In review of the Trafalgar Site Response Action Plan Preliminary Outline, it appears that the plan should substantially reduce costs versus other potential options that have been publicized. A potential issue that should be kept in mind is that since material at the site has been in place for some time and there is the potential for methane gas. As excavation occurs, oxygen will be introduced into the waste mass which in combination with methane gas can create a dangerous environment. Methane gas can also migrate so caution and monitoring should be considered. Methane gas can create "hot spots" if migration has occurred and fire may be observed in areas where it was not burning before.

The air curtain technology using the burn boxes creates a controlled environment and is a proven technique if operated properly. But, as air is introduced into the waste mass by excavation to feed the burn boxes, fire control of the waste mass and the associated smoke / particulate matter control will need to be properly managed. In-situ waste mass burning also has the potential to ignite potential hazardous substances and buried tires (reportedly observed at the site) to combust and further degrade air quality. Day to day management and oversite is a key variable to the Action Plan.
LARRY TUCKER

This gives no information in regards to timing, work plan, date of the fire being extinguished, details in regards to burning the wood waste, etc. Very disappointing that it takes almost 8 months just to have a preliminary plan.
Cheri Wright

What is the timeline? When will the work start and when will the fire be out? What will the air conditions be while the work is being done, better or worse than existing conditions? I would like this information so I can make smart and relevant life decisions.
Sonja Nelson

Put the fire out! Stop torturing the citizens, children, animals!
It's time to put it out! We gave you $3M plan this city offered to pay half of! Put the fire out! It's inhumane! You had a chance to close the dump in 2008 and excavate how you wanted.
Diana Harms

What date will this begin? Do you have any timeline? Will residents need to evacuate?
Dylan Shaddox

First, Thank you for getting this plan together to put out this horrible situation. I have been here since 1994 and I love this community and I want to make sure the residents are safe while this process takes place. It's been a horrible smell, I can't imagine what kind of stink it will be once everything is dug out. The air curtain idea seems like a good idea for that.

This is what the newspaper said this morning: "There may be up to five of these burn units in use at any given time, and the proposal includes a 24/7 operation in order to achieve the complete solution in a timely manner of approximately 180 days".

Another 6 months? Please find a way to do it quicker. We have been dealing with this for 245 days already.

The residents have urged someone to get answers concerning if they have to evacuate, what help can be given? They haven't received much information.

Please have a direct communication with the city on this and once a full plan is in place with a contractor, please come up and present the plan to the residents so we are all aware.

From there, a investigation is needed on how the state allowed this stump dump to be operated after ADEQ visited in 2008 and then find the responsible party liable in causing all this mess.

Thank you,

Dylan Shaddox
4,200 feet away from the stump dump fire.
Debra Young

This action plan sounds great. Can you please share a timeline and let us know if the smoke is expected to get worse during this process.

Thank you all for working so hard to get this fire out quickly so our families can enjoy all beautiful Bella Vista has to offer. We are looking forward to breathing fresh, clean air again very soon!
Ralph Scott

Please end the "Bella Bista" Fire... It has been almost a year - action needed now. This is a health hazard...
William Ernst

The cost of this is astronomical and tough to swallow. It's almost cheaper to give the residents entire new homes and move them. Is this truly the best solution? If it is the only way, please have funding in place for how it will be paid for. No IOUs or pinning hopes on future tax hikes. Please no tax hikes! This is a private company who should be held responsible. Not taxpayers.
Deborah Emmons

we've lived with this fire, smoke, and effects to our lives and routine for EIGHT MONTHS! Action to actually put OUT THE FIRE is needed!! Enough with the mulling over! My God,'Mother Earth and the humans within this hazard zone, and beyond, are CRYING OUT TO THE HUMANS IN CHARGE. Move forward please! Would you want to live in this?
Heather Slinkard

I do not understand after the meeting with Gary from High Heat Specialists, Chris Nelson from Bella Vista, Chief Bobby Sims and ADEQ why this fire hasn't been put out. The lie that because the landfill wasn't loaded properly Gary can't put it out isn't acceptable. "Mulling" the situation over is not acceptable. Families having to purchase RV's to live in because their homes cannot be lived in is unacceptable. People from all ages are suffering. What will happen when summer comes and air conditioning is a must but the affected families cannot run it because of the fumes? They have had to heat with space heaters but in the summer fans will not help. We need this fire out before worse things happen and the fumes are carried by the wind further into Missouri and Bentonville. Final point, GET THE FIRE OUT!
After all your meetings and all your discussion. Different proposals and different theories behind putting this toxic fire out. This is the best you can come up with!! "Or the Cheapest " i'm not a fireman but it sure doesn't sound like a good idea. I hope you have a back up plan ready to implement.

The more important note what about the safety and welfare of the residents are in Bella Vista!! For most of us Sarah doesn't seem like anyone's really that concerned about what's happening here! But I'm deeply concerned when you start this process how are you going to protect the citizens here. Is there an a vacuolation plan in order in case all hell breaks loose. Are you going to warn us when you start the fire or the process. What a way to do when you do start the process and it gets crazy.

Because I'm sure you've already thought of what might happen once you start scooping contaminants out of there. Opening up a can of worms. Are you planning on having some sort of siren alarm system in case it gets out of control. How are you going to warn all the residents a reverse 911 call. Are you gonna knock on The doors of people that live in this area We need to know details so we're better prepared than we have been.

You have my email my phone number is 760-802-3775 my name is Kelly Strain
Mary Green

Why wasn't the 3 million proposal by a respected company that has experience in putting out underground fires chosen, rather than a 20 million plus proposal by an inexperienced company? I understand HHFS indicated they could put the fire out in days, and that the state did not have to pay the remaining 3 million dollars if they could not come through with this guarantee? Why?
Peter Christie

Are there plans within the SOW to offer residents a safe harbor during the fire suppression and excavation to avoid additional smoke and dust (Red Cross perhaps)? I have a concern about traffic safety with the large numbers of trucks entering and exiting the site. Will flaggers or some other traffic control system be in place? If the Air Curtain technology does not perform up to expectations, is there a Plan B?
Thank you!
Roger Harms

When are you going to get the Trafalgar Road Fire completed or even started. This has went on far to long. It's been 9 months. It shouldn't take this long to get a plan going.
Yvonne Armstrong

On paper the plan looks like it can work. I am concerned about the training or the workers, but it seems you have addressed that. I'd like to see someone be responsible for Quality Control, to make sure the steps are executed properly.

What will happen to the fire boxes and air curtains after the clean up is completed? Can the city of Bella Vista use them to incinerate trash instead of filling up our landfill?
Debra Webber

I am not an expert and rely on the expertise of the company you hired to come up with a plan to put out the Trafalgar Rd fire. I just want to see the fire put out as soon as possible. I hope the project will start soon as it has gone on for too long. I agree that you need to make sure it doesn't reignite by removing the burnt waste and to keep the smoke as contained as possible. Please help us residents and move quickly to put out the fire.
Ann Millard

My only comment is do whatever you can to get the fire out. We have waited far too long. Our health is at stake---in addition to our property values and quality of life.
Michael Flanigan

The plan seems reasonable given the existing circumstances. However, once remediation is complete the ADEQ should seek to prosecute the industrial polluters who created the situation and those who owned the property and allowed or didn't monitor what materials were dumped into the site in order to recover the costs associated with the remediation. Taxpayers in AR whether from the state or the fed should not subsidize the illegal activities associated with this situation and those who created or allowed it to occur should not escape accountability for their actions or lack thereof.
Alta Felix

Please just get it put out asap then start the digging. Every day that we breathe this stuff is one more day that it could cause sickness and health issues.
Rebecca Buckley

I think the idea of using the air curtains is great! I cannot wait for that smell to go away. I really hope the people involved in this learn from their mistakes, and that the appropriate action is taken against them. They are at total fault as it was not monitored correctly and it almost became a landfill. Nothing irritates me more than knowing people didn't care how this would affect the environment! Sometimes the smell wakes me up in the middle of the night. This plan seems like it will work and I cannot wait for the day when I dont smell burning garbage! Thank you!
Sharla Miller

Yes, your plan sounds great! My pregnant daughter is coming at the end of May and I beg you to please have the fire out by then. I do not want her or her baby exposed to the chemicals that are choking us almost every single day.
Terry Karnes

Realize you are working hard on this and hopefully the fire is put out soon. One thing that would be nice to release to the nearby residents is last years wind patterns by week/month. Since I am new to the area, I do not know the wind patterns and would like to know what to expect for the coming weeks/months. Like does the wind usually blow from Dallas in the month of may, if so, I probably will not get the smoke, If it blows like it is today, then I will get the smoke. I can plan which month is best time to have the out of state grandkids come visit - June or July... It doesn't help me for daily- I can walk outside and know that, just trying to estimate the future - but not expecting perfection...Also will help me plan when to have workers over if I decide to do some outside projects. Thank you
Geoff Atkinson

Please extinguish the fire the safest way possible to not harm the environment, or any animals. Be careful not cause a Forrest fire as I dont want my home burning down either.
Mandy Bewley

Please fine the Bella Vista Property Owners Association. It is not right that we have to pay POA dues every month on a Property Owners Association where we cannot let our children play outside due to the horrible smell that surrounds our house. Also we pay POA dues on a Property Owners Association where we cannot keep our windows open when the temperature outside is just right to let the house "air out". This fire has been going on way too long.
John Miller

Remove everything, take it all off site and don't burn any wood on site!
Leah Logan

If it is as easy as just removing all of the bad stuff and moving it somewhere else, why was this not done already? How will they sort through this waste as it's on fire? Will there be any type of water used to help sort through?

