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June 9, 2014

**VIA HAND DELIVERY**

Commissioner Bechara Choucair, M.D.  
Chicago Department of Health  
333 South State Street, Room 200  
Chicago, IL 60604

Re: KCBX Terminals Company's Petition for Variance

Dear : Commissioner Choucair

KCBX Terminals Company ("KCBX"), by and through its counsel Quinn Emanuel Urquhart & Sullivan, LLP, hereby submits its Petition for Variance and seeks limited variances as to six sections of the City of Chicago Department of Public Health's ("Department") Rules and Regulations for Control of Emissions from the Handling and Storage of Bulk Material Piles, Municipal Code of Chicago, Chapter 11-4, Article II ("Rules"). Specifically, KCBX seeks limited variances from:

1. Sections 3.0(6) and 6.0(3) regarding conveyors;
2. Section 5.0(2) regarding height limit;
3. Section 5.0(5)(b) regarding winter operation of the dust suppressant system;
4. Section 5.0(5)(c) regarding suspending disturbance of Bulk Material piles during dust suppressant system maintenance or other inoperable circumstances; and
5. Section 5.0(6)(d) regarding runoff management, grading.

KCBX takes compliance and its commitment to its neighbors seriously and is not lightly requesting these variances. Indeed, it has already voluntarily undertaken, and will take additional measures in accordance with the City's regulations, to significantly mitigate potential impacts upon the

community or the environment. These include the existing \$30 million upgrade at the Facility's South Terminal, which includes \$10 million invested in an advanced dust suppression system that is in place and operating, future paving of the facility once permitted, and compliance with the Fugitive Dust Plan. Applications for the required permits are being prepared for submission to the City and State. The requested variances are necessary to enable KCBX to continue to work towards a multi-million dollar capital enclosure investment, which will create hundreds of jobs within the City of Chicago, and for KCBX to continue to invest and do business in the City where KCBX currently employs dozens of employees and provides for the livelihood of dozens of contractors. KCBX appreciates your consideration of this Petition and will continue to focus its efforts on compliance with all rules and regulations.

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## **I. BACKGROUND**

KCBX operates two bulk materials handling terminals in Chicago: a North Terminal at 3259 East 100th Street, and a South Terminal at 10730 South Burley Avenue. For purposes of the Rules, the “Facility” includes the operations at the North Terminal and the South Terminal. The business of the Facility is to transfer bulk products—currently coal and petroleum coke (“pet coke,” together referred to herein as “Product”)—from one mode of transportation such as train or barge to another form of transportation such as lake-vessel, in most cases staging the Product for a period of time to match up incoming and outgoing modes of transportation.

KCBX understands that the Department promulgated the Rules for the purpose of “minimizing air pollution.” As discussed in detail in each separate request for variance, KCBX further understands that the Department requires, among other things, a “demonstration that issuance of the variance will not create a public nuisance or adversely impact the surrounding area, surrounding environment, or surrounding property uses.” KCBX is able to make that showing for each request for variance because of (1) its existing dust suppression system, (2) results from recent soil and surface testing, (3) results from ongoing air monitoring and modeling, and (4) its current intent to transition all of its business to the South Terminal and cease operation of its North Terminal for bulk material handling. These facts, in addition to further evidence specific to each variance request, demonstrate that granting KCBX’s Petition for Variance would not cause an adverse impact to occur.

Below, KCBX provides background on the Facility’s compliance with the Rules, its development of plans for enclosed piles at KCBX’s South Terminal, and the corresponding transition of bulk material handling at the North Terminal to the South Terminal. While the compliance and business plans relating to KCBX’s North and South Terminals are being finalized

and implemented, KCBX requires limited variances to continue its operations and to meet customer obligations.

**A. KCBX's Compliance with the Rules**

Since the Rules were issued, KCBX has devoted significant resources to compliance therewith. The Rules contain extensive requirements, the majority of which take effect within 90 days of issuance (i.e., June 11, 2014). As of the date of this filing, KCBX has put the following provisions of the Rules into effect:

- obtained a Certificate of Operation issued by the Department (Rules, § 3.0(1));
- implemented a program to address potential emissions of fugitive dust (Rules, §§ 3.0(2)(a), (b), (c));
- implemented a program to address potential vehicle leaking on roads (Rules, § 3.0(10));
- conducts required roadway cleaning (Rules, § 3.0(15));
- implemented a program to address spilled material (Rules, § 3.0(16));
- submits required enclosure reports to the Department (Rules, § 6.0(7));
- implemented a program to conduct testing of visual emissions and opacity limits (Rules, § 3.0(2)(d));
- developed and submitted a Fugitive Dust Plan to the Department for review (Rules, § 3.0(3));
- operates a system of nine permanent, continuous Federal Equivalent Method real-time PM10 monitors around the boundaries of the Terminals (Rules, § 3.0(4));
- conducts required wind monitoring (Rules, § 3.0(5));
- maintains all material transfer points as required (Rules, § 3.0(7));
- addresses trucks as required by the Rules (Rules, § 8.0), including
  - enforcing a speed limit no higher than 8 miles per hour,
  - transloading to and from trucks that travel on paved roads,
  - cleaning outgoing material transport trucks, and
  - requiring that all outgoing material transport trucks pass through a wheel wash station (except during freezing weather) and pass over rumble strips;

- requires truck trailers to be immediately covered before leaving the Facility, and loads barges using best management practices to address potential emissions (Rules, § 9.0);
- conducts barge and vessel loading using a process and control system to minimize the potential for fugitive emissions (Rules, § 13.0);
- developed and submitted an enclosure plan (Rules, § 4.0(1));
- stages outdoor product piles in compliance with the Chicago Zoning Ordinance (Rules, § 5.0(1));
- stages outdoor product piles at least 50 feet from waterways (Rules, § 5.0(3));
- implemented a program to suspend disturbance of outdoor product piles during High Wind Conditions except where alternate measures are implemented to effectively control emissions (Rules, § 5.0(4));
- operates a dust suppression system to apply water and chemical stabilizers (Rules, § 5.0(5)), which consists of:
  - water cannons (42 at the South Terminal and 19 at the North Terminal),
  - water trucks (3 at the South Terminal and 2 at the North Terminal), and
  - numerous spray bars;
- maintains runoff management controls (Rules, § 5.0(6));
- keeps records of daily cleaning, routine inspections, application of water or chemical stabilizer, suspension of work due to high winds, dust monitoring results, and quarterly tests of visual fugitive dust (Rules, §§ 3.0(17)(a), (c), (d), (e), (f), and (g)); and
- placed visible measurement markers at 30 feet to demonstrate the height of each pile (Rules, § 5.0(2)).

As discussed in more detail below, however, KCBX needs variances from six requirements of the Rules.

#### **B. KCBX's Existing Dust Suppression System**

KCBX maintains a system that applies water through cannons, spray bars, and water trucks to address potential emissions of fugitive dust. Since acquiring the South Terminal in December 2012, KCBX has invested approximately \$30 million in that Terminal—in addition to the purchase price—including \$10 million in a state-of-the-art dust suppression system that consists of 42 water cannons oscillating on 60-foot-high poles with overlapping coverage areas, which reach staging and

handling areas. These cannons are capable of applying up to 1,800 gallons of water per minute to the piles. KCBX has also integrated a weather monitoring system at the South Terminal that adjusts the cannons to wind direction and speed and automatically increases the amount of water delivered during inclement weather. The weather monitoring system includes a program setting to automatically start the water cannons when the wind reaches a certain speed (currently set at 15 mph). The system also self-adjusts to wind direction and increases the amount of water applied based on barometric pressure, which is an indicator of upcoming inclement weather. The North Terminal also has an advanced dust suppression system consisting of 19 water cannons that are capable of applying up to 600 gallons of water per minute on the piles. At the North Terminal, KCBX uses a wind meter that automatically increases the amount of water delivered during inclement weather. The dust suppression systems at the North and South Terminals are also equipped with technology that allows operators to remotely control the systems.

