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Monday, August 19, 2019 4:56 PM
To: Prys, Paul <Paul.Prys@tetratech.com>
Subject: RE: Viper Data Summary Reports for Able Contracting 081619 Night and 08-17-19 Day

⚠ **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠

Change the heading in the EBAM sheets from "Action Level Exceedences" to "Air Quality Index"

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Huyser, Matthew
Sent: Monday, August 19, 2019 6:22 AM
To: Prys, Paul <Paul.Prys@tetratech.com>
Subject: RE: Viper Data Summary Reports for Able Contracting 081619 Night and 08-17-19 Day

We have so many AreaRAE readings.... I thought there was a way to set that at one minute instead of one second. Check into it. The run may need to be restarted but figure it out before executing that

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Saturday, August 17, 2019 10:43 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Viper Data Summary Reports for Able Contracting 081619 Night and 08-17-19 Day

Matt,

Attached are the Viper data summary reports for 08/16/19 night and 08/17/19 day. Please review them and let me know if you have any questions.

Paul Prys | Senior Environmental Scientist/Project Manager
Direct: 678.775.3106 | Cell: 404.849.7136 | Fax: 678.775.3138
paul.prys@tetratech.com

Tetra Tech | Atlanta Office
1955 Evergreen Blvd. Bldg. 200, Ste. 300, Duluth, GA 30096 www.tetratech.com | NASDAQ:TTEK

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Armstrong, Kathy

From: reecemc@dhec.sc.gov
Sent: Thursday, August 15, 2019 6:07 PM
To: Hill, Franklin; franklin.hill@epa.gov
Cc: Porter, Henry; Taylor, W. Marshall; Huyser, Matthew
Subject: Able Contracting Fire

Franklin,

The state of SC is requesting that EPA take over the response action started by DHEC on Sunday, August 11, 2019 at the Able Contracting site in Ridgeland, SC as the State's limited resources will not be able to continue funding the action beyond Friday, August 16, 2019.

SC DHEC's onsite contact, Gary Stewart, has been working with EPA OSC Matt Huyser during this week and Gary can provide any additional information you need. We will work with you and your contractor to ensure a seamless transition in response activities.

Your assistance is greatly appreciated. Please reply upon receipt of this request.

Thank you in advance.

Myra C. Reece
Director of Environmental Affairs
S.C. Dept. of Health & Environmental Control
Office: (803) 898-4102
Mobile: (803) 667-1113
Connect: www.scdhec.gov Facebook Twitter

Armstrong, Kathy

From: reecemc@dhec.sc.gov
Sent: Wednesday, August 14, 2019 10:50 PM
To: Huyser, Matthew
Cc: Marshall, Frances (Fran); Stewart, R. Gary; Frost, Keith; Porter, Henry; Adams, Glenn; Frederick, Tim; Jenkins, Brandi; Tolliver, Ronald; shealyrg@dhec.sc.gov
Subject: Re: Questions Carina Curiel brought to the Dinner at the Church Last night

Fran, can you arrange a call with EPA tomorrow morning to discuss these questions? Henry and I will be at the council meeting next week so need to have a good understanding of our collective response.....tx!

Sent from my iPad

On Aug 14, 2019, at 2:26 PM, Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:

> *** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***
> I think it's best to allow DHEC to remain the lead in answering these questions and EPA can provide support in answering questions particularly to the air samples that we collected. I've copied Glenn Adams and Tim Frederick who can provide the best description of the analytical results and human health impacts from the EPA perspective.
>
> I don't know what level of effort should be devoted to answer these questions as an independent response but it's fairly comprehensive so I suspect that the best approach would be to identify what issues are addressed in information that has already been published and then flag questions that have not already been addressed in published information for further follow-up in future updates.
>
> If there is a point person who can do that then I will be willing to provide replies to information/explanation that's needed from EPA.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Frank Edwards <fedwards@jaspercountysc.gov>
Sent: Wednesday, August 14, 2019 1:32 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: FW: Questions Carina Curiel brought to the Dinner at the Church Last night

FYI, the list of questions we mentioned this morning in the conference call.

From: Lisa Wagner
Sent: Monday, August 12, 2019 5:06 PM
To: Andrew Fulghum; David Tedder; Frank Edwards
Subject: Questions Carina Curiel brought to the Dinner at the Church Last night

Hi Andy,

At the church dinner last night given for the Schinger family, Carina Curiel passed out the questions attached to this email. She wants DHEC and the County to answer these questions in writing where applicable. Additional questions that were asked at the meeting are:

- How far out should be residents/people be concerned about toxic smoke?
- What should residents do/expect when they return home?
- Should dust in their homes be considered toxic?
- Who is responsible for interior clean-up of residences?

She and her mom indicated that they will be at the Council Meeting August 19th so just a head's up.

Thanks!

Lisa Wagner, CFM
Director of Planning and Building Services
358 Third Avenue
P.O. Box 1659
Ridgeland, SC 29936
843-717-3650

This email message contains confidential and/or privileged information that is intended solely for the addressee. If you have received this message in error, please notify us by return email, and delete it from your system. Reading, copying or disseminating this message is strictly prohibited.

<Chandler's Toxic Landfill Questions submitted by Carina Curiel.pdf>

Armstrong, Kathy

From: reecemc@dhec.sc.gov
Sent: Wednesday, August 14, 2019 9:41 PM
To: Huyser, Matthew
Subject: Re: Need answers ASAP

thanks Matt!!!

Sent from my iPad

> On Aug 14, 2019, at 9:36 PM, Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:
>
> *** Caution. This is an EXTERNAL email. DO NOT open attachments or
> click links from unknown senders or unexpected email. ***
>
> Is this dump private property?
>
> I'm hesitant to use the word "dump" because that implies "landfill" which it is not. Yes, the facility is private property and spans more than one parcel, some of which are owned by separate entities. The material will be hauled to a landfill with is private property owned by a corporate entity.
>
> Estimated quantity to haul
>
> No solid estimate exists for total volume. The current estimate by
> Jasper County conducted with a drone survey executed by a local survey
> company is at 130k CY. The material is reportedly quite light at
> approximately 0.5 t/CY. My first guess is that we will need to remove
> as little as 30k CY and as much as 80k CY
>
> Haul distance
>
> Currently material is going to WM Hickory Hill landfill. We are looking at WM Oakrwood landfill as a better location due to the nature of the material, available volume of material, and cost of disposal. The distance to Hickory Hill is 5.5 miles one-way. The distance to Oakwood is 10 miles one-way. The third option is a landfill in Savannah which is likely to be 43 miles away.
>
> When are operations scheduled to start? 24/7?
>
> EPA-lead operations will begin with transition occurs from DHEC-lead operations. We will have a safety briefing at 0600 or 0700 for on-site personnel and load trucks early for truck arrival when the landfill opens. Truck loading and hauling will continue until the landfill closes for the day. Firefighting operations will continue 7 days per week with water curtain application overnight. Waste hauling will occur only when landfills are open. Ideally we would like to work with the landfill to open on Saturday so there is a maximum of 6 days per week for hauling and a minimum of 5 days. Hauling will occur in rain but loading operations will cease for lightning.
>

> Any hazardous materials?
>
> There are no known hazardous materials disposed at the Site. Spotters will identify any waste materials that are not suitably classified as construction debris and segregate accordingly. If this occurs, separate waste disposal arrangements will be made for such materials.
>
> Address of location
>
> The facility is located at 472 Schinger Avenue, Ridgeland, Jasper
> County, South Carolina
>
>
>
> Matthew J. Huyser, PE - On-Scene Coordinator U.S. Environmental
> Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia |
> 30303 Emergency Response Removal and Prevention Branch (ERRPB)
> office: 404-562-8934 | cell: 678-427-8829 | fax: 404-562-8699
> epaosc.org
>
> -----Original Message-----
> From: Reece, Myra <reecemc@dhec.sc.gov>
> Sent: Wednesday, August 14, 2019 8:49 PM
> To: Huyser, Matthew <Huyser.Matthew@epa.gov>
> Subject: Need answers ASAP
>
> Matt, can u answer these questions for me? From DOT
>
> Some questions...
>
> Is this dump private property?
>
> Estimated quantity to haul
>
> Haul distance
>
> When are operations scheduled to start? 24/7?
>
> Any hazardous materials?
>
> Address of location
>
> I'm sure there are more, but this'll get me started.
>
>
>
> Sent from my iPhone

Armstrong, Kathy

From: Reed, David <David.Reed@tetratech.com>
Sent: Sunday, September 01, 2019 9:34 AM
To: Byrd, Terrence; Spurlin, Steve; Huyser, Matthew; chris.jones@tetratech.com; John Snyder; Huss, Eric
Subject: Able Contracting Fire: Data Summary 08/31/19 24hrs (Saturday)
Attachments: Able_Viper Summary Tables_083119_24Hrs.pdf

Steve and Terrence,
Attached is the air monitoring data summary for the previous reporting period (0700 083119 to 0700 090119).

The DustTrak's located at Grace Church and the Right of Way South both experienced a glitch last night. They both locked up and the data was not stored on the instrument. I'm going to reach out to the manufacturer and point out what I believe is a problem with their software.

David Reed | Environmental Chemist
Direct **+1 (678) 775-3092** | Mobile **+1 (803) 238-5485** | david.reed@tetratech.com

Tetra Tech | *Leading with Science®*
tetratech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Please consider the environment before printing. Read more

TETRA TECH

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire Site**

From: ***8/31/19 7:00*** ***To:*** ***9/1/19 7:00***

On Site, Southwest Corner of Site

Instrument	Analyte	Momentary Action Level Exceedance	Period Average Exceedance	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	No	1,516	8	0 - 531 ppb	0.72 ppb	1,000 ppb
	CO	No	No	1,516	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	No	1,516	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	No	1,516	1,516	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	No	1,516	892	0 - 3 %	1.2 %	10%
	HCN	No	No	1,516	60	0 - 0.9 ppm	0.01 ppm	7.1 ppm

Prescott Collision

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 1	PM-2.5	Good	1,467	1,467	0 - 8 µg/m³	0.8 µg/m³	See SOG #: T106

On Site, Northwest Corner of Site

Instrument	Analyte	Momentary Action Level Exceedance	Period Average Exceedance	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	No	1,563	1	0 - 8 ppb	0.01 ppb	1,000 ppb
	CO	No	No	1,563	19	0 - 6 ppm	0.04 ppm	83 ppm
	H_2S	No	No	1,563	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	No	1,563	1,563	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	No	No	1,563	0	0 - 0 %	0 %	10%
	HCN	No	No	1,563	106	0 - 0.4 ppm	0.01 ppm	7.1 ppm

Power Line Right Of Way, South

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 2	PM-2.5	Good	1	1	0 - 0 µg/m³	0 µg/m³	See SOG #: T106

Able Contracting Warehouse, Northwest of Site

Instrument	Analyte	Momentary Action Level Exceedance	Period Average Exceedance	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	No	1,540	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	No	1,540	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	No	1,540	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	No	1,540	1,540	20.9 - 20.9 %	20.9 %	<19.5 or >23%
	LEL	#N/A	No	#N/A	#N/A	#N/A	#N/A	10%
	HCN	No	No	1,540	0	0 - 0 ppm	0 ppm	7.1 ppm

Grace Church

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
DustTrak 3	PM-2.5	Good	1	1	0 - 0 µg/m³	0 µg/m³	See SOG #: T106

Fairfax Condo

Instrument	Analyte	Momentary Action Level Exceedance	Period Average Exceedance	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	No	1,558	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	No	1,558	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	No	1,558	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	No	1,558	1,558	20 - 20.5 %	20.2 %	<19.5 or >23%
	LEL	No	No	1,558	0	0 - 0 %	0 %	10%
	HCN	No	No	1,558	1	0 - 0.1 ppm	0 ppm	7.1 ppm

Sun City

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 1	PM-2.5	Good	767	209	0 - 63 µg/m³	8.7 µg/m³	See SOG #: T106

[illegible] Apartments

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 2	PM-2.5	Good	1,429	354	0 - 112 µg/m³	7.8 µg/m³	See SOG #: T106

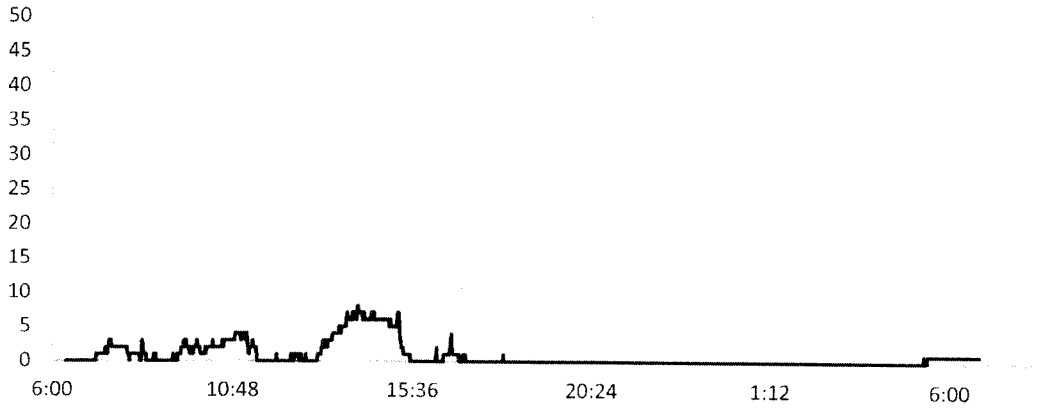
EPA Mobile Command Post

Instrument	Analyte	Air Quality Index	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
EBAM 3	PM-2.5	Good	1,024	226	0 - 102 µg/m³	11.6 µg/m³	See SOG #: T106