As long as this doesn't do any damage to the water supply, does not concentrate hazardous smoke into the environment and can be completed in 30 days...I am all for this getting fixed!
Jill Santoleri, Bella Vista Property Owner  
Trafalgar Site  
Comments on the ADEQ Preliminary Response Action Plan


1. “Proposals were assessed based on viability, timeline to complete, cost, and further impact to residents.”
   b. IS THERE AN EMERGENCY EVACUATION PLAN IN THE EVENT SOMETHING UNANTICIPATED OR AN ASSUMPTION IN THE DESIGN PLAN IS WRONG AND RESIDENT EVACUATIONS ARE NECESSARY? WILL THIS BE COMMUNICATED AND A KNOWN PROCESS PROVIDED TO RESIDENTS BEFORE THE IMPLEMENTATION OF THE “Response Action Plan”?
   c. WHAT MEASURES ARE INCLUDED IN THIS PLAN FOR AIR, WATER AND SOIL TESTING FOR THE PROTECTION SHORT TERM AND LONG TERM FOR THE RESIDENTS?

2. “ADEQ’S preferred course of action is the most environmentally sound method for solving this complex situation for the Bella Vista community…”
   a. WHY AND HOW CAN THE ADEQ STATE THAT THIS IS THE “most environmentally sound method” WHEN THE PRELIMINARY PLAN INCLUDES LEAVING THE ASH AND SOIL ONSITE?
   b. IN SPEAKING WITH AIR BURNERS, INC. DIRECTLY AND WHEN ASKED ABOUT THE ASH AND WHETHER IT SHOULD STAY ONSITE, HE STATED THAT HE BELIEVED “ADEQ PLANNED TO DISPOSE OF THE ASH OFFSITE.”
   c. IN SPEAKING WITH AN AMERICAN LUNG ASSOCIATION EPA VETERAN OF 22 YEARS THEY SAY THE WORST CONTAMINANTS ARE GOING TO BE IN THE ASH. AND LEAVING ASH ONSITE IS LEAVING HEALTH AND ENVIRONMENTAL ISSUES FOREVERMORE.
   d. IN SPEAKING TO A RECOGNIZED ENVIRONMENTAL EXPERT WITH 18 YEARS OF EPA NATIONAL ADVISORY COUNCIL EXPERIENCE AND THEY ASK WHY THE ASH AND BIOCHAR WOULD BE LEFT ON SITE? ARE YOU GOING TO CREATE A LINED SPACE FOR IT? HOW ARE YOU GOING TO PREVENT IT FROM BECOMING LEACHATE FOR YEARS TO COME?

3. “The preliminary plan will utilize air curtain technology with excavation, separating of hazardous substances, and wood waste management.”
   a. WHO IS THE EXPERT THAT IS GOING TO BE SORTING THE WASTE? WHAT IS THEIR TRAINING? WHAT IS THEIR EXPERIENCE IN HAZARDOUS WASTE IDENTIFICATION AND SORTING? WHO OWNS THE IDENTIFICATION ON AN ITEM BY ITEM BASIS? The excavator operator? AN ENVIRONMENTAL ENGINEER?

4. “The bulk of the waste is considered to be wood waste.”
   a. ADEQ IS ACTING AS IF THE WOOD WASTE IS ‘CLEAN’ AND NOT CONTAMINATED. THE WOOD THAT IS THERE HAS BEEN MARINATING IN CONTAMINATED SUBSTANCES FOR MONTHS, RAIN WATER (RUNOFF ALREADY SHOWS BENZENE, ARSENIC AND MANGANESE), AND BURNED VAPORS AND MATERIALS ARE CONTAMINATING THE SITE. HOW IS THIS DETERMINED TO BE APPROPRIATE TO BURN? DOES THE STATE OF EMERGENCY MEAN THAT THE REQUIREMENTS FOR OPERATING PERMITS and CONSTRUCTION PERMITS WERE BOTH WAIVED? WHAT, IF ANY, TESTING OF THE WOOD PRIOR TO BURNING WILL BE CONDUCTED? YOUR ASSUMPTION IS THAT THE “bulk of the waste is wood waste.” WHAT IF THIS IS NOT TRUE? IS WOOD WASTE THE ARSENIC TREATED CONSTRUCTION WASTE? WHAT IF THE BULK OF THE WOOD WASTE IS NO LONGER ‘clean’ or “uncontaminated”, BUT IS CONTAMINATED? HOW ARE YOU ASSESSING THE CONTENTS? HOW DO YOU KNOW WHAT YOU ARE BURNING?
   b. ARSENIC IS A HEAVY METAL THAT IS HAZARDOUS AND MUST BE DISPOSED OF OFFSITE AND DISPOSED OF PROPERLY IN A PERMITTED LANDFILL.
5. “After complete excavation, the site will be regraded and restored with native trees, grass and other vegetative material in order to promote natural regrowth of the area.
   a. PLEASE as recommended by experts, RESTRICT THE DEED OF THIS PROPERTY TO PREVENT ANYTHING BEING BUILT ON IT THAT CAN CAUSE FURTHER NEGATIVE IMPACTS TO THE COMMUNITY IN THE FUTURE. RESTRICT THE DEED NOW, SO IT ISN’T A SCHOOL OR A PLAYGROUND OR A TRAIL IN THE FUTURE. LONG-TERM, ONGOING MONITORING OF THE SITE WILL BE REQUIRED.

RESPONSE TO TRAFALGAR SITE RESPONSE ACTION PLAN PRELIMINARY OUTLINE

1. “…Trafalgar Road is a complex situation that requires a through and comprehensive solution.”
   a. DOES THE PLAN FINALLY INCLUDE AN EVACUATION PROCESS IF THAT IS NEEDED? THERE ARE A LOT OF ASSUMPTIONS MADE IN THIS PRELIMINARY PLAN AND JUST LIKE THE AIR QUALITY, EVERY DAY WILL BE DIFFERENT ONSITE. WIND, PRECIPITATION, FUEL SOURCE OF THE FIRE, OXYGENATION, BURN EFFICIENCY OF THE BURNBOX WILL ALL IMPACT THE AIR AND WATER QUALITY.
   b. WHY IS THE ASH AND BIOCHAR BEING LEFT ONSITE? THIS MAKES NO SENSE AS THESE WILL CONTAIN THE MOST CONCENTRATED CONTAMINANTS. PLEASE EXPLAIN, WHEN EXPERTS ARE SAYING THIS IS THE WRONG THING TO DO.
   c. WHY DOES THE PLAN NOT INCLUDE A RESIDENT HEALTH IMPACT ASSESSMENT?
   d. WITH THE EPA WAIVING THE PERMIT PROCESS BECAUSE OF THE “EMERGENCY” NATURE OF THIS SITUATION, HOW DOES THIS FRAME AIR QUALITY STANDARDS? WATER? DOES THIS MEAN WHATEVER IS GENERATED EVEN AT UNSAFE LEVELS RESIDENT’S WILL BE SUBJECT TO?
   e. HOW IS THE OXYGENATION OF THE FIRE AND THE AIR IMPACT GOING TO BE MANAGED?
   f. HOW MANY AREAS OF THE FIRE ARE GOING TO BE EXCAVATED AT A TIME?
   g. ARE AIR MISTERS GOING TO BE UTILIZED TO KEEP THE SMOKE AND PARTICULATES DOWN? AND IF WATER IS GOING TO BE USED HOW IS THE CONTAMINATED WATER GOING TO BE CONTAINED? WHAT IS THE PLAN FOR WATER DISPOSAL?

2. “…action plan outlined below will eliminate or greatly reduce the need for 500,000 gallons of the treated community water supply daily.”
   a. IS “TREATED” WATER USING SURFACTANT AGENTS (WETTING AGENTS) GOING TO BE USED? IF NOT, WHAT DOES “TREATED” MEAN?
   b. WHERE AND HOW IS WATER BEING USED IN THIS PLAN?
   c. HOW IS THE WATER BEING CONTAINED? WHERE?
   d. HOW IS THE WATER OR CONTAMINATED WATER BEING DISPOSED?