Additionally, both the North and South Terminals use the following to supplement their respective dust suppression systems:

- Water Trucks—Mobile water trucks are used to supplement the cannon sprays. Mobile water trucks also have the capability to supplement spray bars at transfer points throughout the Terminals.
- Weather Monitoring—KCBX employees proactively monitor weather forecasts and apply water to and/or seal piles and/or cease operations when high winds occur.
- Pile Management and Grooming—Stockpiles are shaped and compacted to manage the potential for wind erosion.
- Surfactant and Encrusting Agents—Commercial surfactant agents are applied to the surface of inactive piles to decrease the potential for emissions.
- Spray Bars on Fixed Conveyor Transfer Points—Water spray bars are mounted at fixed conveyor transfer points, applying water to suppress potential emissions that may occur as Product is transferred from one conveyor to another.
- Truck Wheel Washes—Truck wheel wash systems are in place to remove loose debris from trucks/tires prior to exiting the terminal.

- Street Sweeping—KCBX routinely sweeps the facilities and surrounding streets, including during truck loading operations.
- Suspending Operations—If employees determine during operations that given the particular site conditions the potential for emissions cannot be effectively managed, that activity is ceased until emissions can be effectively managed.

**C. Soil and Surface Sampling Conducted by Environmental Health & Engineering, Inc.**

Soil and surface sampling in the area of the Facility confirms that the Facility does not adversely impact the surrounding area, surrounding environment, or surrounding property uses as it is currently operated. In November and December 2013 and April 2014, Environmental Health & Engineering, Inc. (“EH&E”) investigated the surfaces and soil in the East Side and South Deering neighborhoods surrounding the Facility to evaluate and sample these areas for the presence of pet coke or coal. EH&E examined the soil and surfaces for chemical indicators of pet coke and coal, including certain metal and polynuclear aromatic hydrocarbon ratios. Samples were collected and tested by an independent environmental professional and laboratories, in accordance with ASTM and EPA methods. The investigation revealed that no evidence exists of pet coke or coal on the surfaces or in the soil of the East Side and South Deering neighborhoods, and the composition of the soil in these areas is consistent with control neighborhoods in the City of Chicago. Ex. 1, David L. McIntosh, Petcoke-Coal Test Results, Jan. 13, 2014; Ex. 2, David L. McIntosh, Petcoke-Coal Test Results, Apr. 21, 2014.

**D. Air Monitoring and Modeling**

In late 2013, KCBX and its experts developed a plan to measure particulate matter with a diameter of 10 micrometers or less (PM10) at its North and South Terminals for a one-year period. KCBX submitted the plan to the U.S. EPA, and the EPA approved the plan in December of 2013. At the beginning of 2014, KCBX installed nine on-site PM10 source monitors and two meteorological stations to actively monitor PM10 at the Facility. KCBX began measuring PM10

emissions on February 18, 2014. KCBX hired Sonoma Technology, Inc. (“STI”) to assist with the interpretation of the data generated by the monitors, including conducting associated air modeling to better understand the potential PM10 flow and dispersion in the areas surrounding the Facility. The air modeling was conducted following the AMS (American Meteorological Society)/EPA Regulatory Model—“AERMOD” (Atmospheric Dispersion Modeling System).

After reviewing the air monitoring data and conducting air modeling based upon that data, STI concluded that PM10 associated with the Facility is consistent with short-term and long-term offsite PM10 levels that would meet standards designed to provide public health protection. Ex. 3, Lyle R. Chinkin, Sonoma Technology Inc., Letter, Apr. 25, 2014. EPA has established National Ambient Air Quality Standards (“NAAQS”) for PM10 and five other widespread compounds. For PM10, the NAAQS is based on a 24-hour average concentration of 150 µg/m<sup>3</sup>, which is not to be exceeded more than once per year over a 3-year period. The NAAQS is intended to be protective of public health, including the health of at-risk populations such as asthmatics, children, and the elderly. The NAAQS only apply to air quality in community settings to which the general public has access, rather than on industrial sites and other industrial facilities like the KCBX terminals. States, rather than individual industrial sites, are intended to implement and demonstrate attainment of the NAAQS.

KCBX’s PM10 monitors that EPA approved are source monitors, meaning that they are located within the fence line of KCBX’s facilities and adjacent to active piles and emissions sources. Because of their on-site location next to active piles, KCBX’s PM10 monitors do not measure ambient air and therefore cannot be used to directly measure PM10 concentrations to which the public is exposed in the neighborhoods surrounding the KCBX facilities. Thus, the PM10 monitoring being conducted by KCBX is not directly applicable to evaluation of compliance with

the NAAQS in the nearby neighborhoods. While applying the NAAQS for PM10 to source monitors such as those at the Facility is inappropriate to determine compliance, it is worth noting that of the days monitored, 98% of the 24-hour air monitoring daily results at the Facility were still well within the PM10 NAAQS standard. The PM10 source monitors provide ongoing data collection, which KCBX will continue to use to ensure compliance with all applicable rules and regulations.

**E. Transition of Operations to South Terminal**

KCBX's plans call for transitioning all of its bulk materials handling to the South Terminal. At that point, KCBX would consolidate its bulk materials handling operations to one location with enclosed piles and state-of-the-art environmental controls. The North Terminal would no longer handle bulk materials, but would continue to comply with all applicable permits, rules and regulations associated with the transition and potential future uses. For the variances requested in this Petition that relate to the North Terminal, no adverse impact would occur since the North Terminal would no longer handle bulk materials after the transition.

**II. PROCEDURE**

Because the Rules, including the variance process, is new, no precedent exists upon which KCBX can rely in submitting this Petition. KCBX believes that it has met the requirements of Section 8.0 of the Rules and that it has submitted all necessary information to facilitate the Department's review of this Petition. In the event that the Department disagrees, however, KCBX requests that the Department notify KCBX and allow KCBX to supplement this Petition as necessary. In addition, KCBX requests that the Department provide KCBX with an opportunity to respond to any written comments on this Petition that may be submitted under Section 8.0(5) of the Rules.

### **III. LEGAL STANDARD**

Section 8.0(1) of the Rules provides that “[a] Facility Owner or Operator may apply to the Commissioner for a variance from any Regulation set forth in Parts B, D, or E” of the Rules. “[A] request for a variance must be in writing and must set forth, in detail, all of the following:

- a) A statement identifying the regulation or requirement from which the variance is requested;
- b) A description of the process or activity for which the variance is requested, including pertinent data on location, size, and the population and geographic area affected by, or potentially affected by, the process or activity;
- c) The quantity and types of materials used in the process or activity in connection with which the variance is requested, as appropriate;
- d) A demonstration that issuance of the variance will not create a public nuisance or adversely impact the surrounding area, surrounding environment, or surrounding property uses;
- e) A statement explaining:
  - i. Why compliance with the regulations imposes an arbitrary or unreasonable hardship;
  - ii. Why compliance cannot be accomplished during the required timeframe due to events beyond the Facility Owner or Operator’s control such as permitting delays or natural disasters; or
  - iii. Why the proposed alternative measure is preferable.
- f) A description of the proposed methods to achieve compliance with the regulations and a timetable for achieving that compliance, if applicable;
- g) A discussion of alternate methods of compliance and of the factors influencing the choice of applying for a variance;
- h) A statement regarding the person's current status as related to the subject matter of the variance request;
- i) For any request for a variance from the enclosure deadline set forth in 6.0(5), the applicant must submit all of the information required in sections 8.0(2)(a) through (h) above and shall also submit 1) fugitive dust monitoring reports for the four months prior to the date of the variance application and 2) in the event that the variance is granted, monthly fugitive dust monitoring reports for the duration of the variance which shall be due fourteen (14) days following the end of the month which the report covers. The monthly fugitive dust monitoring reports required by this section shall be submitted in an electronic format as specified in the Variance.”