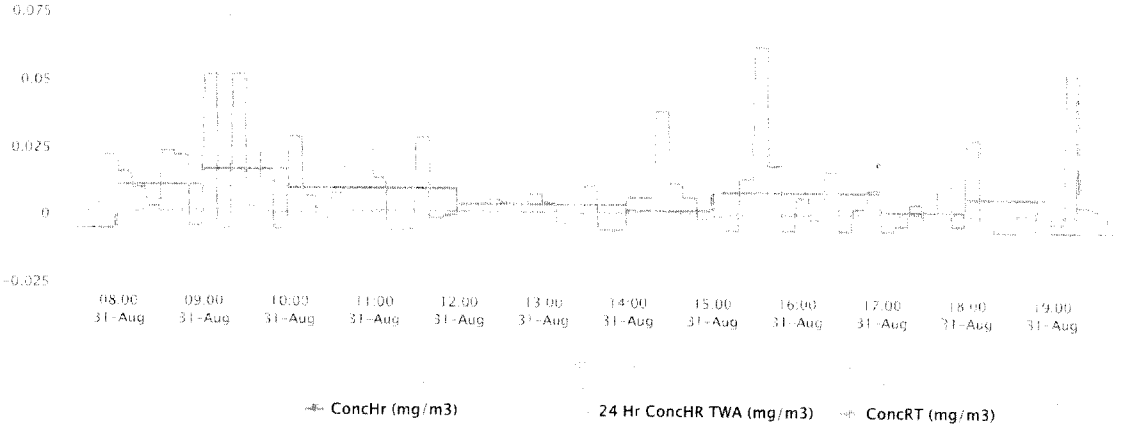
Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline Levels for Airborne Chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
HCN	Hydrogen Cyanide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

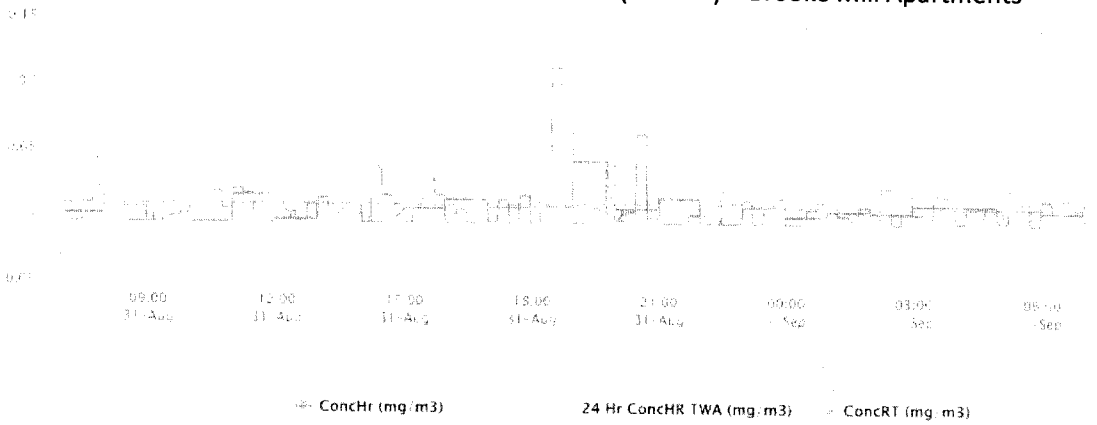
8/31/19 24-hour Data for DustTrak 1 ($PM_{2.5}$) - Peacock Collision



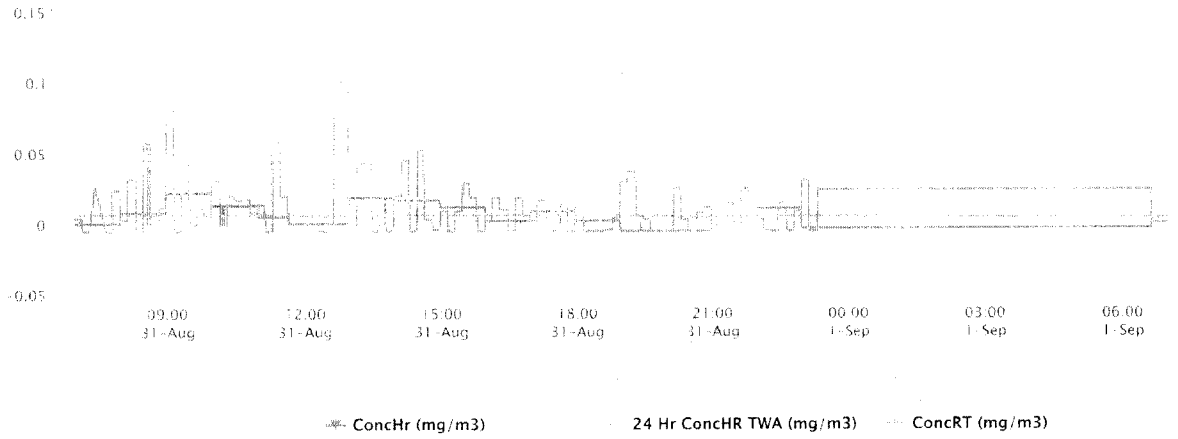
8/31/19 24-hour Data for EBAM 1 (ConcRT) – Sun City



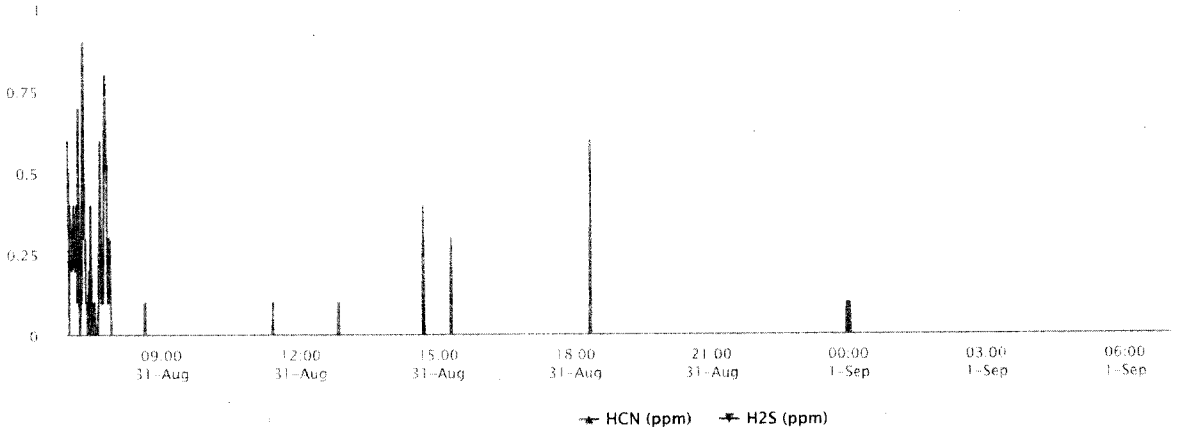
8/31/19 24-hour Data for EBAM 2 (ConcRT) – Brooke Mill Apartments



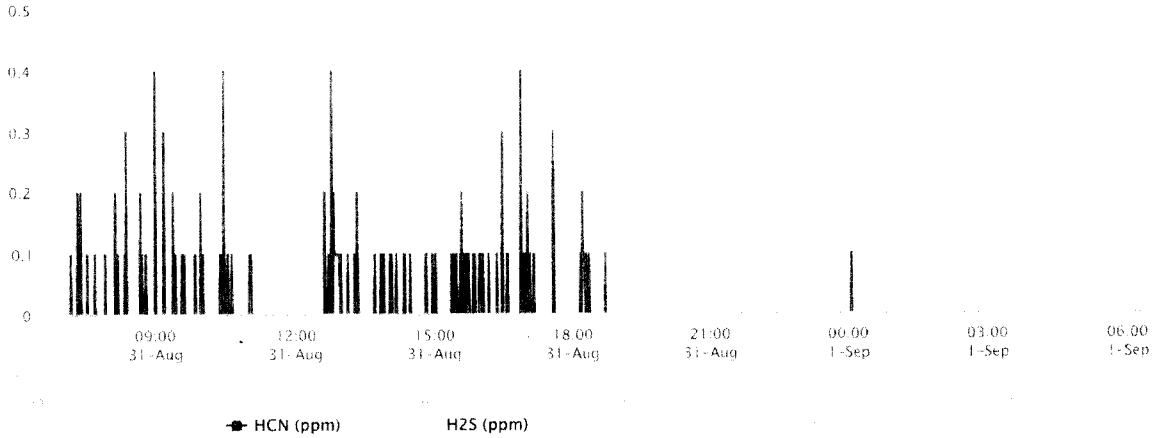
8/31/19 24-hour Data for EBAM 3 (ConcRT) – EPA Mobile Command Post



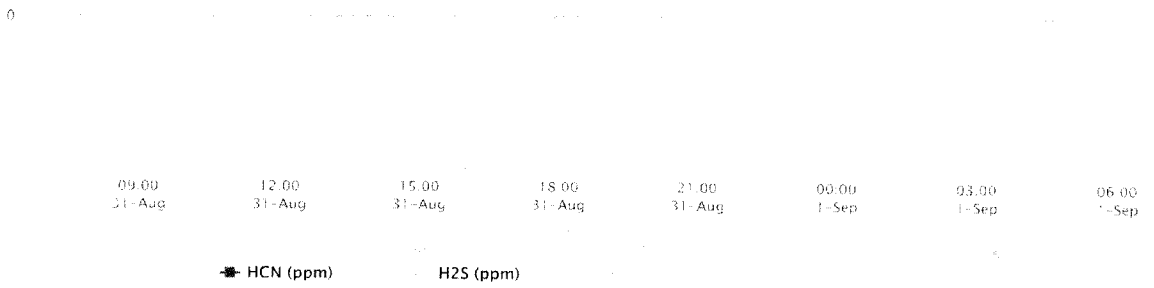
8/31/19 24-hour Data for AREARAE PRO 1 (HCn) – Southwest of Pile



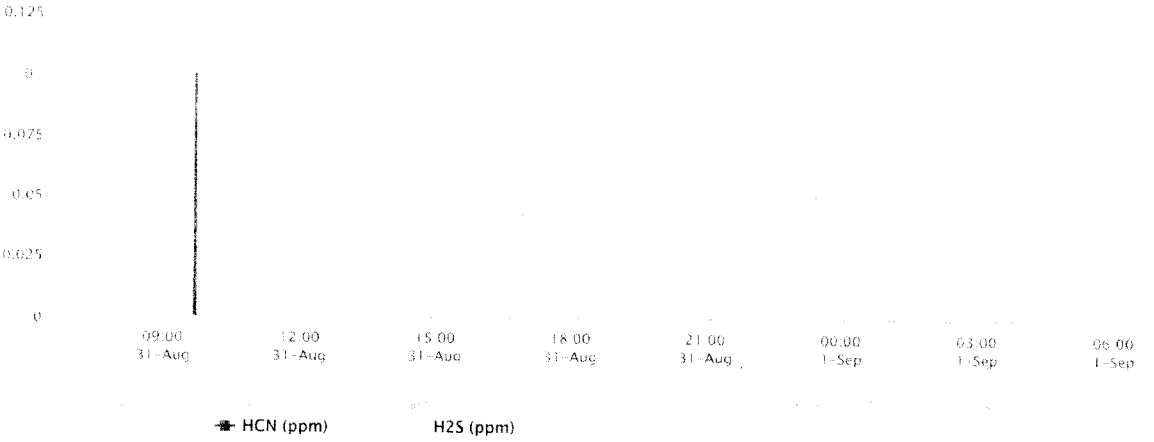
8/31/19 24-hour Data for AREARAE PRO 2 (HCn) – Northwest of Pile



8/31/19 24-hour Data for AREARAE PRO 3 (HCn) – Northeast of Pile



8/31/19 24-hour Data for AREARAE PRO 4 (HCn) – Forrest Concrete



Threshold Values and Air Quality Index Categories for PM2.5

Level of Health Concern	Particulate Matter ≤2.5 microns measured in µg/m3		Interpretation
	1 hour average	24 hour average	
Good	0.0-40.0	0.0-12.0	Air quality is considered satisfactory, and air pollution poses little or no risk
Moderate	**40.1-80.0**	**12.1-35.4**	**Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.**
Unhealthy for Sensitive groups	**80.1-175.0**	**35.5-55.4**	**Members of sensitive groups may experience health effects. The general public is not likely to be affected.**
Unhealthy	175.1-300.0	55.5-150.4	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	300.1-500.0	150.5-250.4	Health warnings of emergency conditions. The entire population is more likely to be affected.
Hazardous	>500.0	>250.5	Health alert: everyone may experience more serious health effects

- Threshold values taken from original EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc for PM2.5 (24 hour) and Idaho Department of Environmental Quality AQI for PM2.5 (1 hour) taken from http://app.airsis.com/usfs/aqi.asp.
- Recommendations are from the EPA Air Now web site.
- People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
- Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air.