3. Action “will use air curtain technology with excavation, separating of hazardous substances, and wood waste management.”
   a. ONE OF THE MOST IMPORTANT ONSITE ROLES IS THAT OF THE DECISION MAKER; WHO IS THE ENTITY DETERMINING WHAT IS HAZARDOUS AND WHAT IS WOOD WASTE? WHO WILL BE RESPONSIBLE FOR THIS DAILY, ONGOING DECISION MAKING?
   b. WHAT IS THEIR TRAINING AND EXPERTISE TO SORT HAZARDOUS WASTE?
   c. WHAT HAPPENS TO THE WASTE YOU CAN’T IDENTIFY?
   d. THE SEPARATION AND INPUT OF MATERIALS INTO THE FIREBOX IS SIGNIFICANTLY IMPACTFUL TO DETERMINE BURN EFFICIENCY. IF THE WASTE STREAM IS INCONSISTENT IT WILL NOT BURN AS INTENDED THUS NOT BURNING AS CLEANLY AS POSSIBLE. INCOMPLETE BURNING WILL GENERATE MORE SMOKE AND FUMES.
   e. WHAT DISPOSAL PLAN HAS BEEN IDENTIFIED FOR THE BOTTOM ASH, FLY ASH, SCRUBBER WATER, MISC. CONDENSED METALS? ALL OF THESE ARE CONTAMINANTS THAT NEED TO BE DISPOSED OF OFFSITE.
   f. IF THE ADEQ ISN’T REMOVING THESE FROM THE SITE, HOW DO THEY PLAN TO KEEP IT FROM BEING IN LEACHATE?
   g. HOW DOES THE ADEQ PLAN TO MANAGE THE FIREBOX’S CONTAMINATED COOLING WATER (as this will require changing out to clean water over time)? DISPOSAL AT A PERMITTED LANDFILL?
4. “Residual materials (soil and ash) will remain on-site,”
   a. Other than the unaddressed areas (water usage and disposal; smoke, particulate and chemical fume containment during excavation and the need for deed restrictions) this is the worst decision that is contained in this action plan. IS THE ADEQ TESTING THE SOIL AND ASH FOR HEAVY METALS AND DIOXINS? CHLOROPHENOLS AND CHLOROBENZENES ARE PRECURSORS AND CAN GENERATE DIOXIN AND FURAN FORMATIONS FROM THERMAL BREAKDOWN OF THESE COMPOUNDS. THIS IS THE WRONG THING TO DO. PERIOD.
   b. ASH IS THE WORST LEACHATE CONCERN!
   c. FOR MONTHS I HAVE BEEN ASKED BY EXPERTS WHY THERE ISN’T ONGOING GROUNDWATER WELL TESTING (water table)?
   d. IF THE ASH IS CONTAINED IN A LINED, CAPPED OFF ONSITE AREA, THEN IT IS MANDATORY THAT GROUNDWATER WELL TESTING BE DONE. ON AN ONGOING BASIS.
   e. WE ALREADY KNOW THAT BENZENE, ARSENIC AND MANGANESE ARE IN THE RUN OFF WATER FROM THE FIRE SITE. SEVERAL ONSITE GROUNDWATER MONITOR WELLS NEED TO BE ESTABLISHED WITH ONGOING TESTING. CORING NEEDS TO BE EVALUATED.
   f. IF GROUND WATER IS CONTAMINATED THEN A “PUMP & TREAT” SYSTEM NEEDS TO BE INSTALLED. (per EPA archives, benzene evaporating into basements at Love Canal is believed to have been carcinogenic for the families impacted)
   g. NOT KNOWING IS NOT AN ANSWER.
   h. HEAVY METALS ARE NOT DESTROYED BY INCINERATION.

5. “fire contained within first 30 days of excavation”
   a. HOW IS THE EXCAVATION SMOKE, FUMES AND CONTAMINANTS GOING TO BE ‘CONTAINED’?
   b. WHAT CAN RESIDENTS EXPECT THEIR AIR QUALITY TO BE DURING THE 30+ DAYS?
   c. WILL ADH HAVE SOMEONE ONSITE 24 HOURS ASSESSING ANY ESCALATION CAUSING A NEED TO EVACUATE? IF NOT ADH, WHAT AGENCY IS RESPONSIBLE AND WILL THEY BE ONSITE?
   d. THE STATE NEEDS TO REALIZE THAT RESIDENT’S ARE CONCERNED WITH WHAT HAPPENS TO THE FIRE ONCE EXCAVATION BEGINS. EVERYONE WANTS THE FIRE OUT.
   e. WHY ISN’T THERE A PUSH BEYOND SENATOR COTTON TO OBTAIN TEMPORARY RELOCATION FUNDS VIA THE STAFFORD ACT TO GET PEOPLE OUT IN ADVANCE OF THE INCREASED OXYGENATION CAUSED BY EXCAVATING FOR THE DURATION OF THE EXCAVATION?
   f. WHAT ARE THE CRITERIA FOR SAYING THE FIRE IS “OUT”? WHO OWNS THIS DETERMINATION?
   g. IS “CONTAINED” A DIFFERENT EXPECTATION THAN “OUT”? WHY?
   h. WILL THE ADEQ REQUIRE THE POA TO CLOSE METFIELD SWIMMING FACILITY AND PARKS FOR THE DURATION OF THE FIRE EXCAVATION?

6. “ADEQ would expect that excavation and sorting activities would be conducted only during daylight hours.”
   a. WHO WILL BE ONSITE 24 HOURS MONITORING THE FIRE SITE? WHO IS RESPONSIBLE ONSITE FOR KEEPING RESIDENT’S IN THE IMMEDIATE AREA SAFE FROM CONTAMINATED AIR?
   b. WHO IS THE ONSITE COMMAND COORDINATOR?
   c. RESIDENT’S WHO HAVE LIVED HERE HAVE EXPERIENCED SIGNIFICANT INCREASES IN SMOKE AND FUMES DURING NIGHTTIME HOURS. WHAT IS ANTICIPATED THAT THE EXPOSURE WILL BE DURING THE EXCAVATION WHEN THE FIRE IS STILL BURNING?

7. “This sorting process will be achieved using excavators, bulldozers, and shaker machines to separate organic waste from dirt and other wastes in order to achieve complete combustion using air curtain technology.”
   a. WHAT IF ANY WATER WILL BE USED DURING SORTATION? HOW WILL IT BE CONTAINED?
c. WILL THE MATERIALS BEING SORTED HAVE BEEN “EXTINQUISHED” PRIOR TO SORTING?

8. “… in wide use around the country.”
   a. FIREBOXES ARE NOT INTENDED TO BE USED FOR HAZARDOUS WASTE PER AIRBURNERS, INC.
   b. 24/7 OPERATION – DOES THIS MEAN THAT THE LOADING OF MATERIAL INTO FIREBOXES WILL BE 24/7 AND JUST THE EXCAVATION WILL BE DAYLIGHT HOURS? WHO WILL BE ONSITE SUPERVISING?

9. “The Federal regulations provide for an exclusion from permitting requirements for the air curtain technology for up to the first 16 weeks of operation if an emergency or disaster has been declared. Thereafter, EPA must grant a waiver from permitting. EPA Region 6 has indicated they will support our efforts.”
   a. BY PERMITS BEING WAIVED, DOES THIS MEAN THAT STANDARD OPERATING PROCEDURES AND METHODOLOGY WILL STILL BE UTILIZED?
   b. WILL HEALTH AND HUMAN STANDARDS AND AIR/WATER QUALITY STANDARDS STILL BE MAINTAINED?

10. “…transported for permanent disposal to permitted landfill or to a recycling facility.”
   a. I WAS TOLD EARLY AND OFTEN BY STATE EMPLOYEES THAT ONCE EXCAVATION AND REMOVAL OF MATERIALS WAS INITIATED THAT EVERYTHING WOULD BE CHARACTERIZED AS HAZARDOUS AND REQUIRE HAZARDOUS REMOVAL AS IT WAS AN ILLEGAL, NON-PERMITTED, NON-REGULATED SITE AND THE CONTAMINANTS WERE UNKNOWN. WHY IS TAKING SITE WASTE TO A RECYCLING FACILITY ALLOWED?

11. “The site will be regraded and restored with native trees, grass, or other vegetative material in order to promote natural regrowth of the area.”
   a. EXCAVATION TO A LEVEL THAT SOIL TESTS “clean” IS IMPERATIVE FOR THE HEALTH AND SAFETY OF THE AREA AND THE IMMEDIATE COMMUNITY. WHO IS RESPONSIBLE FOR ESTABLISHING THIS THRESHOLD? HOW WILL THIS BE MEASURED?
   b. IT IS IMPARITIVE THAT THE ADEQ REQUIRE DEED RESTRICTIONS ON THE TRAFALGAR FIRE SITE TO PREVENT ANY USAGE OR BUILDING ON THIS SITE FOREVERMORE. THE POTENTIAL FOR LONG TERM CONTAMINATION IS REAL AND SHOULD BE ADDRESSED NOW TO PREVENT FUTURE USE OR DEVELOPMENT INCLUDING THE EXCLUSION OF TRAILS, BUILDINGS OR USAGE.
   c. ONGOING GROUNDWATER TESTING NEEDS TO BE INITIATED AND CONTINUED FOR THE FORESEEABLE FUTURE. THIS NEEDS TO BE PART OF THE SITE ACTION PLAN AND USED AS A COMMUNITY INFORMATION TOOL TO DETERMINE POTENTIAL CONTAMINATION AND FUTURE ISSUES.

12. “Due to the complex nature of this scope of work, safety is the highest priority.”
   a. WE TRULY WISH THIS WERE TRUE FROM AUGUST 1, 2018. AND WHILE THE SAFETY AND WELL-BEING OF THE WORKERS IS CRITICAL TO THE SUCCESSFUL IMPLEMENTATION OF THE FIRE EXTINQUISHMENT ACTION PLAN, so is the health and well-being of the residents.
   THE MISTRUST AND DOUBT THAT EXISTS FROM RESIDENTS WOULD NOT BE THERE IF THE SAME CARE AND CONCERN FOR THEIR FAMILIES EXISTED.
   EVERY STEP OF THE WAY I HAVE ASKED FOR THE ‘HUMAN FACTOR’ TO BE IN THE EQUATION AND AT EVERY TURN IT HAS BEEN IGNORED.
MISCELLANEOUS QUESTIONS

• Will powered activated carbon be injected into the flue gas stream to help adsorb the vapor and help prevent the release of mercury, cadmium, chloride, dioxins and furans? And fabric filters will be used?

• What sampling of the waste stream and byproducts will be conducted? Ash? Chlorine? Heavy Metals? Dioxin?

• With the waiving of necessary permits, are EPA air quality standards being waived as well? And if so, when will the public be told that their air quality doesn’t matter?

• PIC’s – products of incomplete combustion may combine to form organic compounds. Will this be monitored?