Rules, § 8.0(2).

When deciding whether to grant a variance:

“[T]he Commissioner will consider public comments received pursuant to 8.0(4) [sic] and will evaluate the information provided in the application to meet the requirements of 8.0(2). Particular consideration will be given to the following information:

- i. Inclusion of a definite compliance program;
- ii. Evaluation of all reasonable alternatives for compliance;
- iii. Demonstration that any adverse impacts will be minimal.”

Rules, § 8.0(3)(a).

**IV. REQUEST FOR VARIANCE AS TO SECTIONS 3.06(6) AND 6.0(3)—  
CONVEYORS**

First, KCBX seeks a variance as to Sections 3.0(6) and 6.0(3) relating to Conveyors. In accordance with Section 8.0 of the Rules, KCBX meets the requirements for a variance application as follows:

**A. A Statement Identifying the Regulation or Requirement from which the Variance is Requested**

KCBX requests a variance from Section 3.0(6), which states: “Conveyors. All conveyors shall be covered or enclosed conveyors in order to reduce or eliminate fugitive dust to the maximum extent practicable.” KCBX also seeks a variance from Section 6.0(3), which provides that section 3.0(6) “shall take effect six months from the issuance of these Rules and Regulations.” Specifically, KCBX requests that the Department allow KCBX to (1) not cover 8 of its 55 conveyors and (2) to extend the time for compliance until March 31, 2015.

**B. A Description of the Process or Activity for which the Variance is Requested including Pertinent Data on Location, Size, and the Population and Geographic Area Affected by, or Potentially Affected by, the Process or Activity**

KCBX uses conveyors to move Product to and from staging piles and to and from transportation loading and unloading points at its Terminals. The following tables show the types and numbers of conveyors at the Facility, whether they are covered, and KCBX’s variance requests with respect to covering:

<b>KCBX NORTH TERMINAL</b>				
<b>Type of Conveyor</b>	<b>Number of Conveyors</b>	<b>Number Currently Covered</b>	<b>Number to be Covered</b>	<b>Number for which KCBX Seeks a Variance to Not Cover</b>
Fixed Conveyors	13	5	0	8
Portable Conveyors	11	0	11	0
Stacking Conveyors	1	1	0	0

<b>KCBX SOUTH TERMINAL</b>				
<b>Type of Conveyor</b>	<b>Number of Conveyors</b>	<b>Number Currently Covered</b>	<b>Number to be Covered</b>	<b>Number for which KCBX Seeks a Variance to Not Cover</b>
Fixed Conveyors	16	12 <sup>1</sup>	4	0
Portable Conveyors	10	0	10	0
Stacking Conveyors	4	3	1	0

KCBX seeks two variances related to covering conveyors. First, KCBX requests a variance from Section 3.0(6) to allow it to not cover the three conveyor systems (consisting of 7 individual conveyors) and the Highline Conveyor at the North Terminal (for a total of 8 conveyors). The three conveyor systems are referred to as the “Screening Plant System” (which includes 2 conveyors and 1 box hopper), the “500 foot Conveyor System” (which includes an approximately 500 foot long conveyor and a Texmark box hopper), and the “300 foot Conveyor System” (which includes an approximately 300 foot long conveyor and a 35 foot box hopper). *See* Ex. 4, KCBX North Bulk Terminal Site Map. Second, KCBX requests a variance extending the deadline in Section 6.0(3).

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<sup>1</sup> Of the 12 fixed covered conveyors, 7 are partially open to allow for maintenance and inspection.

Section 6.0(3) requires that conveyors be covered within six months of the effective date of the Rules, or by September 13, 2014. KCBX requests that the Department extend that deadline by approximately six months, until March 31, 2015, for KCBX's Facility.

No population or geographic area would be affected by a grant of this variance request. KCBX would no longer use the 8 conveyors at the North Terminal once KCBX's bulk material handling is transitioned to the South Terminal. In the meantime, KCBX can effectively suppress dust with its dust suppression system previously described. Further, giving KCBX an extension of time to cover conveyors would not result in any significant potential increase in emissions because KCBX's use of conveyors decreases greatly during winter months.

**C. The Quantity and Types of Materials Used in the Process or Activity in Connection with which the Variance is Requested**

The Facility handles only coal and pet coke (together referred to as "Product"). All Product is moved by conveyor at some point while it is at the Facility. The number of conveyors on which particular Product moves depends on the modes of incoming and outgoing transportation that are utilized, whether the Product is being transferred directly from one mode of transportation to another or is being staged at the Facility for some period of time, and if Product is being staged, the location at the Facility where it is staged.

As noted above, however, KCBX plans call for conducting all bulk material handling at the South Terminal. At that point, no Product would travel on conveyors or elsewhere at the North Terminal.

**D. A Demonstration that Issuance of the Variance will not Create a Public Nuisance or Adversely Impact the Surrounding Area, Surrounding Environment, or Surrounding Property Uses**

Granting KCBX a variance from Section 3.0(6) as to the 8 conveyors at the North Terminal would not create a public nuisance or adversely impact the surrounding area, surrounding

environment, or surrounding property uses. All 8 of the conveyors at issue use spray bars to add water to material being transferred. Like all conveyors at the Facility, operators monitor these conveyors when they are in operation and respond to fugitive dust by adding water via a water truck, choke feeding material, activating cannons in the area where the conveyor is operating, activating additional spray bars, or even shutting the conveyors down if necessary. Because of KCBX's existing dust suppression techniques, use of these conveyors without covers would not result in an increased threat of emissions, and would not create a public nuisance or adversely impact the surrounding area, surrounding environment, or surrounding property uses.

**E. A Statement Explaining (i) why compliance with the regulations imposes an arbitrary or unreasonable hardship; (ii) why compliance cannot be accomplished during the required timeframe due to events beyond the Facility Owner or Operator's control such as permitting delays or natural disasters; or (iii) why the proposed alternative measure is preferable.**

As to the 8 conveyors that KCBX proposes not to cover, compliance with the regulations imposes an arbitrary and unreasonable hardship. The air monitoring and soil and surface data demonstrate that the Facility's dust suppression system is effective, and that the Facility does not adversely affect the surrounding area. KCBX's plans call for transitioning all of its bulk materials handling to the South Terminal, and as such, at that time, these conveyors would not be used. Thus, covering these conveyors would provide little to no protection from potential fugitive dust emissions. Requiring KCBX to incur the costs to comply in these circumstances is unnecessary, arbitrary, and unreasonable. Covering all of the conveyors, including the Highline Conveyor which was not designed to support the weight of additional covering, would be prohibitively expensive. Initial estimates for covering these conveyor systems and the Highline Conveyor are well over \$1 million, and due to the engineering, permitting, and construction required, would take over one year to complete. In all 8 cases, these costs are unreasonable, in light of the effectiveness of the dust

suppression system that is already in place, and the long term plans to halt bulk material handling at the North Terminal.

Likewise, compliance with the six month deadline to cover the 26 conveyors that KCBX plans to cover as set forth in Section 6.0(3) imposes an arbitrary and unreasonable hardship. The 26 conveyors at issue were not designed to have covers. Rather, KCBX would have to have the covers custom-designed and manufactured, as well as modify the conveyors in order to install supports for the covers. For safety purposes, once KCBX has received the covers at the Facility, it cannot install the covers while the conveyors are in operation. It is estimated that it would take approximately 10 to 12 weeks for installation of the custom covers from the time that the covers are ordered. If additional support or structural engineering is required for the conveyors that work would extend the time required to complete installation of the custom covers. To meet the obligations of KCBX's current contracts, all conveyors must be kept in service through October 31, 2014. So long as the design, manufacturing and structural issues have been resolved at this time, KCBX will endeavor to install the covers between November 1, 2014 and March 31, 2015, when activity at the Facility is reduced due to the freezing of the Calumet River and Great Lakes. This would allow more flexibility to take conveyors out of use in order to install covers, while still meeting customer obligations. Requiring KCBX to violate its contracts and take conveyors out of service to have covers installed before October 31, 2014 is arbitrary and unreasonable.