ABLE CONTRACTING FIRE
AIR SAMPLE RESULTS FOR JULY 27 and 28, 2019

		BACKGROUND	STATION 1 (SE Corner)	STATION 2 (SW Corner)	STATION 1 (SE Corner)	STATION 2 (SW Corner)
		ACF-AS-BKGD-072819	ACF-AS-RES-AM-072719	ACF-AS-SMOKE-AM-072719	ACF-AS-RES-PM-072719	ACF-AS-SMOKE-PM-072719
Date		7/28/2019	7/27/2019	7/27/2019	7/27/2019	7/27/2019
Start Time		11:30	0:18	1:00	12:10	12:15
End time		19:15	8:10	8:35	20:20	20:30
Analyte	**EPA RMLs**	*Sample Volume*	*Sample Volume*	*Sample Volume*	*Sample Volume*	*Sample Volume*
Asbestos (fibers/cc)		*946.3 Liters*	*767 Liters*	*898.6 Liters*	*965.3 Liters*	*913.3 Liters*
Asbestos	Not Listed	None detected	None detected	None detected	None detected	None detected
Formaldehyde (µg/m³)		*516.20 Liters*	*410.60 Liters*	*411.80 Liters*	*541.50 Liters*	*549.50 Liters*
Formaldehyde	22	4.88	1.70	2.50	3.04	6.09
Metals (µg/m³)		*776.6 Liters*	*672.6 Liters*	*657.5 Liters*	*744.8 Liters*	*784.6 Liters*
Aluminum	16	0.55	0.77	0.52	0.5	0.48
Antimony	Not Listed	0.19 U	0.22 U	0.23 U	0.2 U	0.19 U
Arsenic	Not Listed	0.39 U	0.45 U	0.46 U	0.4 U	0.38 U
Barium	1.6	0.11 U	0.13 U	0.25 J+	0.13 J+	0.11 U
Beryllium	Not Listed	0.039 U	0.045 U	0.046 U	0.04 U	0.038 U
Cadmium	Not Listed	0.039 U	0.045 U	0.046 U	0.04 U	0.038 U
Calcium	Not Listed	52.7 J+	0.54 U	55.1 U	48 J+	41.3 U
Chromium	Not Listed	0.73 U	0.89 U	0.9 U	1.1 U	0.75 U
Cobalt	0.019	0.039 U	0.045 U	0.046 U	0.04 U	0.038 U
Copper	Not Listed	0.019 U	0.22 U	0.23 U	0.2 U	0.19 U
Iron	Not Listed	0.93 J+	1.3 J+	0.87 U	0.81 J+	0.86 J+
Lead	Not Listed	0.039 U	0.045 U	0.046 U	0.04 U	0.038 U
Manganese	Not Listed	0.19 U	0.22 U	0.23 U	0.2 U	0.19 U
Magnesium	Not Listed	9.6 J+	11.2 J+	11.5 J+	10.4 J+	8.5 U
Nickel	Not Listed	0.19 U	0.22 U	0.23 U	0.2 U	0.19 U
Selenium	63	0.39 U	0.45 U	0.46 U	0.4 U	0.38 U
Silver	Not Listed	0.039 U	0.045 U	0.046 U	0.04 U	0.038 U
Thallium	Not Listed	0.039 U	0.045 U	0.046 U	0.04 U	0.038 U
Vanadium	Not Listed	0.39 U	0.45 U	0.46 U	0.4 U	0.38 U
Zinc	Not Listed	0.39 U	0.45 U	0.46 U	0.4 U	0.38 U
Potassium	Not Listed	3.9 U	4.5 U	4.6 U	4 U	3.8 U
Sodium	Not Listed	12.7 J+	15.8 J+	16.5 J+	14.7 J+	12 U
Volatile Organic Compounds (µg/m³)		-	-	-	-	-
Propylene	9,400	2.91	7.88	3.99	2.96	14.2
Freon 12 (CCl2F2)	Not Listed	2.33	2.4	2.38	2.41	2.36
Freon 114 (C2Cl2F4)	Not Listed	0.5 U	0.502 U	0.5 U	0.513 U	0.505 U
Chloromethane	280	1.23	4.76	2.95	1.23	11.6
Chloroethene (Vinyl chloride)	Not Listed	0.184 U	0.185 U	0.184 U	0.189 U	0.186 U
1,3-Butadiene	Not Listed	0.749	1.06	0.689	0.769	2.21
Bromomethane	16	0.275 U	0.276 U	0.274 U	0.282 U	0.277 U
Chloroethane	Not Listed	0.19 U	0.191 U	0.19 U	0.195 U	0.276
Bromoethene (Vinyl bromide)	Not Listed	0.312 U	0.313 U	0.312 U	0.32 U	0.315 U
Freon 11 (CCl3F)	Not Listed	1.18	1.38	1.33	1.4	1.28
Ethanol	Not Listed	16.7	4.28	2.33	9.26	2.56
Acrolein	0.063	0.25	0.49	0.498	0.283	1.18
Freon 113 (C2Cl3F3)	Not Listed	0.554	0.66	0.547	0.605	0.577
1,1-Dichloroethene	Not Listed	0.284 U	0.285 U	0.284 U	0.291 U	0.287 U
Acetone	97000	12	8.66	7.51	10.5	16.1
Carbon disulfide	2200	0.214	0.514 J+	0.279 J+	0.444 J+	0.405 J+
Isopropyl alcohol	Not Listed	0.404	0.468	0.434	0.949	0.478
Allyl chloride (3-chloropropene)	Not Listed	0.225 U	0.226 U	0.225 U	0.231 U	0.227 U
Acetonitrile	190	1.85	2.17	0.892	0.99	1.63 J+
Methylene chloride	1900	0.691 J+	0.871 J+	0.674 J+	0.999 J+	0.651
trans-1,2-Dichloroethene	Not Listed	0.289 U	0.29 U	0.289 U	0.296 U	0.292 U
Methyl tert-butyl ether	Not Listed	0.264 U	0.265 U	0.264 U	0.312	0.267 U
Acrylonitrile	4	0.159 U	0.159 U	0.158 U	0.163 U	0.202
Hexane	Not Listed	4.05	1.55	0.647	2.37	1.43
1,1-Dichloroethane	Not Listed	0.285 U	0.286 U	0.285 U	0.292 U	0.288 U
Vinyl acetate	630	0.256 U	0.257 U	0.256 U	0.263 U	0.259 U
cis-1,2-Dichloroethene	Not Listed	0.285 U	0.287 U	0.285 U	0.293 U	0.288 U
Methyl ethyl ketone (2-Butanone)	16,000	1.02	0.847	0.805	0.612	1.57
Ethyl acetate	220	0.259 U	0.261 U	0.259 U	0.266 U	0.262 U
Chloroform	12	0.353 U	0.354 U	0.353 U	0.362 U	0.356 U
Tetrahydrofuran	Not Listed	0.213 U	0.472	0.373	0.218 U	0.796
1,1,1-Trichloroethane	Not Listed	0.388 U	0.39 U	0.388 U	0.398 U	0.392 U
Cyclohexane	19,000	0.999	0.262	0.25 U	0.803	0.253 U
Carbon tetrachloride	47	0.481	0.482	0.478	0.496	0.466
Benzene	36	2.52	6.46	3.4	2.5	15.1
2,2,4-trimethylpentane	Not Listed	2.12	0.684	0.342 U	0.487	0.346 U
1,2-Dichloroethane	Not Listed	0.296 U	0.297 U	0.296 U	0.303 U	0.299 U
Heptane	Not Listed	2.26	0.769	0.365	0.891	1
Trichloroethene	Not Listed	0.386 U	0.387 U	0.385 U	0.396 U	0.39 U
1,2-Dichloropropane	Not Listed	0.338 U	0.339 U	0.337 U	0.346 U	0.341 U
Methyl methacrylate	2200	0.304 U	0.305 U	0.303 U	0.312 U	0.857
1,4-Dioxane	Not Listed	0.321	0.294	0.26 U	0.267 U	0.374
Bromodichloromethane	7.6	0.476 U	0.478 U	0.475 U	0.488 U	0.48 U
cis-1,3-Dichloropropene	Not Listed	*0.319* U	*0.32* U	*0.319* U	*0.327* U	*0.322* U
Methyl isobutyl ketone	Not Listed	0.302 U	0.373	0.302 U	0.31 U	0.305 U
Toluene	16000	9.82	6.48	2.62	5.08	7.6
trans-1,3-Dichloropropene	Not Listed	0.33 U	0.331 U	0.329 U	0.338 U	0.333 U
1,1,2-Trichloroethane	Not Listed	0.391 U	0.393 U	0.391 U	0.401 U	0.395 U
Tetrachloroethene	Not Listed	0.489 U	0.491 U	0.489 U	0.736	0.494 U
2-Hexanone (Methyl butyl ketone)	Not Listed	0.298 U	0.299 U	0.297 U	0.305 U	0.3 U
Dibromochloromethane	Not Listed	0.601 U	0.604 U	0.601 U	0.617 U	0.607 U
1,2-Dibromoethane	Not Listed	0.556 U	0.559 U	0.556 U	0.571 U	0.562 U
Chlorobenzene	160	0.339 U	0.34 U	0.338 U	0.348 U	0.342 U
Ethylbenzene	110	2.07	3.36	1.12	0.768	5.86
1,1,1,2-Tetrachloroethane	Not Listed	0.491 U	0.493 U	0.49 U	0.504 U	0.496 U
m-/p-Xylenes	Not Listed	6.86	2.37	0.941	2.51	1.66
o-Xylene	Not Listed	2.75	0.95	0.362	0.916	0.759
Styrene	3100	0.348	1.71	2.13	0.446	8.66
Bromoform	260	0.742 U	0.745 U	0.741 U	0.761 U	0.749 U
1,1,2,2-Tetrachloroethane	Not Listed	0.491 U	0.493 U	0.49 U	0.504 U	0.496 U
4-Ethyltoluene	Not Listed	0.913	0.355 U	0.354 U	0.363 U	0.357 U
2-Chlorotoluene	Not Listed	0.373 U	0.374 U	0.372 U	0.382 U	0.376 U
1,3,5-Trimethylbenzene	Not Listed	0.898	0.354 U	0.352 U	0.362 U	0.356 U
1,2,4-Trimethylbenzene	Not Listed	3.23	0.784	0.318 J	0.817	0.414