• Three process points generate dioxins and furans – stack-gas emissions, bottom ash and fly ash. How are these process points going to be monitored and/or tested?

• Who is ensuring and how is it being ensured that good combustion efficiencies + low post combustion temperatures exist to reduce secondary dioxin formation?

• Why is RCRA leachate testing or requirements being ignored relative to ash toxicity?

• How are bag houses going to be disposed of?

• In order to leave ash and soil onsite – the chemical, physical and leaching properties must be known? Who is responsible for doing this? And why isn’t it part of the action plan?

• What is the plan to dispose of the scrubber slurry that contains salts, excess caustic or lime and contaminants scrubbed from flue gas?

• Why is the ash being disposed onsite when the standard management method or best recognized practice is landfill disposal?

• Is money the reason why ground water monitor wells have not been established? It has been suggested to me by one expert that no one wants the answers that monitoring wells would provide. Why is this known monitoring method not being deployed?

• Other than making the site look pretty with trees and grass, what plans are being proposed for the long-term monitoring and management of the site and any affluent that may still be generated?

• What controls are in place to maintain burning efficiency to operate the Fireboxes at optimal settings to diminish incomplete burning of waste materials?

• Are you deploying water smoke suppression?

• Cooling system water typically contains rust inhibitors, when removed where will this water be disposed?

• What are your assumptions in this action plan?
  o Bulk of waste is wood waste.
  o That the waste materials can be easily separated and sorted.
  o The Action Plan will lessen the impact on Trafalgar Road, i.e. provide relief to residents.
  o Fire contained within first 30 days of excavation.

• What are the training/experience requirements for the “sorters”?
• How will “sorters” know hazardous contaminated sources from non-contaminated? Why isn’t it all considered contaminated?

• Who made the decision to leave the contaminated ash and soil onsite? And why do they think that is safe and wise?

• What, if any, back up plans are in place if your assumptions are wrong and/or if something unanticipated goes wrong? Who is the “Onsite Commander” with the power to emergency response decisions?

• What if the loading of the Fireboxes does causes incomplete burning and creates air hazards for the community? How will the community be notified? By whom? Who has to make that determination, and will they be onsite?

• Has dioxin ever been tested – soil, air and water? If NOT, why NOT? Isn’t it safer, smarter to KNOW than not?

• Nothing mentions water usage, containment or disposal? How, what, where?

• Why isn’t ADEQ concerned about site hazards by intending to leave ash and soil onsite? Especially when this goes AGAINST environmental and industry guidelines?

• If Firebox includes cooling system, where will the water come from? Who will monitor water temperature before returning it to its source? (where is the water coming from and where will it go?) Disposal site? Lake? Creek bed?

• And just for fun, what should I have asked that I didn’t?

WILL YOU PLEASE REMOVE THE ARKANSAS NATIONAL GUARD DATA FROM PUBLICATION?
THE MANUFACTURER OF THE EQUIPMENT HAS SHARED WITH RESIDENTS THAT THE TEST EQUIPMENT WAS TO BE PLACED 3-5 FEET OFF THE GROUND – not chained to a tree, sitting on the ground. PLEASE REMOVE THIS MEANINGLESS DATA.
Barbara Bennett

I feel the fire should be put out with the least impact to the environment, with the first priority being the least adverse impact on air quality. While government funds are being used to expedite the process, I feel the cost should be paid by the Bella Vista POA, Cooper, and possibly also Blue Mountain. The POA should not pass on or attempt to pass on costs to Bella Vista residents. My opinion is based on what I have read, which is that the POA operated an unsupervised Dump site. I also feel the POA (and the others if found liable) should pay for associated medical bills and other necessary items such as face masks and air purifiers. Further, the comments about the air quality being all right are ridiculous. Wednesday evening I visited people who live fairly close to the fire. They walked me out to my car. We stood outside talking. After about ten minutes I began coughing severely and had to leave. I had not been coughing before I went there and I stopped coughing after I drove away. However, if a short exposure to the Wednesday evening smoke caused me to have such a severe reaction, I would not be able to live there if that were my home. According to what I have read, there is a clear line of responsibility for the fire and those responsible should pay for the costs of putting out the fire, restoring the ground, and make reparations to nearby residents whose health has been affected, including but not limited to, medical bills, prescription and OTC medications, mileage for these trips, air purifiers, meals out because they were trying to stay away from home as long as possible, alternative lodgings and cleaning expenses for removing the smoke film from their home as well as additional costs for more frequent replacement of HVAC filters.
Bella Vista POA

Please see attached letter.
5 April 2019

Ms. Becky Keogh  
Director  
Arkansas Department of Environmental Quality  
5301 Northshore Drive  
North Little Rock, AR 72118-5317

Reference: 0498731

Subject: Technical Comments on the Trafalgar Site Response Action Plan Preliminary Outline, Prepared by ADEQ, March 21, 2019

Dear Mrs. Keogh

On behalf of the Bella Vista Property Owners Association (POA), the Center for Toxicology and Environmental Health (CTEH) and Environmental Resources Management (ERM) are submitting this comment letter regarding the Trafalgar Site Response Action Plan Preliminary Outline (Action Plan), dated March 21, 2019. The Site is subject of an Emergency Order issued by the Executive Director of the Arkansas Department of Environmental Quality (ADEQ), designated LIS 18-102 and ERC# 18-0372. In addition, the Site is subject of Proclamation of a State of Emergency issued by the Hon. Asa Hutchinson, Governor of the State of Arkansas, designated DR 19-01.

ADEQ is seeking input on the remedial approach that ADEQ intends to implement to address the underground fire at the Trafalgar Road Site in Bella Vista, Arkansas (the Site). A series of response actions were outlined in the Action Plan by ADEQ to address the fire and site conditions. The POA shares ADEQ’s interest to address the fire and site conditions for the protection of site workers and the local community. Therefore, the POA retained CTEH and ERM to review and provide technical comments on the Action Plan. The purpose of this letter is to provide CTEH and ERM’s comments on the Action Plan and to share insights from our collective experience and expertise on similar sites for the benefit of ADEQ.

Information regarding the conditions at the Site was provided in EnSafe’s Draft Response Action Plan, Trafalgar Road Site, dated January 2019 (EnSafe Report). This information is summarized in Section 1 as a context for identifying assumptions and the degree of uncertainty in the Action Plan. ADEQ outlined the highest priorities in the Action Plan. Section 2 provides an overview of priorities and the related human health and environmental risks based on the available information and information provided to CTEH and ERM meeting with ADEQ on March 28, 2019. Section 3 provides a comment to each section of the Action Plan, with recommendations regarding key assumptions, risk factors and mitigation measures. Lastly, Section 4 provides a summary of a few measures that ADEQ could implement to help achieve the overall objectives of the response action.
1. SITE CHARACTERIZATION

The following site characterization features were reported in the EnSafe Report, which were based on field reconnaissance and site investigation activities by EnSafe:

- The contents of the Site are primarily yard waste and construction debris covering seven to eight acres and thought to be up to 60 to 80 feet deep in ravines;
- The total volume of material in the Site was estimated to be 115,000 to 175,000 cubic yards;
- The total volume estimate has significant uncertainty because of the original and current irregular surface topography and possible fire consumption of materials in the Site;
- The disposal site materials were thought to have been pushed into low areas and ravines between 2001 to 2016;
- The Blue Mountain Storage (BMS) parking area covers part of the Site and was thought to have been constructed on top of approximately 25 feet of material in the Site, representing 25%-30% of the total volume, and placed in 2004-2005;
- The materials in the Site may or may not have been placed in lifts with interim soil cover layers;
- EnSafe assumed 10% to be “solid waste” (a term not defined or otherwise characterized in their report);
- EnSafe assumed 1,000 cubic yards of the total volume in the Site was “hazardous” waste (a term not defined or otherwise characterized in their report); and
- EnSafe stated that an "unknown quantity" of petroleum products, batteries, and hazardous substances were present in the materials at the Site.

2. ADEQ’S PRIORITIES

Based on the available information and discussions with ADEQ, CTEH and ERM understand that ADEQ’s priorities include addressing the air emissions of smoke and the potential presence of hazardous substances in the disposal site. The following discussion outlines our current understanding of these two priorities.

2.1 Air Emissions

A primary issue at the Site is the migration of smoke from the underground fire at the Site into the surrounding neighborhoods. Smoke generated from wood fires contains various gases such as carbon dioxide, carbon monoxide, and other chemicals that contain carbon, nitrogen and sulfur. Smoke also has water vapor and suspended solid and liquid particles known as particulate matter. These particles can be very small and can be inhaled if they are in the air a person breathes. At higher concentrations in the air, the particles can decrease visibility and cause the air to be hazy. The type and amount of the chemicals and particles that are found in smoke depends on the conditions of the fire, such as what is burning, the temperature of the fire and the concentration of oxygen in air surrounding the burning material. The composition of the smoke has been assessed by EPA, ADEQ, and CTEH as described below.
2.1.1 EPA Air Monitoring Results

An EPA memorandum dated December 7, 2018 provided the results of 24-hour air samples that EPA collected at five locations and analyzed for target compounds [defined by EPA as volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs)]. EPA’s Regional Screening Levels (RSLs) for residential air were used to identify compounds that need additional evaluation only. The EPA memorandum stated: “All SVOCs and VOCs at all the off-site sample locations (Locations 6, 8, 9 and 10) are at acceptable levels.” EPA also stated that “Benzene was detected at the on-site sample location (Location 7) at a level of 100 μg/m$^3$ which exceeds the chronic RSL of 31 μg/m$^3$. However, the on-site benzene level of 100 μg/m$^3$ is within a factor of two of the subchronic RCL of 82 μg/m$^3$ and therefore does not represent an immediate health concern.”