**F. A Description of the Proposed Methods to Achieve Compliance with the Regulations and a Timetable for Achieving that Compliance, if Applicable**

As the above charts demonstrate, KCBX will comply with the Rules by covering 26 of its existing conveyors by March 31, 2015. Another 21 of the conveyors are presently covered.

KCBX only seeks to not cover 8 of its existing conveyors.

**G. A Discussion of Alternate Methods of Compliance and of the Factors Influencing the Choice of Applying for a Variance**

KCBX is not aware of any alternate method to comply with Section 3.0(6) other than covering the 8 conveyors at the North Terminal. As noted above, KCBX will cover all other conveyors at the Facility.

Likewise, KCBX is not aware of any alternate method to comply with Section 6.0(3) other than taking the conveyors out of service to install covers, which would result in KCBX being unable to continue to meet customer obligations. KCBX requires this variance to be able to continue to provide service to its customers. The delay in installing additional conveyor covers at the Facility does not affect the surrounding community.

**H. A Statement Regarding the Person's Current Status as Related to the Subject Matter of the Variance Request**

See pages 8-9 *supra* outlining current status of compliance.

**I. Conclusion**

For the reasons discussed above, the Department should grant KCBX a variance from Section 3.0(6) as to the three conveyor systems (Screening Plant System, 500 foot Conveyor System, and the 300 foot Conveyor System) and the Highline Conveyor at the North Terminal, and from the deadline set forth in Section 6.0(3) as to the other 26 uncovered conveyors at the Facility. Section 8.0(3) of the Rules provides that when the Department considers a variance request, “[p]articular consideration will be given to the following information:

- i. Inclusion of a definite compliance program;
- ii. Evaluation of all reasonable alternatives for compliance;
- iii. Demonstration that any adverse impacts will be minimal.”

KCBX proposes an exemption from compliance with Section 3.0(6) for 8 conveyors until its bulk material handling activities are transitioned to the South Terminal, at which point these 8 conveyors

would no longer be in use. KCBX also proposes an exemption from the deadline set forth in Section 6.0(3) for all other uncovered conveyors at the Facility. KCBX can determine no reasonable alternative for complying with Section 3.0(6) and Section 6.0(3) as written. Moreover, granting these variances would not cause adverse impacts, as demonstrated by the air monitoring and the soil and surface data, the fact that KCBX's plan calls for transitioning its bulk material handling activity to the South Terminal, and the fact that conveyor usage decreases in the winter months. Therefore, the Department should grant KCBX a variance from Section 3.0(6) and Section 6.0(3) as detailed above.

V. **REQUEST FOR VARIANCE AS TO SECTION 5.0(2)—HEIGHT LIMIT**

Second, KCBX seeks a variance as to Section 5.02(2) relating to pile height limits. In accordance with Section 8.0 of the Rules, KCBX meets the requirements for a variance application as follows:

**A. A Statement Identifying the Regulation or Requirement from which the Variance is Requested**

KCBX seeks a variance from Section 5.0(2), which states: “Height Limit. The vertical distance from grade immediately adjacent to a pile to the highest point of that pile shall be no greater than 30 feet. The Facility Owner or Operator shall install and maintain a post or other visible measurement marker to demonstrate the height of each pile.”

Specifically, KCBX seeks a variance from Section 5.0(2) to allow the Facility an increase in individual pile height limitations to no greater than 45 feet. The increase from 30 feet to a 45 feet maximum is required at the Facility to manage individual pile volumes in accordance with contractual customer obligations and to effectively manage the transfer of Product between transportation modes.

**B. A Description of the Process or Activity for which the Variance is Requested including Pertinent Data on Location, Size, and the Population and Geographic Area Affected by, or Potentially Affected by, the Process or Activity**

KCBX currently operates the Facility utilizing 60 foot pile height limitations. KCBX implemented the 60 foot pile height limitation based on the coverage area of KCBX’s pole-mounted water cannons. At 60 feet, KCBX can effectively apply water to address the potential for fugitive dust emissions from individual Product piles.

KCBX engaged a third-party, multi-disciplinary engineering firm to assist it in evaluating the feasibility of the 30 foot pile height limit prescribed by the Rules. KCBX and the engineering firm

analyzed customer obligations, usable pad space (also referred to on site maps as “stockpile areas”), and the management of pile logistics at the Facility (including required customer Product segregation). As a result of this analysis, KCBX has determined that it cannot meet existing customer obligations with 30 foot pile heights.

KCBX has contracts in place with customers that require KCBX to accept specific amounts of Product, others that require segregation, and still others that require blending of different Products. All of these factors impact the number of piles required for any one customer. For KCBX, this means that the number of piles of Product at the facility can vary significantly based on customer needs. If the Department requires KCBX to reduce its pile height to 30 feet, KCBX would be unable to meet its contractual obligations. Further, KCBX’s business requires it to have physical space to stage and transload Product. It cannot do so with 30 foot pile limitations.

The KCBX Facility has 2.6 million square feet available to stage and transload Product. KCBX currently meets customer obligations by using the majority of that space and 60 foot pile height limitations. If, however, KCBX is forced to reduce all pile heights to 30 feet or below, KCBX would not have sufficient square footage to stage and transload the volume of product needed to satisfy customer obligations.

As a compromise between KCBX’s existing, self-imposed 60 foot pile height maximum and the Rule’s 30 foot maximum, KCBX believes that it can meet customer obligations and continue to satisfy the intent of the Rules by maintaining individual pile heights no greater than 45 feet. Therefore, KCBX seeks a variance from Section 5.0(2) to increase the height limitation from 30 feet to 45 feet for each individual pile.

**C. The Quantity and Types of Materials Used in the Process or Activity in Connection with which the Variance is Requested**

The Facility handles only coal and pet coke (together referred to as “Product”). The Product received at the Facility is currently staged in outdoor stockpiles. The volume of Product at the Facility depends on customer obligations, ratatability of inbound and outbound transportation modes, quantity and size of shipment vessels of various transportation modes (i.e., 2 train cars can carry the same amount as 1 vessel), customer blending and segregation requirements, seasonal availability of vessels, seasonal shipments of barges, vessels and rail from various origins and to various destinations, length of river and/or lake shipping seasons, and market supply and demand of various Product shipments and volumes. The customer required volumes are discussed above.

**D. A Demonstration that Issuance of the Variance will not Create a Public Nuisance or Adversely Impact the Surrounding Area, Surrounding Environment, or Surrounding Property Uses**

Granting KCBX a variance from Section 5.0(2) as to the pile height at the Facility would not create a public nuisance or adversely impact the surrounding area, surrounding environment, or surrounding property uses. KCBX currently voluntarily limits pile heights to 60 feet, and if this variance is granted, KCBX would continue to apply water or chemical stabilizer to each Product pile no greater than 45 feet utilizing dust suppression systems that are effectively designed for pile heights of up to 60 feet. Operators would continue to monitor the piles and respond to fugitive dust by using KCBX’s dust suppression system and best management practices previously discussed. Because of KCBX’s existing dust suppression techniques, pile heights up to 45 feet would not result in an increased threat of fugitive emissions and would not create a public nuisance or adversely impact the surrounding area, surrounding environment, or surrounding property uses.