ABLE CONTRACTING FIRE
AIR SAMPLE RESULTS FOR JULY 27 and 28, 2019

		BACKGROUND	STATION 1 (SE Corner)	STATION 2 (SW Corner)	STATION 1 (SE Corner)	STATION 2 (SW Corner)
		ACF-AS-BKGD-072819	ACF-AS-RES-AM-072719	ACF-AS-SMOKE-AM-072719	ACF-AS-RES-PM-072719	ACF-AS-SMOKE-PM-072719
Date		**7/28/2019**	**7/27/2019**	**7/27/2019**	**7/27/2019**	**7/27/2019**
Start Time		**11:30**	**0:18**	**1:00**	**12:10**	**12:15**
End time		**19:15**	**8:10**	**8:35**	**20:20**	**20:30**
Analyte	**EPA RMLs**	***Sample Volume***	***Sample Volume***	***Sample Volume***	***Sample Volume***	***Sample Volume***
1,3-Dichlorobenzene	Not Listed	0.434 U	0.436 U	0.433 U	0.445 U	0.438 U
1,4-Dichlorobenzene	Not Listed	0.431 U	0.433 U	0.431 U	0.442 U	0.435 U
Benzyl chloride	3.1	0.369 U	0.371 U	0.369 U	0.379 U	0.373 U
1,2-Dichlorobenzene	Not Listed	0.438 U	0.44 U	0.438 U	0.449 U	0.442 U
1,2,4-Trichlorobenzene	Not Listed	0.538 U	0.541 U	0.538 U	0.553 U	0.544 U
Hexachlorobutadiene	13	0.764 U	0.767 U	0.763 U	0.784 U	0.772 U
Naphthalene	Not Listed	**0.336 J**	0.39 U	0.388 U	0.398 U	**0.537**
1-Bromopropane	Not Listed	0.355 U	0.357 U	0.355 U	0.365 U	0.359 U
1-Octene	Not Listed	0.321 U	0.322 U	0.321 U	0.329 U	0.324 U
n-Octane	Not Listed	**0.99**	**0.353**	0.334 U	0.343 U	**0.562**
Isopropylbenzene	Not Listed	0.357 U	**0.838**	0.421	0.366 U	**1.06**
n-Propylbenzene	Not Listed	**0.629**	0.359 U	0.357 U	0.367 U	0.361 U
Semivolatile Organic Compounds (µg/m³)		***439.4 Liters***	***486.2 Liters***	***562.5 Liters***	***421.4 Liters***	***438.3 Liters***
Semivolatile Organic Compounds	Not Listed	None detected	None detected	None detected	None detected	None detected
N-Nitrosodimethylamine	Not Listed	8.78 U	7.94 U	6.86 U	9.16 U	8.81 U
Pyridine	Not Listed	17.1 U	15.4 U	13.3 U	17.8 U	17.1 U
Phenol (CCC)	Not Listed	7.39 U	6.67 U	5.77 U	7.70 U	7.40 U
Aniline	3.1	7.90 U	7.14 U	6.17 U	8.23 U	7.92 U
bis(2-Chloroethyl)ether	0.85	8.97 U	8.10 U	7.00 U	9.35 U	8.99 U
2-Chlorophenol	Not Listed	7.10 U	6.42 U	5.55 U	7.40 U	7.12 U
1,3-Dichlorobenzene	Not Listed	6.35 U	5.74 U	4.96 U	6.62 U	6.37 U
1,4-Dichlorobenzene (CCC)	Not Listed	6.01 U	5.43 U	4.69 U	6.26 U	6.02 U
Benzyl alcohol	Not Listed	7.97 U	7.20 U	6.22 U	8.31 U	7.99 U
1,2-Dichlorobenzene	Not Listed	6.35 U	5.74 U	4.96 U	6.62 U	6.37 U
2-Methylphenol	Not Listed	7.70 U	6.96 U	6.02 U	8.03 U	7.72 U
bis(2-Chloroisopropyl) ether	Not Listed	11.2 U	10.1 U	8.73 U	11.7 U	11.2 U
3/4-Methylphenol	Not Listed	6.73 U	6.08 U	5.25 U	7.01 U	6.74 U
N-Nitroso-di-n-propylamine (SPCC)	Not Listed	9.47 U	8.56 U	7.40 U	9.87 U	9.49 U
o-Toluidine	Not Listed	56.9 U	51.4 U	44.4 U	59.3 U	57.0 U
Hexachloroethane	26	7.19 U	6.50 U	5.62 U	7.50 U	7.21 U
Nitrobenzene	7	9.29 U	8.39 U	7.25 U	9.68 U	9.31 U
Isophorone	6300	8.51 U	7.69 U	6.65 U	8.88 U	8.53 U
2,4-Dimethylphenol	Not Listed	8.30 U	7.50 U	6.48 U	8.65 U	8.32 U
2-Nitrophenol (CCC)	Not Listed	7.61 U	6.88 U	5.95 U	7.94 U	7.63 U
Benzoic acid	Not Listed	56.9 U	51.4 U	44.4 U	59.3 U	57.0 U
bis(2-Chloroethoxy)methane	Not Listed	8.33 U	7.53 U	6.51 U	8.69 U	8.35 U
2,4-Dichlorophenol (CCC)	Not Listed	7.42 U	6.71 U	5.80 U	7.74 U	7.44 U
a,a-Dimethylphenethylamine	Not Listed	56.9 U	51.4 U	44.4 U	59.3 U	57.0 U
1,2,4-Trichlorobenzene	Not Listed	7.02 U	6.35 U	5.48 U	7.32 U	7.04 U
Naphthalene	Not Listed	7.57 U	6.84 U	5.91 U	7.89 U	7.59 U
4-Chloroaniline	Not Listed	9.66 U	8.73 U	7.55 U	10.1 U	9.69 U
Hexachlorobutadiene (CCC)	Not Listed	6.93 U	6.26 U	5.41 U	7.23 U	6.95 U
Quinoline	Not Listed	11.4 U	10.3 U	8.89 U	11.9 U	11.4 U
1,4-Phenylenediamine	Not Listed	56.9 U	51.4 U	44.4 U	59.3 U	57.0 U
4-Chloro-3 methylphenol (CCC)	Not Listed	7.52 U	6.80 U	5.88 U	7.84 U	7.54 U
2-Methylnaphthalene	Not Listed	7.03 U	6.36 U	5.49 U	7.33 U	7.05 U
1-Methylnaphthalene	Not Listed	6.98 U	6.30 U	5.45 U	7.27 U	6.99 U
Hexachlorocyclopentadiene (SPCC)	Not Listed	92.4 U	83.5 U	72.2 U	96.3 U	92.6 U
2,4,6-Trichlorophenol (CCC)	Not Listed	8.40 U	7.59 U	6.56 U	8.76 U	8.42 U
2,4,5-Trichlorophenol	Not Listed	6.16 U	5.56 U	4.81 U	6.42 U	6.17 U
Biphenyl	Not Listed	56.9 U	51.4 U	44.4 U	59.3 U	57.0 U
2-Chloronaphthalene	Not Listed	7.42 U	6.71 U	5.80 U	7.74 U	7.44 U
2-Nitroaniline	Not Listed	11.0 U	9.93 U	8.59 U	11.5 U	11.0 U
1,4-Dinitrobenzene	Not Listed	7.65 U	6.91 U	5.97 U	7.97 U	7.67 U
Dimethylphthalate	Not Listed	9.21 U	8.32 U	7.19 U	9.60 U	9.23 U
1,3-Dinitrobenzene	Not Listed	9.32 U	8.42 U	7.28 U	9.72 U	9.34 U
2,6-Dinitrotoluene	Not Listed	8.82 U	7.97 U	6.89 U	9.20 U	8.84 U
1,2-Dinitrobenzene	Not Listed	8.84 U	7.99 U	6.91 U	9.22 U	8.86 U
Acenaphthylene	Not Listed	7.68 U	6.94 U	6.00 U	8.01 U	7.70 U
3-Nitroaniline	Not Listed	9.29 U	8.39 U	7.25 U	9.68 U	9.31 U
Acenaphthene (CCC)	Not Listed	10.6 U	9.61 U	8.30 U	11.1 U	10.7 U
2,4-Dinitrophenol (SPCC)	Not Listed	56.9 U	51.4 U	44.4 U	59.3 U	57.0 U
4-Nitrophenol (SPCC)	Not Listed	56.9 U	51.4 U	44.4 U	59.3 U	57.0 U
2,4-Dinitrotoluene	Not Listed	9.15 U	8.27 U	7.15 U	9.54 U	9.17 U
Dibenzofuran	Not Listed	7.83 U	7.08 U	6.12 U	8.16 U	7.85 U
2,3,5,6-Tetrachlorophenol	Not Listed	8.66 U	7.83 U	6.76 U	9.03 U	8.68 U
2,3,4,6-Tetrachlorophenol	Not Listed	7.98 U	7.21 U	6.23 U	8.32 U	8.00 U
Diethylphthalate	Not Listed	11.6 U	10.5 U	9.07 U	12.1 U	11.6 U
4-Chlorophenyl-phenylether	Not Listed	8.58 U	7.75 U	6.70 U	8.95 U	8.60 U
Fluorene	Not Listed	8.91 U	8.05 U	6.96 U	9.29 U	8.93 U
4-Nitroaniline	Not Listed	7.90 U	7.14 U	6.17 U	8.24 U	7.92 U
4,6-Dinitro2-methylphenol	Not Listed	56.9 U	51.4 U	44.4 U	59.3 U	57.0 U
N-Nitrosodiphenylamine (CCC)	Not Listed	8.15 U	7.36 U	6.36 U	8.50 U	8.17 U
Azobenzene	9.1	11.3 U	10.2 U	8.81 U	11.8 U	11.3 U
4-Bromophenyl-phenylether	Not Listed	7.64 U	6.90 U	5.96 U	7.96 U	7.65 U
Hexachlorobenzene	0.61	6.21 U	5.61 U	4.85 U	6.48 U	6.23 U
Pentachlorophenol (CCC)	Not Listed	56.9 U	51.4 U	44.4 U	59.3 U	57.0 U
Phenanthrene	Not Listed	8.77 U	7.93 U	6.85 U	9.15 U	8.80 U
Anthracene	Not Listed	8.65 U	7.82 U	6.76 U	9.02 U	8.67 U
Carbazole	Not Listed	8.02 U	7.25 U	6.27 U	8.36 U	8.04 U
Di-n-butylphthalate	Not Listed	11.8 U	10.7 U	9.24 U	12.3 U	11.9 U
Fluoranthene (CCC)	Not Listed	10.5 U	9.45 U	8.17 U	10.9 U	10.5 U
Benzidine	0.0015	259 U	234 U	203 U	271 U	260 U
Pyrene	Not Listed	10.7 U	9.64 U	8.33 U	11.1 U	10.7 U
4-Dimethylaminoazobenzene	Not Listed	56.9 U	51.4 U	44.4 U	59.3 U	57.0 U
Butylbenzylphthalate	Not Listed	9.22 U	8.33 U	7.20 U	9.61 U	9.24 U
3,3-Dimethylbenzidine	Not Listed	123 U	111 U	96.0 U	128 U	123 U
bis(2-Ethylhexyl)adipate	Not Listed	9.95 U	8.99 U	7.77 U	10.4 U	9.97 U
3,3-Dimethoxybenzidine	Not Listed	56.9 U	51.4 U	44.4 U	59.3 U	57.0 U
bis(2-Ethylhexyl)phthalate	Not Listed	19.8 U	17.9 U	15.5 U	20.6 U	19.8 U
3,3'-Dichlorobenzidine	Not Listed	56.9 U	51.4 U	44.4 U	59.3 U	57.0 U
Benzo(a)anthracene	Not Listed	6.26 U	5.66 U	4.89 U	6.53 U	6.27 U
Chrysene	Not Listed	6.33 U	5.72 U	4.94 U	6.60 U	6.34 U
Di-n-octylphthalate (CCC)	Not Listed	7.33 U	6.62 U	5.72 U	7.64 U	7.35 U

ABLE CONTRACTING FIRE
AIR SAMPLE RESULTS FOR JULY 27 and 28, 2019

		BACKGROUND	STATION 1 (SE Corner)	STATION 2 (SW Corner)	STATION 1 (SE Corner)	STATION 2 (SW Corner)
		ACF-AS-BKGD-072819	ACF-AS-RES-AM-072719	ACF-AS-SMOKE-AM-072719	ACF-AS-RES-PM-072719	ACF-AS-SMOKE-PM-072719
Date		7/28/2019	7/27/2019	7/27/2019	7/27/2019	7/27/2019
Start Time		11:30	0:18	1:00	12:10	12:15
End time		19:15	8:10	8:35	20:20	20:30
Analyte	**EPA RMLs**	***Sample Volume***	***Sample Volume***	***Sample Volume***	***Sample Volume***	***Sample Volume***
7,12-Dimethylbenz(a)anthracene	Not Listed	56.9 U	51.4 U	44.4 U	59.3 U	57.0 U
Benzo(b)fluoranthene	Not Listed	3.41 U	3.09 U	2.67 U	3.56 U	3.42 U
Benzo(k)fluoranthene	Not Listed	4.05 U	3.66 U	3.16 U	4.22 U	4.06 U
Benzo(e)pyrene	Not Listed	3.87 U	3.50 U	3.02 U	4.03 U	3.88 U
Benzo(a)pyrene (CCC)	Not Listed	3.87 U	3.50 U	3.02 U	4.03 U	3.88 U
Perylene	Not Listed	3.87 U	3.50 U	3.02 U	4.03 U	3.88 U
3-Methylcholanthrene	Not Listed	56.9 U	51.4 U	44.4 U	59.3 U	57.0 U
Indeno(1,2,3-cd)pyrene	Not Listed	3.41 U	3.09 U	2.67 U	3.56 U	3.42 U
Dibenz(a,h)anthracene	Not Listed	4.84 U	4.37 U	3.78 U	5.04 U	4.85 U
Benzo(g,h,i)perylene	Not Listed	4.01 U	3.62 U	3.13 U	4.18 U	4.02 U
Dibenzo(a,e)pyrene	Not Listed	56.9 U	51.4 U	44.4 U	59.3 U	57.0 U

Notes:

ACF	Able Contracting Fire
EPA	Environmental Protection Agency
J	The identification of the analyte is acceptable; the reported value is an estimate
J+	The identification of the analyte is acceptable; the reported value is an estimate biased high
$\mu g/m^3$	Micrograms per cubic meter
NA	Not Analysed
ND	Not Detected
RMLs	Removal Management Levels; Residential Ambient Air, April 2019. (Lower value of carcinogenic/noncarcinogenic listed; TR=1E-04/THQ+3.0)
U	The analyte was not detected at or above the reporting limit
UJ	The analyte was not detected at or above the reporting limit; which is considered approximate due to
BOLD	Bolded values indicate a chemical detection
SHADE	Shaded values indicate an RML exceedance