2.1.2 CTEH Air Monitoring Results

CTEH conducted an air quality evaluation to assess the nature and extent of smoke from the fire and its impact on air quality in the Bella Vista community. CTEH used its experience over many years responding to fires and guidelines that have been developed by the US EPA and other agencies to monitor air during wildfires. A Sampling and Analysis Plan (SAP) was developed and submitted to ADEQ for review. CTEH continuously monitored air at and near the Site for 24-hours per day for a week, from March 12 to 19, 2019.

In total, CTEH collected 2,931 readings between March 12 and March 19, 2019. The vast majority of readings (about 97%) indicated that air quality was well within normal background levels. Of the compounds evaluated, a small number of readings of carbon monoxide were detected above background levels, but they were well below levels that would endanger health. None of the other chemicals we looked for were detected above background levels, and most were never detected in any measurement. Similarly, the levels of fine smoke particles were usually found within background levels for rural areas with a few exceptions. During the early morning hours (before sunrise) of March 16, 17, and 18, weather conditions favored smoke accumulation throughout the valley areas of the Bella Vista community, resulting in smoke particles at levels higher than were measured at other times during the week. Notably, fine particulate matter decreased to within background levels with sunrise and remained at those decreased levels throughout the remainder of these days.

In addition to the real-time air monitoring mentioned above, CTEH established six analytical air sampling stations (including one background sampling station – AS-001) in close proximity to the Site to evaluate the presence of VOCs and polycyclic aromatic hydrocarbons (PAHs). These stations were established on March 12, 2019 and the stations collected air samples for one week thereafter.

In total 3,741 individual analytes were tested from the 97 samples collected between March 12, 2019 and March 18, 2019. Various low-level detections of various chemicals were reported in samples representing downwind locations and in the background samples. A review of the results from this evaluation indicated that the chemicals potentially associated with smoke and fire events at the Site were consistently below relevant screening values, and do not represent a significant public health risk. Attachment 1 provides a summary report by CTEH of these results.
2.1.3 **ADEQ Air Monitoring Results**

The ADEQ has established two fine particulate monitoring stations near the Site. These are located at the Bella Vista Fire Department Station 2 and the Pump Station near Cooper Elementary School. Fine particulate 24-hour average concentration data were collected at the stations, and an Air Quality Index was determined by ADEQ. Air quality indices below 50 were considered to be “Good” by ADEQ, and indices between 50 and 100 were considered to be “Moderate” by ADEQ. ADEQ relied on EPA guidelines, and considered “Good” conditions to reflect little to no impact to the general population. Moderate conditions were generally considered acceptable, but some sensitive individuals can be affected. For the Fire Station, there were 44 “Good” days and 17 “Moderate” days recorded between January 18, 2019 and March 20, 2019. At the Cooper Elementary School, there were 46 “Good” days and 14 “Moderate” days recorded. Attachment 2 provides a summary of the air monitoring results reported by ADEQ as of the data of this report.

In addition, ADEQ contracted with the Louisiana Department of Environmental Quality to conduct air monitoring at the Site during the week of March 11, 2019. The results of that sampling event are not readily available. This event was concurrent with the air sampling performed by CTEH, which is summarized above.

2.2 **Potential Presence of Hazardous Substances**

On December 21, 2018, ADEQ issued an Emergency Order, designated LIS 18-102 and ERC# 18-0372, for response actions at the Site based on the conclusion that emergency conditions exist and the release of potentially hazardous substances may present an imminent and substantial endangerment to the public health, safety or welfare or to the environment. On January 2, 2019, the Governor’s office issued an Emergency Order designated DR 19-01.

A review of the available information indicated that “burned and charred material” was reportedly observed in the intermittent stream at the toe of the disposal site and as far as 1/4-mile downstream. Discolored liquid seeps were observed at the toe of the disposal site.

The underlying geology was reported to be the Boone Formation, St. Joe Limestone. The St. Joe limestone was reported to be karst and highly permeable, facilitating potential interactions between surface water and ground water.

ADEQ reportedly collected surface water samples at the northern perimeter of the Site on January 23, 2019. The water samples were analyzed for VOCs, SVOCs, anions, metals, and dissolved metals. ADEQ stated that most compounds were reported at background levels and below applicable health screening values. Arsenic, manganese, and benzene were reported to have exceeded their respective health screening values. The sample results have not been provided at the date of this comment letter.

3. **REVIEW OF TRAFALGAR SITE RESPONSE ACTION PLAN**

The following discussion presents comments on each of the Action Plan sections in the same sequence as that document. In general, CTEH and ERM are recommending that a formal front-end engineering design evaluation be performed to identify potential risks, rank the risks, and
assign mitigation measures to each risk. Additional data collection is likely to be needed to address uncertainty, especially for the excavation effort and wood waste management. CTEH and ERM recommend a series of plans for the critical risks and mitigations that are likely to be present.

3.1 Fire Control
ADEQ states that the goal of the project is to have the fire contained within the first 30 days of excavation. CTEH and ERM recommend that ADEQ also consider the need to contain the smoke within the same 30-day timeline. A proposed performance standard after the 30-day period is no off-site smoke concentrations of compounds of concern that exceed the applicable thresholds that are protective of human health for more than one hour. If exceeded, corrective action would be undertaken to meet the compliance standards at the property boundary.

3.2 Excavation
ADEQ states that excavators will remove all materials from the Site, stage, and sort the materials. CTEH and ERM identified several risk factors associated with excavation including loss of fire containment, excessive smoke above threshold values, structural failure of the disposal site, releases of materials to the environment, and water management. The probability and consequence of each risk factor was deemed to be significant enough to warrant mitigation.

CTEH and ERM have identified a number of comments and recommendations to help mitigate these risk factors, as described below.

3.2.1 Loss of Containment

Excavation into the burning disposal site contents may increase the supply of oxygen to materials heated to or above its auto-ignition temperature and increase the intensity and duration of excess smoke emissions. CTEH and ERM recommend that the fire team first prepare a baseline data collection plan to evaluate the probability of this risk emerging during excavation in more detail. Data needed to address those risks may include:

- Air flow rate through the storm water drainage culvert under Trafalgar Road and into the disposal site, which could be plugged if it is shown to be an air entry point;
- Potential air flow rate and preferential pathways through the side slopes and surface that could be reduced using a spray-apply mulch cover;
- Characterize the integrity of the underlying bedrock including weathering, fractures, and hydraulic and pneumatic conductivity;
- Initial and periodic thermographic and topographic mapping of the disposal site surface, possibly using Unmanned Aerial Vehicle (UAV) for safety and quality of data, to assess baseline conditions and changes in disposal site conditions over time; and

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1 Based on the available air monitoring data, the primary constituent of concern is PM2.5.
2 It is recommended that vertical and horizontal data to be tied back to temporary benchmark controls. Periodically and for-cause check of the temporary benchmark elevation and location by land survey is advisable.
Establishment and precision survey of temporary survey benchmarks around the perimeter of the Site to identify the limits of site work and sample collection as well as notification to off-site landowners should excursions of the Site boundary occur.

During the meeting on March 28, 2019, ADEQ stated that LiDAR data are available for the Site, but such data have not been provided to date.

### 3.2.2 Structural Failure of the Disposal Site

Perhaps one of the greatest safety and environmental risks associated with the underground fire and the proposed Action Plan is the structural failure of the disposal site during excavation to implement the response action chosen by ADEQ. CTEH and ERM have identified an initial set of data that could help guide the excavation process in a way that reduces the potential for failure. Data that may be used to address those risks are:

- Geotechnical data of the material in the disposal site including cover, waste, and subgrade bulk density profile, bearing capacity, shear strength, and location of phreatic surface in the material;
- Water content, plasticity, particle size distribution, and field capacity/wilting point of cover materials, waste, and subgrade material; and
- Development of a site conceptual model that illustrates the areas of potential structural concern and potential affected air, solids and water release pathways.

### 3.2.3 Releases of Disposal Site Contents to the Environment

The quality of surface water, sediment, and ground water in the immediate vicinity of the disposal site is not well characterized. A potential exists for the excavation activities to cause a release of compounds of interest into the environment. CTEH and ERM recommend creating a baseline of environmental quality, to include:

- Surface water quality measurements upstream, downstream, and in Lake Ann;
- Collect sediment data in the upstream and downstream waterways; and
- Install ground water monitor wells around the disposal site to monitor water ground water levels and assess baseline ground water quality and related formation characteristics.

These data will be useful in evaluating whether or not the excavation activities, as well as site restoration, has a potential for significant short-term and long-term impact on the environment.