**E. A Statement Explaining (i) why compliance with the regulations imposes an arbitrary or unreasonable hardship; (ii) why compliance cannot be accomplished during the required timeframe due to events beyond the Facility Owner or Operator's control such as permitting delays or natural disasters; or (iii) why the proposed alternative measure is preferable.**

Compliance with Section 5.0(2) under the limited circumstances outlined above imposes an arbitrary and unreasonable hardship. The air monitoring and soil and surface data demonstrate that the Facility's dust suppression system is working effectively, and that the Facility does not adversely affect the surrounding area. Thus, changing the maximum pile height allowed at the Facility would provide little to no protection from potential fugitive dust emissions. Requiring KCBX to limit the volume of Product that it accepts from customers to maintain pile heights no greater than 30 feet is arbitrary and unreasonable. KCBX cannot meet the obligations of its current contracts without the ability to at least manage pile heights no greater than 45 feet. Requiring KCBX to reduce its piles to 30 feet would cause economic hardship and threaten its existing customer obligations.

**F. A Description of the Proposed Methods to Achieve Compliance with the Regulations and a Timetable for Achieving that Compliance, if Applicable**

The steps KCBX would take if this variance is granted include the following:

- (1) Mark water cannon poles and other height markers at 45 feet. The 45 feet marking of poles and height markers that are accessible would be completed within 2 days of receipt of the variance approval. Poles and height markers that are not accessible due to existing stockpiling of coal or pet coke would be marked as they become available.
- (2) Inventory would be managed to maintain stockpile heights at 45 feet or lower.
- (3) The dust suppression systems would continue to be used as they are designed to be effective up to and in excess of 60 feet. Therefore, the existing dust suppression systems at the North Terminal and South Terminal are more than adequate to meet the dust suppression requirements for up to 45 foot stockpile heights.
- (4) Additional dust suppression controls would continue to be used at the site regardless of the stockpile height.

**G. A Discussion of Alternate Methods of Compliance and of the Factors Influencing the Choice of Applying for a Variance**

KCBX is not aware of any alternative method to comply with Section 5.0(2) other than turning away customers who have already entered into contracts with KCBX. Turning away customers' Products is not necessary given KCBX's ability to effectively apply water or chemical stabilizers via a dust suppression system designed for 60 feet individual pile heights. Allowing KCBX the flexibility to manage pile heights up to 45 feet at the Facility and to continue to provide service to its customers does not affect the surrounding community.

**H. A Statement Regarding the Person's Current Status as Related to the Subject Matter of the Variance Request**

KCBX has historically operated both terminals utilizing a self-imposed 60 foot pile height maximum. Because of this Rule, KCBX has already voluntarily reduced maximum pile heights to no greater than 45 feet.

**I. Conclusion**

The Department should grant KCBX a variance from Section 5.0(2), allowing KCBX a height limit of no greater than 45 feet. Section 8.0(3) of the Rules provides that when the Department considers a variance request, "[p]articular consideration will be given to the following information:

- i. Inclusion of a definite compliance program;
- ii. Evaluation of all reasonable alternatives for compliance;
- iii. Demonstration that any adverse impacts will be minimal."

Here, KCBX proposes a definite compliance program. Under that program, KCBX would continue its existing dust suppression methods and effectively manage pile heights to no greater than 45 feet. Due to existing contractual obligations, as well as weather that prevents certain transportation modes to be used during winter months or when Calumet River and/or Great Lakes water levels are low,

KCBX can determine no reasonable alternative for complying with Section 5.0(2) as written. Moreover, granting this variance would not cause adverse impacts—KCBX will continue its effective dust suppression management activities, and air monitoring and the soil and surface data demonstrate that the Facility does not adversely impact surrounding areas. Therefore, the Department should grant KCBX a variance from Section 5.0(2) as detailed above.

**VI. REQUEST FOR VARIANCE AS TO SECTION 5.0(5)(B)—DUST SUPPRESSANT SYSTEM**

Third, KCBX seeks a variance as to Section 5.0(5)(b) relating to the operation of the dust suppression system during winter. In accordance with Section 8.0 of the Rules, KCBX meets the requirements for a variance application as follows:

**A. A Statement Identifying the Regulation or Requirement from which the Variance is Requested**

KCBX seeks a variance from Section 5.0(5)(b), which states:

“Dust Suppressant System. The Facility Owner or Operator must apply Chemical Stabilizers and/or maintain and operate water spray bars, a misting system, water spray systems and/or water trucks to prevent Fugitive Dust emissions in violation of 3.0(2), in accordance with the following requirements:

\* \* \*

- b) When the temperature falls below 32 degrees Fahrenheit, the Facility must use Chemical Stabilizers and/or water heating systems to ensure that dust suppression continues.”

KCBX seeks only a limited variance. Specifically, KCBX seeks a variance from Section 5.0(5)(b) only to the extent that the Facility transloads Product when the temperature is below 25 degrees Fahrenheit, and the Facility is not able to immediately apply water or chemical stabilizers to the Product. KCBX would apply water or chemical stabilizer to the Product at the Facility when temperatures rise above 25 degrees Fahrenheit.

**B. A Description of the Process or Activity for which the Variance is Requested including Pertinent Data on Location, Size, and the Population and Geographic Area Affected by, or Potentially Affected by, the Process or Activity**

KCBX seeks only a limited variance from Section 5.0(5)(b). KCBX currently uses water trucks to apply water and chemical stabilizers (which are water based) and uses pole-mounted water cannons to apply water to address the potential for emissions of fugitive dust from the Product piles.

When temperatures are forecast to fall below 32 degrees Fahrenheit for extended periods of time, KCBX applies chemical stabilizers to piles before temperatures fall. These chemical stabilizers encrust the Product and are effective in addressing potential dust emissions for up to sixty days. Also, because of the use of heated buildings for the storage of water trucks at the North and South Terminals, and a heated control valve room at the South site, KCBX can continue to apply water and chemical stabilizers down to 25 degrees.

However, below 25 degrees Fahrenheit, ice begins to accumulate on the spray nozzles, causing the water spray to become ineffective, piping and pumps to clog with ice, and eventually causing damage to the piping and equipment.

KCBX seeks a variance from Section 5.0(5)(b) only to the extent that the Facility transloads Product when the temperature is below 25 degrees Fahrenheit and the Facility is not able to apply water or chemical stabilizers to the Product. KCBX would apply water or chemical stabilizer to that Product at the Facility when temperatures rise above 25 degrees Fahrenheit. Further, KCBX would refuse to transload any product during such conditions that does not meet the definition of “Moist” under the Rules. See Rules, § 3.0(7).

For these reasons, KCBX requests a variance from 5.0(5)(b) that allows it to transload Product without immediately applying water or chemical stabilizers to that Product if:

- (1) temperatures are below 25 degrees Fahrenheit;
- (2) the Product meets the definition of “Moist”; and,
- (3) KCBX applies water or chemical stabilizer to Product at the Facility as soon as practicable once temperatures rise above 25 degrees Fahrenheit.

**C. The Quantity and Types of Materials Used in the Process or Activity in Connection with which the Variance is Requested**

The Facility handles only coal and pet coke (together referred to as “Product”). This variance would only apply when temperatures are below 25 degrees Fahrenheit. During the

winter months when temperatures can dip below 25 degrees Fahrenheit, vessel and barge traffic is reduced due to freezing on the Calumet River and Great Lakes. This reduction in traffic corresponds with a reduction in Product being transloaded at the Facility.

**D. A Demonstration that Issuance of the Variance will not Create a Public Nuisance or Adversely Impact the Surrounding Area, Surrounding Environment, or Surrounding Property Uses**

Issuance of this variance will not create a public nuisance or adversely impact the surrounding area, surrounding environment, or surrounding property uses. As noted above, the variance would only apply infrequently and to a reduced quantity of Product. In addition, KCBX would be required to apply water or chemical stabilizer to the Product as soon as practicable, and KCBX would refuse to accept any Product that did not meet the Rules' definition of "Moist."