ABLE CONTRACTING FIRE
AIR SAMPLE RESULTS FOR AUGUST 2, 2019

		STATION 1 (SE Corner)		STATION 2 (West Side)		STATION 3 (Upwind)	
		ACF-AS-RES-24HRVOC		ACF-AS-SMOKE-24HRVOC		ACF-AS-UPWIND-24HRVOC	
Date		**8/2/2019**		**8/2/2019**		**8/2/2019**	
Start Time		**20:10**		**20:30**		**21:00**	
End time		**15:20**		**12:55**		**16:55**	
Analyte	**EPA RMLs**	***Sample Volume***		***Sample Volume***		***Sample Volume***	
Volatile Organic Compounds (µg/m³)		-		-		-	
Propylene	9,400	**2.98**		**21.5**		**0.633**	
Freon 12 (CCl2F2)	Not Listed	**2.44**		**2.43**		**2.37**	
Freon 114 (C2Cl2F4)	Not Listed	0.481	U	0.483	U	0.489	U
Chloromethane	280	**3.53**		**13.8**		2.09	
Chloroethene (Vinyl chloride)	Not Listed	0.177	U	0.178	U	0.180	U
1,3-Butadiene	Not Listed	**0.195**		**2.35**		0.151	U
Bromomethane	16	0.264	U	**0.46**		0.268	U
Chloroethane	Not Listed	0.183	U	**0.268**		0.186	U
Bromoethene (Vinyl bromide)	Not Listed	0.300	U	0.301	U	0.305	U
Freon 11 (CCl3F)	Not Listed	**1.42**		**1.41**		**1.39**	
Ethanol	Not Listed	**2.62**		**3.26**		**1.21**	J+
Acrolein	0.063	**0.307**		**2.56**		**0.273**	
Freon 113 (C2Cl3F3)	Not Listed	**0.591**		**0.613**		**0.584**	
1,1-Dichloroethene	Not Listed	0.273	U	**0.274**	U	0.277	U
Acetone	97000	**6.87**		**14.7**		**5.46**	
Carbon disulfide	2200	**0.448**	J+	**0.736**	J+	**0.262**	J+
Isopropyl alcohol	Not Listed	**0.432**		**0.41**		**0.305**	
Allyl chloride (3-chloropropene)	Not Listed	0.217	U	0.218	U	0.220	U
Acetonitrile	190	**1.17**		**3.64**		**0.893**	
Methylene chloride	1900	**0.625**	J+	**0.66**	J+	**0.551**	
trans-1,2-Dichloroethene	Not Listed	0.278	U	0.279	U	0.282	U
Methyl tert-butyl ether	Not Listed	0.254	U	**0.355**		0.258	U
Acrylonitrile	4	0.153	U	**0.946**		0.155	U
Hexane	Not Listed	**0.849**		**1.71**		**0.28**	
1,1-Dichloroethane	Not Listed	0.274	U	0.275	U	0.278	U
Vinyl acetate	630	0.246	U	0.247	U	0.250	U
cis-1,2-Dichloroethene	Not Listed	0.275	U	0.276	U	0.279	U
Methyl ethyl ketone (2-Butanone)	16,000	**0.657**		**2.69**		0.42	
Ethyl acetate	220	**0.719**		**0.251**	U	0.253	U
Chloroform	12	0.340	U	**0.341**	U	0.345	U
Tetrahydrofuran	Not Listed	**0.222**		**1.32**		0.208	U
1,1,1-Trichloroethane	Not Listed	0.374	U	0.375	U	0.379	U
Cyclohexane	19,000	0.241	U	**0.319**		0.244	U
Carbon tetrachloride	47	**0.523**		**0.497**		**0.491**	
Benzene	36	**2.00**		**26.2**		0.223	U
2,2,4-trimethylpentane	Not Listed	**0.322**		0.331	U	0.334	U
1,2-Dichloroethane	Not Listed	0.285	U	0.286	U	0.289	U
Heptane	Not Listed	**0.478**		**1.51**		0.288	U
Trichloroethene	Not Listed	0.371	U	0.373	U	0.377	U
1,2-Dichloropropane	Not Listed	0.325	U	0.326	U	0.330	U
Methyl methacrylate	2200	0.292	U	**1.4**		0.297	U
1,4-Dioxane	Not Listed	0.251	U	**0.584**		0.254	U
Bromodichloromethane	7.6	0.458	U	0.460	U	0.465	U
cis-1,3-Dichloropropene	Not Listed	0.307	U	0.31	U	0.31	U
Methyl isobutyl ketone	Not Listed	0.291	U	0.292	U	0.295	U
Toluene	16000	**2.26**		**11.8**		**0.657**	
trans-1,3-Dichloropropene	Not Listed	0.317	U	0.319	U	0.322	U
1,1,2-Trichloroethane	Not Listed	0.376	U	0.378	U	0.382	U
Tetrachloroethene	Not Listed	0.471	U	0.473	U	0.478	U
2-Hexanone (Methyl butyl ketone)	Not Listed	0.286	U	**0.338**		0.291	U
Dibromochloromethane	Not Listed	0.578	U	0.581	U	0.587	U
1,2-Dibromoethane	Not Listed	0.535	U	0.538	U	0.544	U
Chlorobenzene	160	0.326	U	**0.748**		0.331	U
Ethylbenzene	110	**1.33**		**8**		0.298	U
1,1,1,2-Tetrachloroethane	Not Listed	0.472	U	0.474	U	0.479	U
m-/p-Xylenes	Not Listed	**0.673**		**2.07**		0.307	U
o-Xylene	Not Listed	**0.284**	J+	**0.98**		0.303	U
Styrene	3100	**0.842**		**21.2**		0.29	U
Bromoform	260	0.714	U	0.717	U	0.725	U
1,1,2,2-Tetrachloroethane	Not Listed	0.472	U	0.474	U	0.479	U
4-Ethyltoluene	Not Listed	0.341	U	0.342	U	0.346	U
2-Chlorotoluene	Not Listed	0.359	U	0.360	U	0.364	U
1,3,5-Trimethylbenzene	Not Listed	0.339	U	**0.535**		0.344	U
1,2,4-Trimethylbenzene	Not Listed	0.336	U	**0.534**		0.341	U
1,3-Dichlorobenzene	Not Listed	0.417	U	0.419	U	0.424	U

ABLE CONTRACTING FIRE
AIR SAMPLE RESULTS FOR AUGUST 2, 2019

		STATION 1 (SE Corner)		STATION 2 (West Side)		STATION 3 (Upwind)	
		ACF-AS-RES-24HRVOC		ACF-AS-SMOKE-24HRVOC		ACF-AS-UPWIND-24HRVOC	
Date		**8/2/2019**		**8/2/2019**		**8/2/2019**	
Start Time		**20:10**		**20:30**		**21:00**	
End time		**15:20**		**12:55**		**16:55**	
Analyte	**EPA RMLs**	***Sample Volume***		***Sample Volume***		***Sample Volume***	
Volatile Organic Compounds (µg/m³)		-		-		-	
1,4-Dichlorobenzene	Not Listed	0.415	U	0.417	U	0.421	U
Benzyl chloride	3.1	0.355	U	0.357	U	0.361	U
1,2-Dichlorobenzene	Not Listed	0.422	U	0.423	U	0.428	U
1,2,4-Trichlorobenzene	Not Listed	0.518	U	0.520	U	0.526	U
Hexachlorobutadiene	13	0.735	U	0.738	U	0.746	U
Naphthalene	Not Listed	0.373	U	**1.02**		0.379	U
1-Bromopropane	Not Listed	0.342	U	0.343	U	0.347	U
1-Octene	Not Listed	0.309	U	0.310	U	0.314	U
n-Octane	Not Listed	0.322	U	**0.957**		0.327	U
Isopropylbenzene	Not Listed	**0.466**		**1.92**		**0.355**	
n-Propylbenzene	Not Listed	0.344	U	**0.453**		0.349	U

Notes:

ACF	Able Contracting Fire
EPA	Environmental Protection Agency
J+	The identification of the analyte is acceptable; the reported value is an estimate biased high
µg/m³	Micrograms per cubic meter
NA	Not Analysed
ND	Not Detected
RMLs	Removal Management Levels; Residential Ambient Air, April 2019. (Lower value of carcinogenic/noncarcinogenic listed; TR=1E-04/THQ+3.0)
U	The analyte was not detected at or above the reporting limit
UJ	The analyte
BOLD	Bolded values
SHADE	Shaded values indicate an RML exceedance

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 29, 2019

Mr. Hieu Michael Powers
CERCLA Strike Team Project Manager
USCG
4200 Wilson Blvd., Suite 1000
Arlington, VA 22203

SUBJECT: IA DW #7094608401 (Increase Funding)

Dear Mr. Powers:

Enclosed is a work authorization under Interagency Agreement (IA) DW #709460801. This work authorization is to *increase funding in the amount of $30,000.00* to the U.S. Coast Guard Gulf Strike Team (USCG) to assist with oversight of contractors and subcontractors conducting air monitoring, documentation and reporting, and health and safety concerns at the Able Contracting Fire located in Ridgeland, Jasper County, South Carolina (site # C4A9RV00).

All activities conducted under this work authorization must be consistent with the IA referenced above. Funding for costs incurred by your agency is provided under the authority of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA, as amended).

The work authorization contains the following Superfund Account Numbers: 11TCD4ADOE 302DC6C C4A9RV00 for the above site. This accounting string must be cited on all financial and management reports, including all claims for reimbursement (invoices) and required progress reports.

Sincerely,

Robenson Joseph, Chief
Resource Management Section
Superfund & Emergency Management Division

Enclosure

cc: EPA-Cincinnati
MSTC Isaac Chavalia, USCG

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION IV

WORK AUTHORIZATION FORM

Original	X Increase	Decrease	Amendment to Extend Period of Performance

AUTHORIZATION IS HEREBY GIVEN TO PROVIDE TECHNICAL ASSISTANCE AS DESCRIBED IN THE GENERIC INTERAGENCY AGREEMENT IDENTIFIED BELOW. THE FOLLOWING INFORMATION IS PROVIDED FOR COST DOCUMENTATION PURPOSES:

IA NUMBER:	DW 7094608401		
SITE NAME:	Able Contracting		
EPA SITE ID NO:	**C4A9**		
TECHNICAL PROJECT OFFICER:	Matt Huyser	**TELEPHONE:**	(404) 562-8934
IA PROJECT OFFICER:	Leonna Teasley	**TELEPHONE:**	(404) 562-8509
PERIOD OF PERFORMANCE:	08/14/2019	**TO:**	09/30/2019

PREVIOUS	INCREASE/DECREASE	CURRENT FUNDING
$20,000.00	$30,000.00	$50,000.00

EPA Accounting Information

	DCN	SUPERFUND ACCOUNT NUMBER	OBCLS	AMOUNT
DEOBLIGATE FROM:	DZ1003	11 TCD 4ADOE 302DC6C 04WQRV00	25.06	$30,000.00
OBLIGATE TO:	DZ1003	11 TCD 4ADOE 302DC6C C4A9RV00	25.06	$30,000.00

Leonna Teasley /s/ — 08/22/2019

Grants Project Officer — Date

Funds Certifying Officer — Date

Original To: **USEPA**
Accounting Operations Office (MS 002)
Cincinnati, OH 45268

Compass Data Warehouse

Document Review

Compass Document ID DW70946084

Document Summary:
Doc Type: [illegible]
Doc No: [illegible]
Order Date: [illegible]
Closed Date: [illegible]
Servicing Finance Office: [illegible]
Order Amount: [illegible]
Net Paid Amount: [illegible]
Closed Amount: [illegible]
Available Amount: [illegible]
Vendor Code: [illegible] Vendor: [illegible]
Description: [illegible]
Extended Description: [illegible]

Document Details: Expand

Lines Line [illegible]	Expended Amt	Closed Amt	Refunded Amt	Available Amt	BFY	Fund	Org	Program	Project	FOC	CostOrg	Comments	Extended Description
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TR2B	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2011	TR2B	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
$263,053.50	$0.00	$0.00	$0.00	$263,053.50	2011	TCD	4AD0E	302DC6C	04WQRV00	2506	C020	RQ114ADZ1003	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2011	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2012	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	RQ124ADZ2602 [illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2011	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2011	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TCD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		

Scope of Work
USCG Gulf Strike Team Support
Able Contracting Fire
Ridgeland, Jasper County, SC

Site
Able Contracting Fire
472 Schinger Ave
Ridgeland, SC 29936
Site ID: C4A9

Date of Deployment
Aug 14, 2109

Level of Effort and Duration
Four (4) GST personnel is to mobilize to the site. Personnel are anticipated to be on site for 30 days.

Site Description
Able Contracting (the Site) is a construction and demolition debris recycling facility located at 472 Schinger Ave in Ridgeland, Jasper County, South Carolina. The facility reportedly receives construction and demolition debris from residential properties. The Site is estimated at 8.25 acres in size and contains approximately four acres of stockpiled material that has been accumulated over time. The pile is approximately 35 feet high. There are various other buildings onsite including a maintenance shop and office building. The Site is located in a mixed-use area consisting of commercial and residential properties to the south and east of the site.

The stockpiled material has ignited multiple times over the past several years. The current fire began in early July 2019. Since then, local responders, as well as personnel from Able Contracting, have been attempting to extinguish the fire until July 23 when the large water supply pump was damaged by a lightning strike. Smoke from the smoldering fire continued to increase over the next several days when firefighting efforts were ceased. The EPA was requested by South Carolina Department Health and Environmental Conservation (SCDHEC) to conduct air monitoring and sampling to determine if any hazardous substances were being discharged from the smoldering fire.

Scope of Work
- Provide Safety Officer (SO) to the incident management team (IMT)
- Assist with the air monitoring efforts for the response and removal activities
- Assist with the documentation and reporting of site conditions and downwind impacts of the plume
- Assist the OSC with contractor oversight and reporting and advising on safe operational activities

eurofins
Lancaster Laboratories
Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Baum's Castorine Co. Inc.
200 Matthew Street
Rome NY 13440

Report Date: June 10, 2019 14:14

Project: Novacool UEF

Account #: 44390
Group Number: 2044938
PO Number: 010980
State of Sample Origin: NY

Electronic Copy To Baum's Castorine Co. Inc. Attn: Paul Berger

Respectfully Submitted,

Elizabeth M. Bauer

Elizabeth M. Bauer
Project Manager

(717) 556-7290

To view our laboratory's current scopes of accreditation please go to https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/ . Historical copies may be requested through your project manager.

eurofins
Lancaster Laboratories
Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

SAMPLE INFORMATION

Client Sample Description	Sample Collection Date/Time	ELLE#
Novacool UEF Product Sample	05/17/2019 15:30	1062334

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

eurofins
Lancaster Laboratories
Environmental

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description: **Novacool UEF Product Sample**

Project Name: **Novacool UEF**

Baum's Castorine Co. Inc.
ELLE Sample #: G5 1062334
ELLE Group #: 2044938
Matrix: Misc Organic

Submittal Date/Time: 05/21/2019 09:50
Collection Date/Time: 05/17/2019 15:30

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous	**EPA 537 Version 1.1 Modified**		ng/l	ng/l	
14473	10:2Fluorotelomersulfonic acid	120226-60-0	< 15,000	15,000	10
14473	4:2-Fluorotelomersulfonic acid	757124-72-4	< 15,000	15,000	10
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	< 10,000	10,000	10
14473	8:2-Fluorotelomersulfonic acid	39108-34-4	< 30,000	30,000	10
14473	NEtFOSAA	2991-50-6	< 15,000	15,000	10
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.				
14473	NEtPFOSA	4151-50-2	< 45,000	45,000	10
	NEtPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide				
14473	NEtPFOSAE	1691-99-2	< 15,000	15,000	10
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol				
14473	NMeFOSAA	2355-31-9	< 15,000	15,000	10
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.				
14473	NMePFOSA	31506-32-8	< 45,000	45,000	10
	NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide				
14473	NMePFOSAE	24448-09-7	< 15,000	15,000	10
	NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol				
14473	Perfluorobutanesulfonic acid	375-73-5	< 5,000	5,000	10
14473	Perfluorobutanoic acid	375-22-4	< 30,000	30,000	10
14473	Perfluorodecanesulfonic acid	335-77-3	< 10,000	10,000	10
14473	Perfluorodecanoic acid	335-76-2	< 10,000	10,000	10
14473	Perfluorododecanesulfonic acid	79780-39-5	< 5,000	5,000	10
14473	Perfluorododecanoic acid	307-55-1	< 10,000	10,000	10
14473	Perfluoroheptanesulfonic acid	375-92-8	< 10,000	10,000	10
14473	Perfluoroheptanoic acid	375-85-9	< 5,000	5,000	10
14473	Perfluorohexadecanoic acid	67905-19-5	< 5,000	5,000	10
14473	Perfluorohexanesulfonic acid	355-46-4	< 10,000	10,000	10
14473	Perfluorohexanoic acid	307-24-4	< 10,000	10,000	10
14473	Perfluorononanesulfonic acid	68259-12-1	< 10,000	10,000	10
14473	Perfluorononanoic acid	375-95-1	< 10,000	10,000	10
14473	Perfluorooctadecanoic acid	16517-11-6	< 10,000	10,000	10
14473	Perfluorooctanesulfonamide	754-91-6	< 15,000	15,000	10
14473	Perfluorooctanesulfonic acid	1763-23-1	< 10,000	10,000	10
14473	Perfluorooctanoic acid	335-67-1	< 5,000	5,000	10
14473	Perfluoropentanesulfonate	2706-91-4	< 10,000	10,000	10
14473	Perfluoropentanoic acid	2706-90-3	< 30,000	30,000	10
14473	Perfluorotetradecanoic acid	376-06-7	< 5,000	5,000	10
14473	Perfluorotridecanoic acid	72629-94-8	< 5,000	5,000	10
14473	Perfluoroundecanoic acid	2058-94-8	< 10,000	10,000	10

Reporting limits were raised due to interference from the sample matrix.