### 3.2.4 Water Management

The Action Plan describes how the recommended approach will "eliminate or greatly reduce" the amount of water used during the response actions. The details on how much water will be used were not specified. During the meeting with ADEQ on March 28th, CTEH and ERM learned that a weir (i.e. a dam with and associated pond) will be constructed in the natural drainage channel from a location to be determined downstream of the Site. The purpose of the weir is to help manage water discharges from the Site, assumed to be both storm water and response action fire water
runoff. For the purposes of this comment, CTEH and ERM recommend the following planning controls necessary for water management systems:

- Calculate design and extreme event peak storm water flow rates and average drainage volumes for the area surrounding the Site;
- Develop a plan to contain or route the design and extreme events away from the disposal site through such features as upstream detention ponds, low flow pipe, extreme event drainage channels, downstream retention ponds, and extreme event overflow retention ponds;
- Calculate water balance in support of design of the downstream weir;
- The weir engineering design should consider heavier weight impounded materials (similar to a tailings pond design) as a safety measure because loose saturated sediments and debris may accumulate in the pond upstream of the weir, plus storm water and firewater runoff, thereby increasing load on the weir structure and foundation;
- Design a diversion of storm water now draining to the upstream culvert above Trafalgar Road;
- Construct an adequate-section compacted soil buttress at the toe of the disposal site side slopes to reduce infiltration of detained storm water in the channels east of the northeast corner of the disposal site and southwest of the northeast corner of the disposal site, with height adequate to allow diversion of detained water in an extreme storm event to overflow via an extreme event overflow channel past the disposal site to the downstream channel;
- Construct a drain pipe to convey low level channel run-on past the disposal site where the material in the disposal site is a barrier (such as east to west under the north side and south to north under northwest corner of disposal site);
- Monitor water supply use via water meter;
- Monitor site precipitation, wind speed and velocity, air temperature, and relative humidity via a small automated weather station;
- Monitor water levels in all water quench, detention and retention ponds and drainage channels;
- Obtain information characterizing side soils for potential use for earthwork construction, evaluation of erodability, and use as a constructed cover or natural infiltration barrier;
- Obtain design information and design earthwork improvements, including buttresses, overflow channels, retention pond dam, and retention pond overflow; and
- If affected storm water is anticipated, the retention ponds used to manage runoff should be equipped with positive controls for discharge and constructed with an impermeable bottom to reduce impacts to the underlying ground water. Pond construction should be evaluated against dam safety engineering criteria to determine if the impoundment size and weir heights require installation of specific safety controls in compliance with the applicable regulations.

### 3.3 Sorting and Separating Waste Materials

ADEQ stated that equipment will be used to segregate the materials into organic waste, dirt, and other wastes. The separating equipment was assumed to be the shaker machines referenced by ADEQ. From CTEH and ERM’s experience, shaker systems are prone to frequent malfunction and breakdown, with implications on project schedule and cost. CTEH and ERM recommend that ADEQ consider static screens in conjunction with or in lieu of shaker systems. The degree of separation for the disposal site contents may not require the added separation capacity of a
shaker system. Alternatively, backup shaker systems could be deployed to address the high
down-time potential.

In addition, the shaker systems can create sustained noise levels at magnitudes that are a
nuisance to adjacent landowners. The Action Plan describes a 24/7 operation plan for wood
burning, which may require prolonged operation of the separation equipment. Doing so may be
considered a noise nuisance by local residents affected by the noise.

### 3.4 Wood Waste Management

ADEQ states that organic waste will be burned in burn boxes equipped with air curtain technology
to reduce the emission of smoke and particulate matter. Up to five burn boxes may be deployed
for approximately 180 days and operated 24/7. CTEH and ERM reviewed the available literature
for burn box production rates and found general agreement with the productivity rate, assuming
the site characterization details in Section 1 were representative. Given that the project costs will
likely be highly sensitive to the operational performance of the burners, CTEH and ERM
recommend additional information collection and assessment to address uncertainty and potential
safety risks, such as:

- The estimated volume of material using topographical survey and waste density data;
- Estimate burn efficiency and air emissions controls based on a pilot or demonstration test³;
- Develop a materials-handling plan and site layout map that shows where the equipment will be
  located and how the materials will be conveyed through the process to provide a process
  safety management;
- If excavation activities only occur during daylight hours, the burn systems may require a local
  reserve pile of woody materials to maintain a 24-hour operational schedule that is large in size
  and potentially constraining for operations;
- Establish minimum design/operating standards for burn box material processing, process
  controls, performance and emissions monitoring, operation, maintenance, and
  decommissioning; and
- Link the materials handling plan and site layout map with the air monitoring plan for baseline,
  upwind, exhaust, and downwind air quality monitoring throughout the implementation period.

### 3.5 Waste Material Relocation

ADEQ states that the plan to sort material is to segregate hazardous substances from the organic
materials and soil for proper documentation, containerization, and off site transportation and
disposal to a permitted landfill or to a recycling facility. Based on discussions with ADEQ, CTEH
and ERM understand that the physical segregation is intended to sort solid waste that may contain
hazardous substances from organic debris. In addition, an assumption was made previously by
an ADEQ contractor that up to 1,000 cubic yards of hazardous waste may be present. CTEH and
ERM recommend that solid waste and hazardous waste, if such wastes are encountered, they be

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³ A pilot test could include initially mobilizing one full-scale burn box with accessories to prove the process is effective and
determine final equipment requirements and layout requirements. A pilot test will allow efficient assessment of full-scale
equipment needs to control smoke emissions from the burning process as well as the potential for a supplemental fuel
source (e.g. diesel) to be used to maintain target operating temperatures.
stored on site in solid waste management units with containment systems designed for the nature of the waste. Although not explicitly stated in the Action Plan, it was assumed that a sampling and analysis plan would be prepared to classify the materials for proper off-site disposal.

3.6 Site Restoration

ADEQ states that the Site will be regraded and restored with native trees, grass, or other vegetative material to promote natural regrowth of the area. It was assumed that the ash would be reused on site in support of revegetation. Based on CTEH and ERM experience, the physical and chemical characteristics of ash may require special handling and storage practices to protect the environment. Potassium, sodium, zinc and carbonate may be concentrated and rapidly leachate with water as hydroxide and carbonate compounds. CTEH and ERM recommend estimating the volume of ash and evaluating the chemical and physical properties of the ash to identify reuse options and blending requirements to protect human health and the environment. A bench-scale incineration, sampling, and analysis of a representative waste sample(s) could improve information about the characteristics of the ash.

The soils present within the Site appear from photography to be primarily mineral types that generally lack the organic content that promote vigorous growth. As an aid in site restoration, select organic material from the Site may potentially be segregated in lieu of burning, chipped, and mulched for use as ground cover and soil amendments in the restoration process.

4. OTHER IMPORTANT CONSIDERATIONS

CTEH and ERM have identified other considerations for ADEQ for implementation of the Action Plan. These considerations include

- A number of specific plans are recommended, which may be organized under a single governing Project Plan for organizational and communication purposes;
- Develop a community relations plan and maintain routine communications to key stakeholders;
- Develop stakeholder consensus on community air and water quality action levels along with notification procedures should an action level be exceeded;
- Develop a project HASP and JHAs for all work activities; and
- Obtain and confirm subject and adjoining tract property survey documents and boundary confirmation survey data to reduce the potential for trespassing during implementation.

5. CONCLUSION

On behalf of Bella Vista Property Owners Association, CTEH and ERM appreciate the opportunity to provide this comment letter to ADEQ for consideration. We recognize the inherent uncertainty and challenges associated with this project. Overall, CTEH and ERM recommend that a formal front-end engineering design phase be considered to assess site risks and develop mitigation measures to help ensure the critical priorities are attained by the Action Plan. Our review of the available information suggests that significant data gaps may be present that could have implications on the evaluation of risk and mitigation measures. We have recommended specific data collection activities aimed at reducing uncertainty in site conditions and verifying...
assumptions. Once the site characterization is complete, the risks can be characterized and prioritized and reasonable and appropriate mitigation measures developed to control unacceptable risks. The recommendations are based on our collective experiences with similar situations and the limited information that was available at the time of this letter.

We look forward to addressing any questions or comments that may arise.

Yours sincerely,

Environmental Resources Management

Paul A. Stefan, P.G. (Texas)
Principal Partner

Center for Toxicology and Environmental Health, LLC

Cory Davis
Partner and Principal Consultant
ATTACHMENT 1  ANALYTICAL AIR SAMPLING RESULTS – TRAFALGAR
ROAD FIRE, BELLA VISTA, AR PREPARED BY CTEH, DATED APRIL 4,
2019
Analytical Air Sampling Results – Trafalgar Road Fire, Bella Vista, AR

As a result of the ongoing Trafalgar Road fire, CTEH began conducting an initial air quality evaluation as an exploratory measure to understand the extent of smoke events in the Bella Vista community. As part of this evaluation, air was continuously monitored throughout the Bella Vista community using instruments that provide information about smoke constituents in real time. The results from air monitoring indicate that the vast majority of the time\(^1\), air quality was well within background levels. Air monitoring results are described in further detail in the Air Monitoring Summary Report produced by CTEH on March 20, 2019 (Attachment A).

In addition to the air monitoring conducted, CTEH established six analytical air sampling stations (including one background sampling station – AS-001) in close proximity to the fire site to evaluate worst case scenario conditions prior to initiation of remediation activities. Sampling was conducted to evaluate the presence of over 75 Volatile Organic Compounds (VOCs) and 18 Polycyclic Aromatic Hydrocarbons (PAHs). These stations were established on March 12, 2019, and air samples were collected for one week. A map illustrating sampling locations is provided in Attachment B. This report focuses on describing the methodology and results from the analytical air sampling.

Analytical Air Sampling Methodology and Comparison to Health-Protective Values.
CTEH developed a Sampling and Analysis Plan (SAP) and submitted it to the Arkansas Department of Environmental Quality (ADEQ) for review. In total, CTEH deployed 97 air samples throughout the community between March 12, 2019 and March 18, 2019. Of these, 35 were deployed as 24-hour samples and analyzed using United States Environmental Protection Agency (USEPA) method TO-15 for VOCs. The remaining 62 samples were deployed for 8-12-hour sampling periods (twice per day) and analyzed using NIOSH method 5506 for PAHs. All samples were sent to an American Industrial Hygiene Association (AIHA)-accredited laboratory for analysis.