**E. A Statement Explaining (i) why compliance with the regulations imposes an arbitrary or unreasonable hardship; (ii) why compliance cannot be accomplished during the required timeframe due to events beyond the Facility Owner or Operator's control such as permitting delays or natural disasters; or (iii) why the proposed alternative measure is preferable.**

Compliance with Section 5.0(5)(b) under the limited circumstances outlined above imposes an arbitrary and unreasonable hardship. KCBX would only accept "Moist" Product when relying on this variance, and would be required to apply water or chemical stabilizer to such Product when temperatures allowed. If KCBX is required to turn away all shipments when the temperature is below 25 degrees, KCBX would be unable to perform its contractual obligations, which could result in customers experiencing operational difficulties.

**F. A Description of the Proposed Methods to Achieve Compliance with the Regulations and a Timetable for Achieving that Compliance, if Applicable**

See above discussion of steps KCBX would take if this variance is granted.

**G. A Discussion of Alternate Methods of Compliance and of the Factors Influencing the Choice of Applying for a Variance**

KCBX is not aware of any way to make water trucks operate reliably below 25 degrees Fahrenheit. The cannon system at KCBX's North Terminal was not designed with individual water cannon on/off or drain control valves, or a heated control valve building. This means that the North Terminal water cannon system must be shut down each winter to avoid freezing and is, therefore, not available from approximately November through March. While the control valve room for the cannon system at KCBX's South Terminal is heated, the system does not have the ability to run heated water through the cannons. The heating of the control valve room and design of the piping system allows the water cannons at the South Terminal to operate down to temperatures of 25 degrees Fahrenheit and does not need to be totally shut down during winter months.

KCBX evaluated whether it would be possible to run heated water through the Facility water cannon systems during the winter months. For both the North Terminal system and the South Terminal system, an entire redesign of the water cannon system would be necessary to heat the water and allow for the piping to operate during the winter months. Based on experience gained operating the South Terminal water cannon system last winter, KCBX is not aware of any practical way to engineer this system to function at temperatures below 25 degrees Fahrenheit. Due to the design of the North System, KCBX is not able to operate that cannon system during the winter months. Thus, KCBX requires this variance because the only method of compliance that KCBX can identify would be to turn all Product shipments away at the Facility when temperatures are below 25 degrees, which is not necessary given the reduced volume of Product at issue and KCBX's ability to apply water or chemical stabilizers as soon as temperatures allow.

## **H. A Statement Regarding the Person's Current Status as Related to the Subject Matter of the Variance Request**

Currently, KCBX operates water trucks at the Facility down to 25 degrees Fahrenheit and the water cannon system at the South Terminal down to 25 degrees Fahrenheit. When KCBX transloads Product at lower temperatures, it applies water or chemical stabilizers to the product when temperatures have increased enough for it to use the water trucks or at the South Terminal, to operate the water cannon system.

## **I. Conclusion**

The Department should grant KCBX a variance from Section 3.0(5)(c), contingent on KCBX following the conditions set forth above. Section 8.0(3) of the Rules provides that when the Department considers a variance request, “[p]articular consideration will be given to the following information:

- i. Inclusion of a definite compliance program;
- ii. Evaluation of all reasonable alternatives for compliance;
- iii. Demonstration that any adverse impacts will be minimal.”

Here, a “definite compliance program” is not relevant; compliance with the rule as written is not necessary under the conditions KCBX proposes. KCBX can determine no reasonable alternative for complying with Section 3.0(5)(c) as written. Granting the variance would not cause adverse impacts because the conditions under which the variance would apply are limited, KCBX would only transload “Moist” Product under such circumstances, and KCBX would apply water or chemical stabilizers to the Product at the Facility when conditions allowed. In addition to encrusting the stockpiles, if KCBX employees determine that the potential for emissions could not be effectively managed, the activity would be ceased until such time when emissions could be effectively managed.

**VII. REQUEST FOR VARIANCE AS TO SECTION 5.0(5)(C)—DUST SUPPRESSANT SYSTEM**

Fourth, KCBX seeks a variance as to Section 5.0(5)(c) relating to suspending disturbance of Product stockpiles during dust suppression system maintenance or other inoperable circumstances. In accordance with Section 8.0 of the Rules, KCBX meets the requirements for a variance application as follows:

**A. A Statement Identifying the Regulation or Requirement from which the Variance is Requested**

KCBX seeks a variance from Section 5.0(5)(c), which states:

“Dust Suppressant System. The Facility Owner or Operator must apply Chemical Stabilizers and/or maintain and operate water spray bars, a misting system, water spray systems and/or water trucks to prevent Fugitive Dust emissions in violation of 3.0(2), in accordance with the following requirements:

\* \* \*

- c) If any part of the dust suppressant system is undergoing maintenance or otherwise becomes inoperable, the Facility Owner or Operator must suspend disturbance of Bulk Material piles that would be controlled by the inoperable portion of the dust suppressant system until such time as the system becomes operable again.”

**B. A Description of the Process or Activity for which the Variance is Requested including Pertinent Data on Location, Size, and the Population and Geographic Area Affected by, or Potentially Affected by, the Process or Activity**

KCBX seeks a variance from Section 5.0(5)(c) to allow it to continue activities when part of its Facility’s dust suppression system is undergoing maintenance or otherwise becomes inoperable, so long as KCBX complies with the following conditions:

- (1) KCBX uses a different method to apply dust suppressant in place of the part that is undergoing maintenance or is otherwise inoperable, unless weather conditions and/or Product moisture mean additional dust suppressant is not necessary, and

(2) KCBX monitors the activity at issue and responds to visible dust emissions, including shutting down the activity if necessary.

For example, as written, if a spray bar on a conveyor became inoperable, Section 5.0(5)(c) would prevent KCBX from using that conveyor even if KCBX was applying the same amount or more water to the conveyor by using a water truck, or if it was pouring rain at the time the conveyor was being used, or it had been raining the preceding days, or if the Product at issue otherwise had a sufficient moisture content as required in the Rules. So long as the Product is moist and drop distances are minimized, it is unreasonable to prevent KCBX from conducting operations. Furthermore, preventing operations would cause KCBX and its customers operational difficulties and force them to incur unnecessary costs.

No population or geographic area inside or outside the Facility would be affected by this variance, as the variance would only apply when some manner of dust suppression is still available, or dust suppression is not necessary. KCBX would monitor for and respond to visible dust emissions.

**C. The Quantity and Types of Materials Used in the Process or Activity in Connection with which the Variance is Requested**

The Facility handles only coal and pet coke (“Product”). Both of these Products could be present in a process or activity covered by this variance.

This variance would only impact a small percentage of the Product at the Facility. KCBX handles a small percentage of the Product present at its Facility at any one time. In addition, KCBX conducts as much maintenance as possible in winter months when activity is slower at the Facility due to freezing in the Calumet River and Great Lakes.

**D. A Demonstration that Issuance of the Variance will not Create a Public Nuisance or Adversely Impact the Surrounding Area, Surrounding Environment, or Surrounding Property Uses**

The conditions KCBX proposes above would ensure that issuing this variance would not create a public nuisance or adversely impact the surrounding area, surrounding environment, or surrounding property uses.

**E. A Statement Explaining (i) why compliance with the regulations imposes an arbitrary or unreasonable hardship; (ii) why compliance cannot be accomplished during the required timeframe due to events beyond the Facility Owner or Operator's control such as permitting delays or natural disasters; or (iii) why the proposed alternative measure is preferable.**

Compliance with Section 5.0(5)(c) as written imposes an arbitrary and unreasonable hardship on KCBX and its customers. As written, Section 5.0(5)(c) would prevent KCBX from handling Product if a piece of dust suppression equipment became inoperable, even if KCBX was applying the same amount or more water to the Product by using a water truck, or if it was raining at the time or had been raining the preceding days, or if the Product was otherwise moist. In such conditions, it is not reasonable to prevent KCBX from conducting operations, as there is no increased risk of dust emissions. Further, preventing operations would cause KCBX and its customers operational difficulties and force them to incur unnecessary costs.