The recovery for sample injection standard peak areas and several extraction standards is outside of QC acceptance limits as noted on the QC Summary due to the matrix of the sample.

Target analytes were outside of QC acceptance limits as noted on the QC Summary in the Laboratory Control Spike(s) associated with this

eurofins

Lancaster Laboratories Environmental

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description: **Novacool UEF Product Sample**

Project Name: **Novacool UEF**

Baum's Castorine Co. Inc.
ELLE Sample #: G5 1062334
ELLE Group #: 2044938
Matrix: Misc Organic

Submittal Date/Time: 05/21/2019 09:50
Collection Date/Time: 05/17/2019 15:30

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
sample.					

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	32 PFAS in Product	EPA 537 Version 1.1 Modified	1	19151013	06/05/2019 17:07	Jason W Knight	10
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19151013	05/31/2019 12:10	Robert Brown	1

Quality Control Summary

Client Name: Baum's Castorine Co. Inc. Group Number: 2044938
Reported: 06/10/2019 14:14

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ng/l	LOQ ng/l
Batch number: 19151013	Sample number(s): 1062334	
10:2Fluorotelomersulfonic acid	< 1,500	1,500
4:2-Fluorotelomersulfonic acid	< 1,500	1,500
6:2-Fluorotelomersulfonic acid	< 1,000	1,000
8:2-Fluorotelomersulfonic acid	< 3,000	3,000
NEtFOSAA	< 1,500	1,500
NEtPFOSA	< 4,500	4,500
NEtPFOSAE	< 1,500	1,500
NMeFOSAA	< 1,500	1,500
NMePFOSA	< 4,500	4,500
NMePFOSAE	< 1,500	1,500
Perfluorobutanesulfonic acid	< 500	500
Perfluorobutanoic acid	< 3,000	3,000
Perfluorodecanesulfonic acid	< 1,000	1,000
Perfluorodecanoic acid	< 1,000	1,000
Perfluorododecanesulfonic acid	< 500	500
Perfluorododecanoic acid	< 1,000	1,000
Perfluoroheptanesulfonic acid	< 1,000	1,000
Perfluoroheptanoic acid	< 500	500
Perfluorohexadecanoic acid	< 500	500
Perfluorohexanesulfonic acid	< 1,000	1,000
Perfluorohexanoic acid	< 1,000	1,000
Perfluorononanesulfonic acid	< 1,000	1,000
Perfluorononanoic acid	< 1,000	1,000
Perfluorooctadecanoic acid	< 1,000	1,000
Perfluorooctanesulfonamide	< 1,500	1,500
Perfluorooctanesulfonic acid	< 1,000	1,000
Perfluorooctanoic acid	< 500	500
Perfluoropentanesulfonate	< 1,000	1,000
Perfluoropentanoic acid	< 3,000	3,000
Perfluorotetradecanoic acid	< 500	500
Perfluorotridecanoic acid	< 500	500
Perfluoroundecanoic acid	< 1,000	1,000

LCS/LCSD

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Quality Control Summary

Client Name: Baum's Castorine Co. Inc.
Reported: 06/10/2019 14:14

Group Number: 2044938

LCS/LCSD

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 19151013	Sample number(s): 1062334								
10:2Fluorotelomersulfonic acid	3856	4205.1	3856	4042.04	109	105	49-186	4	30
4:2-Fluorotelomersulfonic acid	3736	3528.35	3736	3839.41	94	103	82-152	8	30
6:2-Fluorotelomersulfonic acid	3792	4039.56	3792	4165.05	107	110	66-155	3	30
8:2-Fluorotelomersulfonic acid	3832	4098.38	3832	4287.92	107	112	66-148	5	30
NEtFOSAA	1360	1536.53	1360	1470.31	113	108	55-169	4	30
NEtPFOSA	1360	1500.08	1360	< 4,500	110	0*	70-130	200*	30
NEtPFOSAE	1360	1774.37	1360	1774.99	130	131*	70-130	0	30
NMeFOSAA	1360	1533.14	1360	1269.87	113	93	44-147	19	30
NMePFOSA	1360	< 4,500	1360	< 4,500	0*	0*	70-130	0	30
NMePFOSAE	1360	1431.57	1360	1271.67	105	94	70-130	12	30
Perfluorobutanesulfonic acid	1204	1370.73	1204	1355.04	114	113	73-128	1	30
Perfluorobutanoic acid	1360	2793.07	1360	2482.96	205*	183*	74-142	12	30
Perfluorodecanesulfonic acid	1310	1464.94	1310	1584.46	112	121	60-135	8	30
Perfluorodecanoic acid	1360	1584.73	1360	1596.73	117	117	69-148	1	30
Perfluorododecanesulfonic acid	1316	1591.64	1316	1325.4	121	101	70-130	18	30
Perfluorododecanoic acid	1360	1522.3	1360	1466.36	112	108	75-136	4	30
Perfluoroheptanesulfonic acid	1294	1424.98	1294	1491.28	110	115	64-135	5	30
Perfluoroheptanoic acid	1360	1838.86	1360	1585.27	135	117	76-140	15	30
Perfluorohexadecanoic acid	1360	1625.96	1360	1734.28	120	128	21-151	6	30
Perfluorohexanesulfonic acid	1286	1332.36	1286	1379.36	104	107	71-131	3	30
Perfluorohexanoic acid	1360	1690.25	1360	1748.13	124	129	75-135	3	30
Perfluorononanesulfonic acid	1306	1555.94	1306	1490.93	119	114	66-133	4	30
Perfluorononanoic acid	1360	1615.99	1360	1647.5	119	121	72-148	2	30
Perfluorooctadecanoic acid	1360	1565.22	1360	1654.11	115	122	70-130	6	30
Perfluorooctanesulfonamide	1360	1322.97	1360	1498.2	97	110	65-164	12	30
Perfluorooctanesulfonic acid	1300	1427.45	1300	1292.11	110	99	67-138	10	30
Perfluorooctanoic acid	1360	1753.08	1360	1771.63	129	130	72-138	1	30
Perfluoropentanesulfonate	1276	1425.64	1276	1323.57	112	104	76-127	7	30
Perfluoropentanoic acid	1360	1530.02	1360	1566.84	113	115	74-134	2	30
Perfluorotetradecanoic acid	1360	1558.48	1360	1571.58	115	116	74-135	1	30
Perfluorotridecanoic acid	1360	1525.12	1360	1482.18	112	109	61-145	3	30
Perfluoroundecanoic acid	1360	1508.58	1360	1572.17	111	116	75-146	4	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Baum's Castorine Co. Inc.
Reported: 06/10/2019 14:14

Group Number: 2044938

Labeled Isotope Quality Control

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: 32 PFAS in Product
Batch number: 19151013

	13C4-PFBA	13C5-PFPeA	13C3-PFBS	13C2-4:2-FTS	13C5-PFHxA	13C3-PFHxS
1062334	77	77	73	248*	229*	188*
Blank	90	86	87	97	91	84
LCS	95	93	91	108	96	99
LCSD	85	86	84	94	88	88
Limits:	33-123	31-157	26-148	21-182	35-138	34-126

	13C4-PFHpA	13C2-6:2-FTS	13C8-PFOA	13C8-PFOS	13C9-PFNA	13C6-PFDA
1062334	161*	957*	82	77	67	74
Blank	91	94	89	85	86	93
LCS	95	98	96	98	106	99
LCSD	89	89	88	88	84	90
Limits:	35-126	32-170	48-122	50-121	41-144	47-125

	13C2-8:2-FTS	d3-NMeFOSAA	13C7-PFUnDA	d5-NEtFOSAA	13C2-PFDoDA	13C2-PFTeDA
1062334	84	231*	388*	334*	483*	645*
Blank	101	106	96	102	96	87
LCS	107	113	108	115	103	100
LCSD	91	122	102	113	102	90
Limits:	27-164	30-127	30-128	30-142	39-130	26-119

	13C8-PFOSA	d7-NMePFOSAE	d3-NMePFOSA	d9-NEtPFOSAE	d5-NEtPFOSA
1062334	61	383*	337*	502*	630*
Blank	111	36	49	39	44
LCS	111	45	49	48	40
LCSD	103	51	56	51	52
Limits:	11-127	10-128	10-104	10-121	10-106

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only
Acct. # 44390 Group # 2044938 Sample # 1062334

COC #583675

Client Information

Client: Baum's Castorine Co. Inc.
Acct. #: 44390
Project Name/#: Novacool UEF
PWSID #:
Project Manager: Paul Berger
P.O. #: ~~OEF~~ 010980
Sampler: Paul Berger
Quote #: 220819A
State where samples were collected: New York
For Compliance: Yes ☐ No ☑

For Lab Use Only
FSC:
SCR#: 243274

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 P=H_3PO_4
F=Field Filtered O=Other

Sample Identification	Collected Date	Collected Time	Grab	Composite	Matrix: Soil	Sediment	Tissue	Water: Potable	Ground	NPDES	Surface	Other: product sample	Total # of Containers	PFAS in Product									Remarks
Novacool UEF	5/17/19	3:30 PM										X	1	32									

Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Requested TAT in business days: _____

E-mail address: _____

Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) NJ DKQP TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Edwin Hernandez	5/14/19	1520	Paul H. Berger	5/15/19	3:00PM
Paul H. Berger	5/20/19	3:00 PM			
			Received by	5/21/19	09:50

EDD Required? Yes No
If yes, format: _____
Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS ✓ FedEx ____ Other ____
Temperature upon receipt 2.8 °C

eurofins

Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 249517

Group Number(s): 2044938

Client: Baum's Castorine Co. Inc.

Novacool UEF

Delivery and Receipt Information

Delivery Method:	UPS	Arrival Timestamp:	05/21/2019 9:50
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	NY		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Unpacked by Katie Hartlove (2114) at 12:27 on 05/21/2019

Samples Chilled Details: Novacool UEF

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	2.8	DT	Wet	N	Bagged	N

Container Quantity Discrepancy Details: Novacool UEF

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
Novacool UEF	2	1	

2425 New Holland Pike
Lancaster, PA 17605-2425

T 717-656-2300
F 717-656-2681
www.LancasterLabs.com

eurofins | Lancaster Laboratories Environmental

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mL**	milliliter(s)
C	degrees Celsius	**MPN**	Most Probable Number
cfu	colony forming units	**N.D.**	non-detect
CP Units	cobalt-chloroplatinate units	**ng**	nanogram(s)
F	degrees Fahrenheit	**NTU**	nephelometric turbidity units
g	gram(s)	**pg/L**	picogram/liter
IU	International Units	**RL**	Reporting Limit
kg	kilogram(s)	**TNTC**	Too Numerous To Count
L	liter(s)	**µg**	microgram(s)
lb.	pound(s)	**µL**	microliter(s)
m3	cubic meter(s)	**umhos/cm**	micromhos/cm
meq	milliequivalents	**MCL**	Maximum Contamination Limit
mg	milligram(s)		

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

eurofins

Lancaster Laboratories
Environmental

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
P^	Concentration difference between the primary and confirmation column > 40%. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Baum's Castorine Co., Inc.
Manufacturing Chemists Since 1879

July 11, 2019

Extensive scientific research has shown that low levels of materials from the perfluorooctanyl chemistry are present in the environment, including living organisms, and they persist for long periods of time. PFOS (perfluorooctanyl sulfonate), together with surfactants that degrade to PFOA (Perfluorooctanoic acid), have been used to make aqueous film forming foam (AFFF).

Novacool UEF was developed as a Fluorine free universal extinguishing foam for use at 0.5%. It is a mixture of amphoteric, nonionic, and anionic surfactants containing no perfluoroalkyl functional groups. Testing by CH2M Hill show it to be readily degradable.

We have been asked to provide supporting evidence to our claim that Novacool UEF is formulated without the use of perfluoroalkyl surfactants. Novacool UEF Samples were submitted to Eurofins Lancaster Laboratories for testing by GCMS. No perfluoroalkyl compounds were detected at or above the lower detection limits of the test. For PFOS and PFOA the lower detection limits are 10,000 ng/l [0.01 ppm] and 5000 ng/l [0.005 ppm], respectively. Had these materials been used as performance ingredients in Novacool UEF, they would have been detected at many orders of magnitude higher than the limit.