Results from the 7-day sampling period were averaged and compared to various health-protective screening values established by regulatory and federal agencies such as the USEPA, and the Agency for Toxic Substances and Disease Registry (ATSDR). Specifically, average concentrations over the 7-day period were compared to the Acute, Intermediate, Chronic Minimal Risk Levels (MRLs)\(^2\), the sub-chronic provisional Reference Concentration (p-RFC)\(^3\), or the USEPA Residential Air Regional Screening Levels (RSLs)\(^4\), in that order of priority, where available. Additionally, when analytes were only detected on a single day, the 24-hour Air Monitoring Comparison Values (AMCVs)\(^5\) established by the Texas Commission on Environmental Quality (TCEQ) were used as the most applicable time-averaged health-protective screening value.

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\(^1\) During the early morning hours of March 16 – 18, 2019, weather conditions favored smoke accumulation throughout valley areas, resulting in increased levels of particulate matter (PM2.5) that subsided with sunrise.

\(^2\) The MRLs are established as an estimate of daily human exposure (up to 14 days – Acute; 14 to 364 days – Intermediate; 365 days and longer – Chronic) to a hazardous substance at or below which that substance is unlikely to pose a measurable risk of harmful noncancerous effects. Where no Acute MRLs were available, Intermediate or Chronic values were used in that order.

\(^3\) The sub-chronic p-RFC is an estimate (with uncertainty spanning perhaps an order of magnitude) of the daily exposure to human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects from exposures lasting from two weeks to seven years.

\(^4\) The USEPA RSL for residential air is a long-term value protective of the general public, including sensitive subgroups (i.e. children, asthmatics), protective of continuous exposures, 365 days per year, for 70 years. Comparisons to RSLs were only done for analytes for which 24-hour or 14-day screening values do not exist, and thus, may be overly conservative comparison values.

\(^5\) The 24-hour AMCVs are developed by TCEQ as 24-hour exposure values protective of human health and welfare. These are considered protective levels at which exposure is unlikely to result in adverse health effects.
Analytical Air Sampling Results

Analytical air sampling results were compared to the various health-protective screening values described above. Table 1 provides a summary of detections from sampling conducted in proximity to the site between March 12, 2019 and March 18, 2019.

<table>
<thead>
<tr>
<th>Analyte</th>
<th>No. of Samples</th>
<th>No. of Detections</th>
<th>Range of Detections (ppm)</th>
<th>Average Concentration*</th>
<th>Analytical Station (AS) Where Detected</th>
<th>Screening Value (ppm)</th>
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<tbody>
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<tr>
<td>1,3 butadiene</td>
<td>35</td>
<td>1</td>
<td>0.0008 – 0.0011</td>
<td>0.000713</td>
<td>AS-002</td>
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<td>35</td>
<td>9</td>
<td>0.001 – 0.0052</td>
<td>0.00263</td>
<td>AS-002 – AS-005</td>
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<tr>
<td>Acetonitrile</td>
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<td>13</td>
<td>0.0054 – 0.019</td>
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<td>All stations</td>
<td>0.036</td>
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<td>Acrolein</td>
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<td>0.001 – 0.0011</td>
<td>0.000904</td>
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<td>Benzene</td>
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<td>AS-002 – AS-006</td>
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Table 1 presents detected analytes only. A summary of all results by location and date are provided in Appendix C. *Averages include detections, J-flagged results, and non-detections at ½ of the reported detection limit; 6 Common laboratory contaminant; 7 24-hour AMCV; 8 USEPA RSL; 9 Acute MRL; 10 Chronic MRL; 11 Michigan Department of Environmental Quality 12 RFC; sub-chronic p-RFC; 13 Long-term (> 1-year exposure) AMCV. 14 Intermediate MRL; NA= Not Available/Simple Asphyxiant.

In total 3,741 individual analytes were tested from the 97 samples collected between March 12, 2019 and March 18, 2019. Whereas various low-level detections of various chemicals were reported, it is notable that many of these were also detected in the background samples deployed at AS-001, and thus, are likely not attributed to the smoke or fire events. Results from this evaluation indicate that the chemicals potentially associated with smoke and fire events at the Trafalgar road fire were consistently below relevant screening values, and do not represent a public health risk.
Appendix A – Air Monitoring Summary Report
Bella Vista Community Air Quality Evaluation – Trafalgar Road Fire Air Monitoring Results

As a result of the ongoing Trafalgar Road fire, CTEH began conducting an air quality evaluation as an exploratory measure to understand the nature and extent of smoke events in the Bella Vista community. As part of this evaluation, air was continuously monitored for smoke-related constituents 24-hours per day for a week, between March 12 – 19, 2019.

Smoke generated from wood fires contains various gases such as carbon dioxide, carbon monoxide, and other chemicals that contain carbon, nitrogen and sulfur. Smoke also has water vapor and suspended solid and liquid particles known as particulate matter. These particles can be very small and can be inhaled if they are in the air you are breathing. Depending on their concentration in the air, they can decrease visibility and cause the air to be hazy. The type and amount of the chemicals and particles that are found in smoke depends on the conditions of the fire, such as what is burning, the temperature of the fire and the amount of oxygen surrounding the burning material.

CTEH chose the chemicals to look for based on our experience over many years responding to fires and on guidelines that have been developed by the US EPA and other agencies to monitor air during wildfires. We developed a Sampling and Analysis Plan (SAP) and submitted it to the Arkansas Department of Environmental Quality (ADEQ) for review and approval. This plan included Action Levels for the amount of particles measured in the air and recommended actions to consider if higher readings are observed for extended time periods (1 to 24 hours). In total, 2,931 readings were collected between March 12 and March 19, 2019, with the vast majority of readings (~97%) indicating that air quality was well within background levels. Of the constituents evaluated, a small number of readings of carbon monoxide were detected above background levels, but well below health-protective levels. None of the other chemicals we looked for were detected above background levels, and most were never detected in any measurement. Similarly, the levels of fine smoke particles were usually found within background rural levels. However, during the early morning hours (before sunrise) of March 16, 17, and 18, weather conditions favored smoke accumulation throughout the valley areas of the Bella Vista community, resulting in smoke particles at levels higher than were measured at other times during the week. Notably, fine particulate matter decreased to within background levels with sunrise and remained at those levels throughout the duration of these days. Going forward, extended periods of smoke particles at levels observed during the early morning hours referenced above might warrant actions such as those outlined in the SAP.

In addition to the air monitoring conducted throughout the community, analytical instruments were deployed at multiple locations to collect air samples for laboratory analyses. The results from these samples have not been provided by the lab; however, as soon as these are available, they will be communicated to the community, the Arkansas Department of Environmental Quality (ADEQ), and the Arkansas Department of Health (ADH).
Appendix B – Analytical Air Sampling Locations
Appendix B: Analytical Air Sampling Location

Bella Vista Trafalgar Road Fire

Legend

Fire Location

Analytical Air Sampling Location

AS-001
Intersection of Cooper Lane and Raleigh Hills Lane, across Cooper Ln from country club sign

AS-002
Across Trafalgar Rd from dump, very western end of Superior Storage fence

AS-003
Cul-de-sac at then end of Webb Ln

AS-004
End of Sutherland Ln cul-de-sac

AS-005
End of Damerham Ln cul-de-sac

AS-006
End of Sean Ln.

COORDINATE SYSTEM: NAD 1983 UTM Zone 15N
DATUM: North American 1983

LAST UPDATED: 4/1/2019 2:10:12 PM

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Appendix C – Analytical Air Sampling Results
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</table>

**Note:**
- All analytes are reported in parts per million (ppm).
- The values represent the concentration of the analyte in air samples collected during the specified timeframe.
- This data was compiled to assess the air quality at the specified location.

**Analysis Method:**
- Gas Chromatography-Mass Spectrometry (GC-MS)

**Sample Collection:**
- Samples were collected using a standard, calibrated air sampler.

**Data Validation:**
- The data was verified through quality assurance protocols to ensure accuracy and reliability.

**Reporting:**
- Results are rounded to the nearest ppm for clarity.

**References:**
- Further details on the analytical methods and quality control procedures are provided in the full report.
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<th>Analyte Name</th>
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### Analytical PAH Air Results | Trafalgar Road Fire

**Last updated: 4/3/2019 2:58:46 PM**

**Laboratory result qualifiers are reported to the right of corresponding detections (in parentheses). Definitions of reported qualifiers are below:**

- **R:** Unreliable positive or non-detect result; analyte may or may not be present in sample.
- **NJ:** The analysis indicates the presence of a compound that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- **J3:** The associated batch QC was outside the established quality control range for precision.
- **UJ:** This analyte was not detected, but the reporting limit may or may not be higher due to a bias identified during data validation.
- **L2V:** Level 2 Verified
- **L4V:** Level 4 Validated

#### Analysis Method

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#### HPLC/UV Method Result Type Analyte (group) Cas No

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</table>

1. Laboratory non-detections are reported as less than ("<") the laboratory reporting limit.
2. NA: Not Analyzed
3. TIC: Tentatively Identified Compound
4. The associated batch QC was outside the established quality control range for precision.
5. The associated batch QC was outside the established quality control range for accuracy.
6. The analysis indicates the presence of a compound that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
7. Unreliable positive or non-detect result; analyte may or may not be present in sample.
8. This analyte was not detected, but the reporting limit may or may not be higher due to a bias identified during data validation.
# Analytical PAH Air Results | Trafalgar Road Fire

**Last updated:** 4/3/2019 2:58:46 PM

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1Laboratory non-detections are reported as less than (<) the laboratory reporting limit.
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Laboratory result qualifiers are reported to the right of corresponding detections (in parentheses). Definitions of reported qualifiers are below:
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- **J3**: The associated batch QC was outside the established quality control range for precision.
- **J4**: The associated batch QC was outside the established quality control range for accuracy.
- **N**: The analysis indicates the presence of a compound that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- **R**: Unreliable positive or non-detect result; analyte may or may not be present in sample.
- **U**: This analyte was not detected, but the reporting limit may or may not be higher due to a bias identified during data validation.