**F. A Description of the Proposed Methods to Achieve Compliance with the Regulations and a Timetable for Achieving that Compliance, if Applicable**

KCBX would apply the above discussed conditions in order to comply with the goals of the Rules.

**G. A Discussion of Alternate Methods of Compliance and of the Factors Influencing the Choice of Applying for a Variance**

KCBX has not identified any alternate method of compliance other than suspending operations as the Rule requires. KCBX chose to apply for a variance because, as discussed above,

under the conditions that KCBX proposes, suspending operations if maintenance is needed is unnecessary and would impose an arbitrary and unreasonable hardship.

**H. A Statement Regarding the Person’s Current Status as Related to the Subject Matter of the Variance Request**

Currently, KCBX monitors all of its operations for visible dust emissions and responds in the event of such emissions, including halting activities if necessary. In addition, whether or not a piece of dust suppression equipment is inoperable, KCBX already applies additional water or chemical stabilizer by other means (e.g., a water truck) as needed to address potential dust emissions. Thus, KCBX is currently following the variance conditions it proposes above.

**I. Conclusion**

The Department should grant KCBX a variance from Section 3.0(5)(c), contingent on KCBX following the conditions set forth above. Section 8.0(3) of the Rules provides that when the Department considers a variance request, “[p]articular consideration will be given to the following information:

- i. Inclusion of a definite compliance program;
- ii. Evaluation of all reasonable alternatives for compliance;
- iii. Demonstration that any adverse impacts will be minimal.”

Here, a “definite compliance program” is not relevant; compliance with the rule as written is not necessary under the conditions KCBX proposes. KCBX can determine no reasonable alternative for complying with Section 3.0(5)(c) as written. Furthermore, granting the variance would not cause adverse impacts because of the conditions under which KCBX would be required to operate under the variance (application of water or chemical stabilizer by other means or determination that, given conditions, no additional water application is necessary, monitoring for fugitive dust, etc.).

## **VIII. REQUEST FOR VARIANCE AS TO SECTION 5.0(6)(D)—RUNOFF MANAGEMENT, GRADING**

Fifth, KCBX seeks a variance as to Section 5.0(6)(d) relating to Runoff Management, Grading. In accordance with Section 8.0 of the Rules, KCBX meets the requirements for a variance application as follows:

### **A. A Statement Identifying the Regulation or Requirement from which the Variance is Requested**

KCBX seeks a variance from Section 5.0(6)(d), which states: “[T]he Facility Owner or Operator shall install and maintain stormwater management, erosion and sediment controls sufficient to: ... [d]emonstrate that the site is graded in such a way as to ensure proper drainage *and to prevent pooling of water.*” (emphasis added).

### **B. A Description of the Process or Activity for which the Variance is Requested including Pertinent Data on Location, Size, and the Population and Geographic Area Affected by, or Potentially Affected by, the Process or Activity**

KCBX’s North and South Terminals encompass approximately 45 acres and 80 acres, respectively. KCBX operates both Terminals under water permits issued by the State of Illinois—the North Terminal under a National Pollution Discharge Elimination System (“NPDES”) permit, and the South Terminal under a Subtitle D no-discharge permit.<sup>2</sup> Pursuant to the legal requirements of both permitting programs, the North and South Terminals are both “graded in such a way as to ensure proper drainage” to water collection ponds at the Terminals. *See* Exs. 5-6.

However, the KCBX Terminals are not graded so as “to prevent pooling of water.” When KCBX uses heavy equipment to move Product at the Facility, the equipment can create depressions

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<sup>2</sup> The South Terminal has applied for an NPDES permit, and its application is currently pending with Illinois EPA.

and ruts in the pads that may temporarily collect water. It is impossible for KCBX to completely smooth out these depressions and ruts in a way that would eliminate any pooling of water—either from stormwater or from water applied to piles to address potential emissions.

**C. Quantity and Types of Materials Used in the Process or Activity in Connection with which the Variance is Requested**

The Facility handles coal and pet coke (“Product”). Some Product that comes into the Facility is never placed on a stockpile pad—it is transferred directly from one mode of transportation (e.g., train) to another mode of transportation (e.g., vessel). However, the majority of Product is staged on a stockpile pad for a period of time. The quantity of Product on-site at any one time varies depending on the time of year and customer obligations.

**D. A Demonstration that Issuance of the Variance will not Create a Public Nuisance or Adversely Impact the Surrounding Area, Surrounding Environment, or Surrounding Property Uses**

Granting this variance would not create a public nuisance or adversely impact the surrounding area, surrounding environment, or surrounding property uses. The purpose of the Department’s Rules is “to prescribe reasonable, specific operating and maintenance practices to minimize emissions of airborne particulate matter.” Rules, § 1.0. To minimize potential emissions from uncovered piles, the Rules specifically require that a Facility “must apply Chemical Stabilizers *and/or maintain and operate water spray bars, a misting system, water spray systems and/or water trucks* to prevent Fugitive Dust emissions in violation of 3.0(2).” Rules, § 5.0(5) (emphasis added). In accordance with this requirement, KCBX maintains a system that applies water through cannons, spray bars, and water trucks to address potential emissions. Any pooling of water does not create air emissions—rather, it serves to help prevent potential air emissions from the area in which the pooling occurs.

**E. A Statement Explaining (i) why compliance with the regulations imposes an arbitrary or unreasonable hardship; (ii) why compliance cannot be accomplished during the required timeframe due to events beyond the Facility Owner or Operator’s control such as permitting delays or natural disasters; or (iii) why the proposed alternative measure is preferable.**

Compliance with the requirement to prevent pooling of water is arbitrary and unreasonable because pooling of water does not cause potential fugitive dust emissions—rather, it prevents potential dust emissions. Further, the only way to create a grade that does not change at the Facility (and thus prevents potential pooling of water) would be to pave the Facility stockpile areas. Given the size of the stockpile area—collectively approximately 60 acres at the two KCBX Terminals—this would cost millions of dollars. Given the permitting that would be required for such construction, the construction season in Chicago, and the disruption to operations at the Facility during paving, completing such work would take at least a year. Finally, the majority of such paving would become obsolete in just a few years when, as the Rules require, an enclosure is to be constructed and Product would no longer be staged in outdoor piles.

**F. Description of the Proposed Methods to Achieve Compliance with the Regulations and a Timetable for Achieving that Compliance, if Applicable**

Not applicable.

**G. A Discussion of Alternate Methods of Compliance and of the Factors Influencing the Choice of Applying for a Variance**

Again, at KCBX’s Facility, the only way to create a grade that does not change—and thus prevents all pooling of water—would be to pave the Facility stockpile areas. KCBX requires a variance because installing such paving would cost millions of dollars, and given the permitting that would be required for such construction, the construction season in Chicago, and the disruption to operations at the Terminals during paving, completing such work would take at least a year. In

addition, the majority of such paving would become obsolete in just a few years when an enclosure is required to be constructed and Product would no longer be staged in outdoor piles.

**H. A Statement Regarding the Person’s Current Status as Related to the Subject Matter of the Variance Request**

The KCBX Terminals are graded to direct water flow to on-site retention ponds, pursuant to the State of Illinois water permits under which the Terminals operate.

**I. Conclusion**

The Department should grant KCBX a variance from the requirement in Section 5.0(6)(d) that “the Facility Owner or Operator shall install and maintain stormwater management, erosion and sediment controls sufficient to: . . . prevent pooling of water.” Section 8.0(3) of the Rules provides that when the Department considers a variance request, “[p]articular consideration will be given to the following information:

- i. Inclusion of a definite compliance program;
- ii. Evaluation of all reasonable alternatives for compliance;
- iii. Demonstration that any adverse impacts will be minimal.”