Paul H. Berger

Paul H. Berger, President

Armstrong, Kathy

From: Frank Edwards <fedwards@jaspercountysc.gov>
Sent: Monday, August 19, 2019 3:33 PM
To: Tolliver, Ronald; Huyser, Matthew
Subject: Public Meeting

I understand that a decision has been made on the public meeting tomorrow night. Can one of you provide me with details so we can get it communicated. Thanks

Matt,
I want to confirm that you will still be coming tonight to the Council Meeting?

Thanks

Armstrong, Kathy

From: Frank Edwards <fedwards@jaspercountysc.gov>
Sent: Wednesday, August 14, 2019 1:32 PM
To: Huyser, Matthew
Subject: FW: Questions Carina Curiel brought to the Dinner at the Church Last night
Attachments: Chandler's Toxic Landfill Questions submitted by Carina Curiel.pdf

FYI, the list of questions we mentioned this morning in the conference call.

From: Lisa Wagner
Sent: Monday, August 12, 2019 5:06 PM
To: Andrew Fulghum; David Tedder; Frank Edwards
Subject: Questions Carina Curiel brought to the Dinner at the Church Last night

Hi Andy,

At the church dinner last night given for the Schinger family, Carina Curiel passed out the questions attached to this email. She wants DHEC and the County to answer these questions in writing where applicable. Additional questions that were asked at the meeting are:

- How far out should be residents/people be concerned about toxic smoke?
- What should residents do/expect when they return home?
- Should dust in their homes be considered toxic?
- Who is responsible for interior clean-up of residences?

She and her mom indicated that they will be at the Council Meeting August 19th so just a head's up.

Thanks!
Lisa Wagner, CFM
Director of Planning and Building Services
358 Third Avenue
P.O. Box 1659
Ridgeland, SC 29936
843-717-3650

This email message contains confidential and/or privileged information that is intended solely for the addressee. If you have received this message in error, please notify us by return email, and delete it from your system. Reading, copying or disseminating this message is strictly prohibited.

Chandler's Toxic Hazardous Landfill Ques

How often are inspections done on health and environmental c
in SC?

How often are inspections done on health and environmental c
centers in SC?

How much property is needed and allowed for landfills in the st

How did the air quality go from good to hazardous?

When was DHEC's inspection prior to waste placement for this
landfill?

How many feet does a landfill need to be above elevation?

Where is the buffer for this toxic hazardous landfill?

Who approved this landfill?

Why is water continuing to run on Chandler's toxic hazardous landfill?

Why was Chandler Lloyd accepting loads when he was told not to?

Why is Nature's Calling trash trucks parking loaded trucks in their yard at night? I have seen and taken pictures of their trucks loaded and parked on his property, why is this?

Why is Chandler Lloyd accepting log trucks and weighing them?

What does wet debris do to residential structures and well water after it has been sitting there for 6 years?

When was ground water monitoring done? How often?

How far is Chandler's toxic hazardous landfill from a residential structure?

Where is the retention?

How toxic and hazardous is burning plastic when inhaled by people and animals?

What does wet drywall do to the environment, people and animals after 6 years?

How does burning fiberglass affect the environment, people and animals after 6 years?

What about treated wood?

Why is our water black?

Why do our eyes fill cloudy, burning, itchy and watery? Why do we feel nauseous, have headaches, dizziness, burning and sore throats and not able to breathe? Why do we feel tired all the time?

Why were we told to stay in doors when the smoke and stench was seeping through the residential structures?

Why was the smoke and stench so bad during the day when the high of it was supposed to be at night? When we arrived during the day it was unbearable, why?

Why were we told we could cook and wash clothes with water that is on high question of contamination?

What has DHEC done to help the residents on Schinger Ave?

Who is responsible besides Chandler Lloyd for this toxic and hazardous landfill/recycling facility?

When will it be safe for residents to return home?

What is DHEC going to do for those residents who has contaminated water?

Has EPA tested our water to confirm it is safe to cook, shower, drink and wash clothes for bacteria and chemicals?

Is the soil contaminated? If so, how deep and wide spread is it?

What have we been inhaling?

Has asbestos been found?

Armstrong, Kathy

From: Frank Edwards <fedwards@jaspercountysc.gov>
Sent: Friday, August 09, 2019 3:26 PM
To: reecemc@dhec.sc.gov; Huyser, Matthew; Porter, Henry (porterhj@dhec.sc.gov); Lisa Wagner; Andrew Fulghum; David Tedder
Subject: Meeting Attendance
Attachments: Meeting.DHEC-EPA-Contractor.August-8-2019..pdf

Here is the sign in sheet from this morning for whomever needs a copy.

Name	Organization	E-mail	Phone
Joe Mantua	BJWSA	joe.mantua@bjwsa.org	843 987 8044
ANDY FULGHUM	JASPER COUNTY	afulghum@jaspercountysc.gov	843-717-3691
Frank Edwards	Jasper County	fedwards@jaspercountysc.gov	843-726-7607
Myra Reece	SC DHEC	reecemc@dhec.sc.gov	803 667-1113
DAVID TADDER	Jasper County	dtadder@jasper.county.sc.gov	843 717 3683
Josiah Williams	EPA START	josiah.williams@tetratech.com	404 542 6530
Eric Huss	EPA START	eric.huss@tetratech.com	610-348-6959
Courtney S. Redd	EPA START	courtney.redd@tetratech.com	678-656-3481
~~MATTHEW HUSSER~~	~~EPA~~	~~HUSSER.MATTHEW@EPA.GOV~~	~~678-427-5529~~
Keith Frost	SC DHEC	Keith.Frost@dhec.sc.gov	803-465-1529
Henry Porter	SC DHEC	porterhi@dhec.sc.gov	803-360-6421
Bryor Snow	EnviroSmart	Bryor@enviroSmart.us	843-609-6681
Steven Hodskins	EnSafe	shodskins@ensafe.com	706-455-7556
John Kinsey	EnviroSmart SS	John.Kinsey@enviroSmart.us	843-991-0376
Justin Thomas	BJWSA	justin.thomas@BJWSA.org	843-987-8981
Patrick Burke	BJWSA	pat.burke@BJWSA.org	843-987-8042
Kelly Jo Alston	BJWSA	Kelly.Alston@bjwsa.org	843-987-8014
Shannon Smith	JCFR	SSmith@jaspercounty.sc.gov	843 305 0266
CLAY LUCAS	JCFR	CLAYL@JASPERCOUNTYSC.GOV	
Lisa Wagner	Jasper County	lwagner@jaspercountysc.gov	843-717-3661

Armstrong, Kathy

From: Frederick, Tim
Sent: Thursday, August 22, 2019 5:08 PM
To: Huyser, Matthew
Cc: Thomas, Brett; Moore, Tony; Adams, Glenn
Subject: Re: Beekeeper in SC

I got her hooked up with the county ag extension service. Maybe just follow up in a few days.

Sent from my iPhone

On Aug 22, 2019, at 4:36 PM, Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:

> I recommend we buzz DHEC to take and analyze samples if that is warranted. We are at our limit to sting out the fire. DHECs help with the surface water and groundwater is going well so this other activity is a good place for them to bee in.
>
> Would you like me to take the lead on that or someone else?
>
> **Matthew J. Huyser, PE - On-Scene Coordinator**
> **U.S. Environmental Protection Agency, Region 4** | 61 Forsyth St SW | Atlanta, Georgia | 30303
> **Emergency Response Removal and Prevention Branch (ERRPB)**
> office: 404-562-8934 | cell: 678-427-8829 | fax:404-562-8699
> epaosc.org
>
> On Aug 22, 2019, at 12:17 PM, Thomas, Brett <Thomas.Brett@epa.gov> wrote:
>
>> I talked with Michelle Garmon for a short bit. She has some concern for the safety of the bees, but her main concern right now is the 200 lbs of honey she harvested: can she safely sell that/give it to people or not? Also some concern about the amount of contamination in the wax in the honeycombs, and whether that all needs to be cleaned out so the bees can start fresh. There evidently is value in having lots of wax buildup; I guess it makes the honey darker and gives it more flavor. I said my guess would be there probably was not significant contamination buildup in the honey to pose a risk, but that was just a guess and the only way to have a better idea would be to have the honey (and wax?) analyzed to see what is in it. I said then a human health risk assessor would have some information to work with to get an idea of the safety of the honey.
>>
>> I asked if she had contact info with the State of SC, and she said she does. She understands that EPA will likely only be around long enough to get the fire under control, and then the State again takes over. I told her I would try to find a contact from EPA, like our OSC or someone like that, who perhaps could advise her regarding the potential of having the honey analyzed and who could help her with that. I recommended that she follow up with her State contacts while I look into an EPA contact.
>>
>> Who would be our best EPA contact for this? If it is our OSC working on this, who do we have over there?

Thanks.
Brett

From: Frederick, Tim <Frederick.Tim@epa.gov>
Sent: Thursday, August 22, 2019 9:49 AM
To: Thomas, Brett <Thomas.Brett@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>
Subject: RE: Beekeeper

We haven't analyzed the PM. Nearer the site we have had some volatile organics, hydrogen cyanide, acrolein, and (maybe) phosgene.

From: Thomas, Brett
Sent: Thursday, August 22, 2019 9:47 AM
To: Frederick, Tim <Frederick.Tim@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>
Subject: RE: Beekeeper

I am looking stuff up. Off the top of my head, my response is ????????

As far as her honey, I have not seen mention of ill effects from people ingesting PM 2.5, obviously depending on what the particles are made of or have associated with them. I suppose if the particles are high in PAHs, that could cause concern though I would imagine if the honey had that much PM 2.5 in it, it would taste bad or look "off". So the organoleptic effects might keep people away from it. Obvious just a SWAG, since we don't know concentrations. Has anyone analyzed the PM to see what it is or has in it?

I am looking at a few papers that looked at particulate matter and bees. Once I see what the general conclusions of those papers are, maybe I/we can call her.

Brett

From: Frederick, Tim <Frederick.Tim@epa.gov>
Sent: Thursday, August 22, 2019 9:23 AM
To: Thomas, Brett <Thomas.Brett@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>
Subject: Beekeeper

Brett –

Glenn and I just returned from a public meeting at the Able Contracting Fire site in SC. After the meeting, I talked with a beekeeper who is concerned about what the air pollution means for her hives. She's less than a mile from the site, and they main contaminant of concern at the hives would be PM2.5. She mentioned that the bees themselves would forage over a much bigger area that could include areas nearer to the site. She wants to know if she needs to get rid of the honey she's harvested and/or if her honeycombs may be contaminated as well. I told her that we would try to get someone to get back with her and talk about her concerns. Can you help out? Or point us to someone who can? Her name is Michelle Garmon and her phone number is (b)(6) Personal (b)(6) Personal

Thanks,

Tim

Armstrong, Kathy

From: Frederick, Tim
Sent: Thursday, August 22, 2019 2:00 PM
To: Adams, Glenn; Moore, Tony; Thomas, Brett
Cc: Huyser, Matthew; Tanner, Terry
Subject: RE: Beekeeper in SC

I talked to Sydney McKay with the Jasper County Agricultural Extension Service (843-726-3461). She is going to reach out to the beekeeper directly and will help her with honey testing etc.

From: Adams, Glenn
Sent: Thursday, August 22, 2019 1:54 PM
To: Moore, Tony <moore.tony@epa.gov>; Thomas, Brett <Thomas.Brett@epa.gov>; Frederick, Tim <Frederick.Tim@epa.gov>
Cc: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: RE: Beekeeper in SC

Tim is reaching out to the County Ag to see if he can get her a contact.
Thanks,
Glenn

From: Moore, Tony <moore.tony@epa.gov>
Sent: Thursday, August 22, 2019 1:47 PM
To: Thomas, Brett <Thomas.Brett@epa.gov>; Frederick, Tim <Frederick.Tim@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: RE: Beekeeper in SC

Send her to State Ag

From: Thomas, Brett <Thomas.Brett@epa.gov>
Sent: Thursday, August 22, 2019 12:17 PM
To: Frederick, Tim <Frederick.Tim@epa.gov>; Moore, Tony <moore.tony@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: RE: Beekeeper in SC

I talked with Michelle Garmon for a short bit. She has some concern for the safety of the bees, but her main concern right now is the 200 lbs of honey she harvested: can she safely sell that/give it to people or not? Also some concern about the amount of contamination in the wax in the honeycombs, and whether that all needs to be cleaned out so the bees can start fresh. There evidently is value in having lots of wax buildup; I guess it makes the honey darker and gives it more flavor. I said my guess would be there probably was not significant contamination buildup in the honey to pose a risk, but that was just a guess and the only way to have a better idea would be to have the honey (and wax?) analyzed to see what is in it. I said then a human health risk assessor would have some information to work with to get an idea of the safety of the honey.

I asked if she had contact info with the State of SC, and she said she does. She understands that EPA will likely only be around long enough to get the fire under control, and then the State again takes over. I told her I would try to find a contact from EPA, like our OSC or someone like that, who perhaps could advise her regarding the potential of having the

honey analyzed and who could help her with that. I recommended that she follow up with her State contacts while I look into an EPA contact.

Who would be our best EPA contact for this? If it is our OSC working on this, who do we have over there?

Thanks.
Brett

From: Frederick, Tim <Frederick.Tim@epa.gov>
Sent: Thursday, August 22, 2019 9:49 AM
To: Thomas, Brett <Thomas.Brett@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>
Subject: RE: Beekeeper

We haven't analyzed the PM. Nearer the site we have had some volatile organics, hydrogen cyanide, acrolein, and (maybe) phosgene.