**Detection Color**
- **Detection**
- **Non-Detection**
The analysis indicates the presence of a compound that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

J3: The associated batch QC was outside the established quality control range for precision.

J: Result is estimated between the laboratory method detection limit and reporting limit.

TIC: Tentatively Identified Compound

Analysis Method | Result Type | Analyte (group) | Cas No | Detection Color |
--- | --- | --- | --- | ---
med. NIOSH 5506, HPLC/UV | Target Analyte | 1-METHYLNAPHTHALENE 90-12-0 | 0.00007 PPM | < 0.00004 PPM |
| | | 2-METHYLNAPHTHALENE 91-57-6 | 0.00085 PPM | < 0.00004 PPM |
| | | AGENAPHTHENE 83-32-9 | 0.00007 PPM | < 0.00004 PPM |
| | | AGENAPHTYLENE 208-96-8 | 0.00007 PPM | < 0.00004 PPM |
| | | ANTHACENE 120-12-7 | 0.00007 PPM | < 0.00004 PPM |
| | | BENZO(A)ANTHRACENE 58-65-3 | 0.00005 PPM | < 0.00004 PPM |
| | | BENZO(A)PYRENE 50-32-8 | 0.00005 PPM | < 0.00004 PPM |
| | | BENZO(B)FLUORANTHENE 206-99-2 | 0.00005 PPM | < 0.00004 PPM |
| | | BENZO(G,H,I)PERYLENE 191-24-2 | 0.00005 PPM | < 0.00004 PPM |
| | | BENZO(K)FLUORANTHENE 207-08-9 | 0.00005 PPM | < 0.00004 PPM |
| | | CHRYSENE 218-01-9 | 0.00005 PPM | < 0.00004 PPM |
| | | DIBENZ(AH)ANTHRACENE 53-79-3 | 0.00005 PPM | < 0.00004 PPM |
| | | FLUORANTHENE 206-44-0 | 0.00005 PPM | < 0.00004 PPM |
| | | FLUORENE 88-73-7 | 0.00005 PPM | < 0.00004 PPM |
| | | INDENO-1,2,3-CD-PYRENE 193-39-5 | 0.00005 PPM | < 0.00004 PPM |
| | | NAPHTHANTHENE 91-20-3 | 0.00005 PPM | < 0.00004 PPM |
| | | PHENANTHREN 85-01-8 | 0.00005 PPM | < 0.00004 PPM |
| | | PYRENE 128-20-0 | 0.00005 PPM | < 0.00004 PPM |

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Detection Color
- Detection
- Non-Detection
## Analytical PAH Air Results | Trafalgar Road Fire

**Last updated:** 4/3/2019 2:58:46 PM

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**Detection Color**

- Detection
- Non-Detection

**Trafalgar Road Fire Samples**

- AS-003
- Cul-de-sac at then end of Webb Ln

**Last updated:** 4/3/2019 2:58:46 PM

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**Detection Color**

- Detection
- Non-Detection
### Analytical PAH Air Results | Trafalgar Road Fire

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1Laboratory non-detections are reported as less than ("<") the laboratory reporting limit.
   
NA: Not Analyzed
   
TIC: Tentatively Identified Compound
   
Laboratory result qualifiers are reported to the right of corresponding detections (in parentheses). Definitions of reported qualifiers are below:
   
B: The same analyte is found in the associated blank.
   
J: Result is estimated between the laboratory method detection limit and reporting limit.
   
J3: The associated batch QC was outside the established quality control range for precision.
   
J4: The associated batch QC was outside the established quality control range for accuracy.
   
N: The analysis indicates the presence of a compound that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
   
R: Unreliable positive or non-detect result; analyte may or may not be present in sample.
   
U: This analyte was not detected, but the reporting limit may or may not be higher due to a bias identified during data validation.
   
L2V = Level 2 Verified
   
L4V = Level 4 Validated

**Detection Color**

- **Detection**
- **Non-Detection**
## Analytical PAH Air Results | Trafalgar Road Fire

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1Laboratory non-detections are reported as less than (“<”) the laboratory reporting limit.

2TIC: Tentatively Identified Compound

Laboratory result qualifiers are reported to the right of corresponding detections (in parentheses). Definitions of reported qualifiers are below:

A: The same analyte is found in the associated blank.

B: Result is estimated between the laboratory method detection limit and reporting limit.

J: The associated batch QC was outside the established quality control range for precision.

K: The associated batch QC was outside the established quality control range for accuracy.

N: The analysis indicates the presence of a compound that has been “tentatively identified” and the associated numerical value represents its approximate concentration.

R: Unreliable positive or non-detect result; analyte may or may not be present in sample.

U: This analyte was not detected, but the reporting limit may or may not be higher due to a bias identified during data validation.

L2V = Level 2 Verified

L4V = Level 4 Validated

Detection Color
- Detection
- Non-Detection
## Analytical PAH Air Results | Trafalgar Road Fire

Last updated: 4/3/2019 2:58:46 PM

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<td>PYRENE</td>
<td>128-00-0</td>
</tr>
</tbody>
</table>

The laboratory result qualifiers are reported to the right of corresponding detections (in parentheses). Definitions of reported qualifiers are below:

- **Detection**: The same analyte is found in the associated blank.
- **Non-Detection**: The associated batch QC was outside the established quality control range for precision.
- **R**: The associated batch QC was outside the established quality control range for accuracy.
- **L2V**: Level 2 Verified
- **L4V**: Level 4 Validated

**Laboratory non-detections are reported as less than (<) the laboratory reporting limit.**

**R**: Unreliable positive or non-detect result; analyte may or may not be present in sample.
ATTACHMENT 2  SUMMARY OF REPORTED ADEQ AIR MONITORING SUMMARY
## Summary of Reported ADEQ Air Monitoring Summary

**Trafalgar Road Site**  
**Bella Vista, Arkansas**

<table>
<thead>
<tr>
<th>Period Dates</th>
<th>Fire Station</th>
<th>Cooper Elementary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PM 2.5 Range (ug/m³)</td>
<td>Air Quality Category Range</td>
</tr>
<tr>
<td>January 18 to 21, 2019</td>
<td>7.21 to 9.75</td>
<td>30 to 40 Good – 3 Days</td>
</tr>
<tr>
<td>January 22 to 27, 2019</td>
<td>5.17 to 20.5</td>
<td>21 to 69 Good – 5 days Moderate -1 day</td>
</tr>
<tr>
<td>January 28 to 30, 2019</td>
<td>3.62 to 5.42</td>
<td>15 to 23 Good - 3 days</td>
</tr>
<tr>
<td>January 31 to February 3, 2019</td>
<td>7.46 to 15.58</td>
<td>31 to 58 Good – 3 days Moderate -1 day</td>
</tr>
<tr>
<td>February 4 to 6, 2019</td>
<td>13.13 to 14.54</td>
<td>53 to 56 Moderate – 3 days</td>
</tr>
<tr>
<td>February 7 to 11, 2019</td>
<td>3.29 to 7.79</td>
<td>13 to 32 Good – 5 days</td>
</tr>
<tr>
<td>February 12 to 13, 2019</td>
<td>2.58 to 5.54</td>
<td>10 to 23 Good - 2 days</td>
</tr>
<tr>
<td>February 14 to 24, 2019</td>
<td>3.75 to 13.62</td>
<td>15 to 54 Good – 7 days Moderate -3 days</td>
</tr>
<tr>
<td>February 25 to 26, 2019</td>
<td>4.58 to 5.50</td>
<td>19 to 23 Good – 2 days</td>
</tr>
<tr>
<td>February 27 to March 6, 2019</td>
<td>11.29 to 18.67</td>
<td>47 to 64 Good – 2 days Moderate – 6 days</td>
</tr>
</tbody>
</table>
**Attachment 2**
Summary of Reported ADEQ Air Monitoring Summary
Trafalgar Road Site
Bella Vista, Arkansas

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Fire Station</th>
<th>Cooper Elementary</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 7 to 10, 2019</td>
<td>8.00 to 11.92</td>
<td>5.50 to 11.67</td>
</tr>
<tr>
<td>March 7 to 10, 2019</td>
<td>33 to 50 Good - 4 days</td>
<td>23 to 47 Good - 4 days</td>
</tr>
<tr>
<td>March 11 to 13, 2019</td>
<td>3.42 to 6.71</td>
<td>5.25 to 6.50</td>
</tr>
<tr>
<td>March 11 to 13, 2019</td>
<td>14 and 28 Good – 3 Days</td>
<td>22 to 27 Good – 3 Days</td>
</tr>
<tr>
<td>March 14 to 20, 2019</td>
<td>5.88 to 20.38</td>
<td>2.21 to 17.86</td>
</tr>
<tr>
<td>March 14 to 20, 2019</td>
<td>24 and 68 Good – 4 Days Moderate 3 Days</td>
<td>9 to 63 Good – 4 Days Moderate 3 Days</td>
</tr>
</tbody>
</table>