From: Thomas, Brett
Sent: Thursday, August 22, 2019 9:47 AM
To: Frederick, Tim <Frederick.Tim@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>
Subject: RE: Beekeeper

I am looking stuff up. Off the top of my head, my response is ????????

As far as her honey, I have not seen mention of ill effects from people ingesting PM 2.5, obviously depending on what the particles are made of or have associated with them. I suppose if the particles are high in PAHs, that could cause concern though I would imagine if the honey had that much PM 2.5 in it, it would taste bad or look "off". So the organoleptic effects might keep people away from it. Obvious just a SWAG, since we don't know concentrations. Has anyone analyzed the PM to see what it is or has in it?

I am looking at a few papers that looked at particulate matter and bees. Once I see what the general conclusions of those papers are, maybe I/we can call her.

Brett

From: Frederick, Tim <Frederick.Tim@epa.gov>
Sent: Thursday, August 22, 2019 9:23 AM
To: Thomas, Brett <Thomas.Brett@epa.gov>
Cc: Adams, Glenn <Adams.Glenn@epa.gov>
Subject: Beekeeper

Brett –

Glenn and I just returned from a public meeting at the Able Contracting Fire site in SC. After the meeting, I talked with a beekeeper who is concerned about what the air pollution means for her hives. She's less than a mile from the site, and they main contaminant of concern at the hives would be PM2.5. She mentioned that the bees themselves would forage over a much bigger area that could include areas nearer to the site. She wants to know if she needs to get rid of the honey she's harvested and/or if her honeycombs may be contaminated as well. I told her that we would try to get someone to get back with her and talk about her concerns. Can you help out? Or point us to someone who can? Her name is Michelle Garmon and her phone number is (b)(6) Personal Privacy

Thanks,

Tim

Armstrong, Kathy

From: Frederick, Tim
Sent: Wednesday, August 14, 2019 2:28 PM
To: Huyser, Matthew
Cc: Adams, Glenn
Subject: Re: Questions Carina Curiel brought to the Dinner at the Church Last night

Let us know what you need from us.

Sent from my iPhone

On Aug 14, 2019, at 2:25 PM, Huyser, Matthew <Huyser.Matthew@epa.gov> wrote:

> I think it's best to allow DHEC to remain the lead in answering these questions and EPA can provide support in answering questions particularly to the air samples that we collected. I've copied Glenn Adams and Tim Frederick who can provide the best description of the analytical results and human health impacts from the EPA perspective.
>
> I don't know what level of effort should be devoted to answer these questions as an independent response but it's fairly comprehensive so I suspect that the best approach would be to identify what issues are addressed in information that has already been published and then flag questions that have not already been addressed in published information for further follow-up in future updates.
>
> If there is a point person who can do that then I will be willing to provide replies to information/explanation that's needed from EPA.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Frank Edwards <fedwards@jaspercountysc.gov>
Sent: Wednesday, August 14, 2019 1:32 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: FW: Questions Carina Curiel brought to the Dinner at the Church Last night

FYI, the list of questions we mentioned this morning in the conference call.

From: Lisa Wagner
Sent: Monday, August 12, 2019 5:06 PM
To: Andrew Fulghum; David Tedder; Frank Edwards
Subject: Questions Carina Curiel brought to the Dinner at the Church Last night

Hi Andy,

At the church dinner last night given for the Schinger family, Carina Curiel passed out the questions attached to this email. She wants DHEC and the County to answer these questions in writing where applicable. Additional questions that were asked at the meeting are:

- How far out should be residents/people be concerned about toxic smoke?
- What should residents do/expect when they return home?
- Should dust in their homes be considered toxic?
- Who is responsible for interior clean-up of residences?

She and her mom indicated that they will be at the Council Meeting August 19th so just a head's up.

Thanks!

Lisa Wagner, CFM
Director of Planning and Building Services
358 Third Avenue
P.O. Box 1659
Ridgeland, SC 29936
843-717-3650

This email message contains confidential and/or privileged information that is intended solely for the addressee. If you have received this message in error, please notify us by return email, and delete it from your system. Reading, copying or disseminating this message is strictly prohibited.

<Chandler's Toxic Landfill Questions submitted by Carina Curiel.pdf>

Armstrong, Kathy

From: Huyser, Matthew
Sent: Wednesday, September 11, 2019 9:24 AM
To: Hammond, Richard
Cc: Wise, Katie
Subject: RE: storymap - just a question so far

Yes. Katie Wise is with Tetra Tech (katie.wise@tetratech.com).
We've already made our story map public and have linked it on the response page (https://response.epa.gov/site/site_profile.aspx?site_id=14357)
Donnie Williams has taken care of making sure the publication confirmations have been completed. Geoservices can publish a product for public viewing using a request service but that service isn't available to contractors. So for emergency responses, our contractors can make things public ad we take care of the confirmations afterward.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Hammond, Richard <Hammond.Richard@epa.gov>
Sent: Thursday, August 15, 2019 2:26 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: RE: storymap - just a question so far

Howdy Matt,

Is that Katie Wise/Tetra Tech? I'm talking to her about Westside Lead right now so I can get her to pass along the sharing I need to get it routing.

I had a link for it, but can't find it. I'm having to learn GPlatform at the same time, so I probably have it, just don't know how to locate it.

Thanks !

From: Huyser, Matthew <Huyser.Matthew@epa.gov>
Sent: Thursday, August 15, 2019 2:23 PM
To: Hammond, Richard <Hammond.Richard@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Subject: RE: storymap - just a question so far

The story map can be published for public availability. It would just be linked through the webpage. My START contractor has already created it. I just need approval to make it public and for someone to post the link once we do

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Hammond, Richard <Hammond.Richard@epa.gov>
Sent: Thursday, August 15, 2019 2:11 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>; Pinkney, James <Pinkney.James@epa.gov>; Tolliver, Ronald <Tolliver.Ronald@epa.gov>
Subject: storymap - just a question so far

Hi all,

We've made some good progress on posting GeoPlatform stuff and it carries from one app to another. I have searched my emails everywhere and can't find the link to the Storymap for Able.

If any of you have that handy, I could use it.

This still may take a bit of time because there's quite a few steps, but at least I'm heading in the right direction. And more importantly, I've got a good contact now.

Thanks!

Thanks!
Richard Hammond
Office hours
7am – 3:30pm
Office: 404.562.8535
Mobile: 404.670.8063

Armstrong, Kathy

From: Huyser, Matthew
Sent: Tuesday, September 10, 2019 2:48 PM
To: Hoppe, Michael
Cc: Harper, Greg; philip.j.solinski
Subject: Able - ERT equipment returning

Equipment is being returned from the Able Contracting Fire Site. Below is a list of EBAM and VIPER equipment in transit as well as status of some equipment that were utilized. The largest issue is LINC 129 which was damaged by rainwater and no longer appears to function. Please copy Greg Harper on any issues that require further resolution.

Table 1. EBAM Unit Box Contents (4 pelican cases)

Unit	2	9	10	8
EBAM	Yes	Yes	Yes	Yes
EX-593 Adapter	Yes	Yes	Yes	Yes
BX-807 PM2.5 cyclone	Yes	Yes	Yes	Yes
9187 inlet tube	Yes	Yes	Yes	Yes

Table 2. EBAM Peripheral Box Contents (4 pelican cases)

Unit	2	9	10	8
9321-1 serial cable	Yes	Yes	Yes	Yes
9638-1 power cable	Yes	Yes	Not found, unknown if originally included	Yes
9249 wind sensor cable	Yes	Yes	Yes	Yes
Grounding cable	Yes	Yes	Yes	Yes
Hook bolt from EBAM to tripod	Not found, unknown if originally included	Not found, unknown if originally included	Not found, unknown if originally included	Yes
9250 temperature sensor	Yes	Yes	Not originally included	Yes
593 humidity sensor	Yes	Yes	Yes	Yes
BX-802 inlet	Yes	Yes	Yes	Yes
9638-2 power box	Yes	Yes	Yes	Yes
U-bolts for power box	Yes	Yes	Yes	Yes
3/4"x3/4" cross mount fitting	Yes	Yes	Yes	Yes
1"x3/4" cross mount fitting	Not found, unknown if originally included	Yes	Yes	Yes

Table 3. EBAM Mounting Hardware (1 tube, 2 screen cases, 1 pelican case)

Equipment	Quantity Returned	Notes
EBAM Tripods	4	Hardware missing for tripod assembly return: 2 bolts, 4 washers, 2 nuts, 3 locking pins. Verified hardware was missing upon receipt
5' mounting arms	4	In cardboard tube
4' mounting arms	3	Only three received
1' mounting arms	3	Only three received
3/4"x3/4" cross mount fitting	3	Total seven received, four are with the EBAM peripheral boxes
3/4"x3/4" cross mount pipe fittings	5	Set screws removed from pipe fittings to fully outfit the MetOne 3/4"x3/4" cross mount fittings
Ground anchors cork screws	2	Only two received
Tripod anchor 10" nails	4	Only four received

Table 4. VIPER Gateways (2 coolers)

Gateway	Aircard	Notes
6	**4476**	Redeployed, still at Able Contracting Fire Site
95	**7176**	Gateway 95 does not have a USB extender. Seven gateways were received and four USB extenders were located for return. Unknown if seven USB extenders were received.
18	**893**	
98	**7973**	
31	**894**	Redeployed, still at Able Contracting Fire Site. Gateway 31 does not have a USB extender. Seven gateways were received and four USB extenders were located for return. Unknown if seven USB extenders were received.
19	**895**	
4a	**8003**	Redeployed, still at Able Contracting Fire Site. Gateway 4a does not have a USB extender. Seven gateways were received and four USB extenders were located for return. Unknown if seven USB extenders were received.

Table 4. VIPER LINCs (1 pelican case)

LINC	Generation	Notes
45	2	
131	3	
132	3	
29	2	
129	3	LINC 129 was left in a concave lid which filled with rainwater. The LINC was cleaned with rubbing alcohol and operated for a short period. The LINC no longer functions.
128	3	Redeployed, still at Able Contracting Fire Site

Table 5.VIPER Equipment (1 pelican case, with LINCs)

Equipment	Quantity Returned	Notes
Gateway Power Adapters	8	One gateway power adapter is not functioning
Gateway Large Antenna (OD24M-5)	4	Five gateways were received which utilize the large omnidirectional antennas (OD24M-5, 2.4GHz, 5dBI, N, Male) but only four antennas

		were located for return. Unknown if 5 antennas were received.
Small Antenna	7	
LINC USB adapters	4	
Battery Chargers	7	
LINC Batteries	7	Batteries left in Gen 3 LINCS for return. No batteries in Gen 2 LINCs for return.
LINC Serial Cables Gen 3	5	
LINC Serial Cables Gen 2	2	

Table 6. Equipment Issues

Sticker	Issue Origin	Issue Notes
001	Field, R4	9187 inlet tube packaged with mounting bars and transported, possibly scratched
002	Unknown, not verified upon receipt	EBAM Unit 10 power supply cable sheathing found opened midway along cable
003	Unknown, not verified upon receipt	EBAM Unit 10 BX-802 inlet housing bent
004	Unknown, not verified upon receipt	EBAM Unit 8 BX-807 cyclone dirty on inlet side with tape residue
005	Field, R4	EBAM Unit 8 transported without packing device. Nozzle left open during transport. EX-593 adapter was still attached during transport
006	Field, R4	EBAM Unit 8 EX-593 adapter attached while transported, cable sheathing detached from port coupling
007	Field, R4	EBAM Unit 2 transported with tape installed (packing unit was inserted)
008	Unknown, not verified upon receipt	EBAM Unit 8 BX-802 inlet housing bent
010	Field, R4	9187 inlet tube has pressure screw marks; was improperly used as bracketing for wind sensor
011	Field, R4	EBAM Unit 10 transported with tape installed (packing unit was inserted)
012	Field, R4	Wind Sensor M9028 transported with wind vane counterweight removed. Transported without wind vane security screw. Wind Vane cardboard sheath was bent from rainwater and vane was transported/stored in bent cardboard sheath for several days. Counterweight is no longer in correct balance position and is not firmly secured.
013	Field, R4	Wind Sensor M6511 transported with wind vane counterweight removed. Transported without wind vane security screw. Foam support for counterweight is missing.
014	Field, R4	Wind Sensor M6512 transported with wind vane counterweight removed. Transported without wind vane security screw. Counter weight is no longer in correct balance position and is not firmly secured.
015	Field, R4	LINC 129 was left in a concave lid which filled with rainwater. The LINC was cleaned with rubbing alcohol and operated for a short period. The LINC no longer functions.
016	Unknown, not verified upon receipt	Five gateways were received which utilize the large omnidirectional antennas (OD24M-5, 2.4GHz, 5dBl, N, Male) but only four antennas were located for return. Unknown if 5 antennas were received.
017	Field, R4	Gateway charger no longer functions.

018	Unknown, not verified upon receipt	Gateway 95 does not have a USB extender. Seven gateways were received and four USB extenders were located for return. Unknown if seven USB extenders were received.
019	Unknown, not verified upon receipt	Gateway 31 does not have a USB extender. Seven gateways were received and four USB extenders were located for return. Unknown if seven USB extenders were received.
020	Unknown, not verified upon receipt	Gateway 4a does not have a USB extender. Seven gateways were received and four USB extenders were located for return. Unknown if seven USB extenders were received.
021	ERT	Hardware missing for tripod assembly return: 2 bolts, 4 washers, 2 nuts, 3 locking pins. Verified hardware was missing upon receipt
022	Unknown, not verified upon receipt	Four wind sensors were received which would utilize the 1"x3/4" cross mounting hardware. Only three 1"x3/4" cross mounting fittings were located for return. Unknown if four 1"x3/4" cross mounting fittings were received.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org