Here, no “definite compliance program” is necessary because pooling of water helps prevent air emissions, which is the goal of the Rules. KCBX can determine no reasonable alternative for complying with Section 5.0(6)(d) as written—the only way to comply would be to pave the Facility stockpile areas, which is unreasonable. Finally, granting this variance would not cause adverse impacts because, again, pooling of water helps prevent air emissions.

## **IX. CONCLUSION**

The Department should grant KCBX the six variances requested for the reasons stated above.

To reiterate, the six requested variances include the following:

- Section 3.0(6) Conveyor Coverage to exempt from the requirement the three Conveyor Systems and Highline Conveyor located at the North Terminal, and Section 6.0(4) Timeline to extend the time allowed for covering the other conveyors for the Facility to March 31, 2015.
- Section 5.0(2) Height Limit to allow the KCBX Facility to manage pile heights at or below 45 feet.
- Section 5.0(5)(b) Dust Suppressant System for times when the KCBX Facility receives coal or pet coke when the temperature is below 25 degrees Fahrenheit and the Facility is not able to immediately apply water or chemical stabilizers.
- Section 5.0(5)(c) Dust Suppressant System to allow KCBX to continue activities when part of the Facility's dust suppressant system is undergoing maintenance or otherwise becomes inoperable, so long as KCBX complies with certain conditions outlined above.
- Section 5.0(6)(d) Runoff Management, Grading to exempt the KCBX Facility from the requirement to prevent pooling of water.

KCBX has demonstrated for all six variance requests that compliance with these Sections of the regulations (1) impose arbitrary and/or unreasonable hardship on KCBX and customers; (2) that compliance with the sections cannot be accomplished during the required timeframe due to events beyond KCBX's control, including but not limited to permitting delays, weather conditions, and contractor scheduling; and/or (3) that the proposed alternative measures where suggested are preferable or would be compliant with the intent of the Regulations.

KCBX recognizes that the Department has framed the Rules as striking a reasonable balance between addressing potential concerns about fugitive dust while enabling existing business such as KCBX to remain in operation. Granting the discrete variances requested herein—each of which is designed to enable KCBX to continue operations and satisfy customer obligations without compromising the safeguards (both as previously existing at the facility and also as now further

augmented by Rule) that protect against fugitive dust—is part and parcel of that balance. If the Department denies the variances, KCBX’s only recourse would be to challenge the Department in court as violating the United States Constitution as well as Illinois law. As KCBX has consistently stated, shutting off the flow of bulk materials through KCBX’s essential hub in Chicago would disproportionately burden interstate commerce in violation of the Dormant Commerce Clause. *See Kassel v. Consol. Freightways Corp. of Delaware*, 450 U.S. 662 (1981) (plurality); *Midwest Title Loans, Inc. v. Mills*, 593 F.3d 660, 665 (7th Cir. 2010); *Government Supplies Consolidating Services, Inc. v. Bayh*, 975 F.2d 1267 (7th Cir. 1992); *Burlington N. R. Co. v. State of Neb.*, 802 F.2d 994 (8th Cir. 1986); *see also Oregon Waste Systems, Inc. v. Dept. of Environmental Quality of Oregon*, 511 U.S., 93,102-03 (1994); *Philadelphia v. New Jersey*, 437 U.S. 617, 628 (1978); *Pike v. Bruce Church*, 397 U.S. 137 (1970). It would also take the Department outside the accepted realm of reasonable regulation and into the forbidden realm of arbitrary and capricious regulation. *See Village of Algonquin v. Village of Barrington Hills*, 254 Ill.App.3d 324 (1993). With its instant variance requests, KCBX remains faithful to the constructive, back-and-forth process that has defined proceedings to date and asks simply that the Department permit it to remain in business as it does its utmost to maintain best practices and otherwise comply with the various requirements of the Rules, all in a shared and demonstrated effort to guard against fugitive dust.

For these reasons, KCBX reiterates its position that the Department should grant all six variance requests.

Dated: June 9, 2014

/s/ Stephen A. Swedlow

Stephen Andrew Swedlow, #6234550

**QUINN EMANUEL URQUHART & SULLIVAN,  
LLP**

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*Counsel for KCBX Terminals Company*

cc: Alderman Pope  
Alderman Burke

# **EXHIBIT 1**

# Petcoke-Coal Test Results

David L. MacIntosh, Sc.D., C.I.H.,  
Chief Science Officer

January 13, 2014



ENVIRONMENTAL HEALTH  
& ENGINEERING, INC.

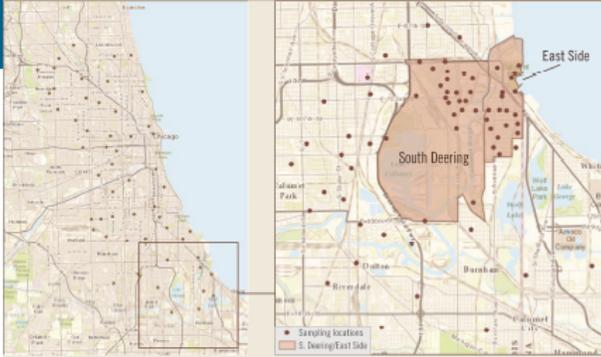


# Findings

- No evidence of petcoke or coal on surfaces or in soil of East Side and South Deering neighborhoods based on indicators identified by testing petcoke and coal\*
- Supporting Information
  - Composition of soil in East Side and South Deering neighborhoods similar to control neighborhoods, and was not different in any statistically significant way from levels in soil in the City of Chicago as reported by the U.S. Geological Survey or from background levels reported by the State of Illinois Environmental Protection Agency Tiered Approach for Corrective Action (TACO) program
  - Signature heavy metals and PAHs for petcoke and coal not found on surfaces sampled

\* This presentation focuses on two key indicators of petcoke and coal: the vanadium to nickel ratio, and polynuclear aromatic hydrocarbon (PAH) ratios. Other indicators include vanadium, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1-chloronaphthalene, benzo(a)pyrene, benzo(g,h,i)perylene, dibenz(a,h)anthracene; proximity to petcoke/coal terminals; and markers of transportation-related impacts (e.g., lead, proximity to roads, railroads, and asphalt)

# Polynuclear Aromatic Hydrocarbon Profiles



## WHAT ARE POLYNUCLEAR AROMATIC HYDROCARBONS?

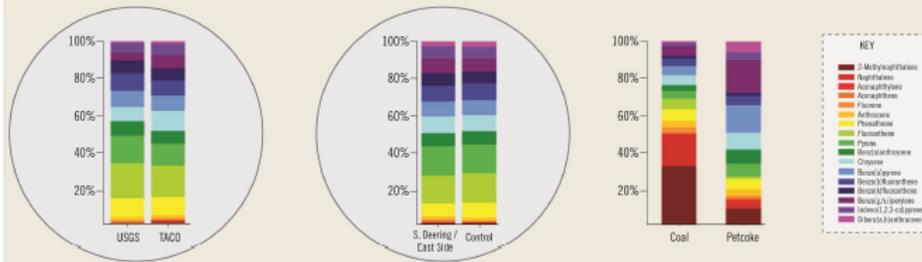
Polynuclear aromatic hydrocarbons are a group of chemicals that occur naturally in coal and crude oil. Forest fires and volcanoes produce PAHs naturally as well.

PAHs also are present in products made from fossil fuels, such as home heating oil, kerosene, gasoline, diesel fuel, and asphalt. PAHs are released into air and made whenever fossil fuels, petroleum products, wood, garbage, and other organic substances are burned. PAHs are widespread in soil, air, and water throughout the United States and the world.

Source: adapted from the Illinois Department of Public Health

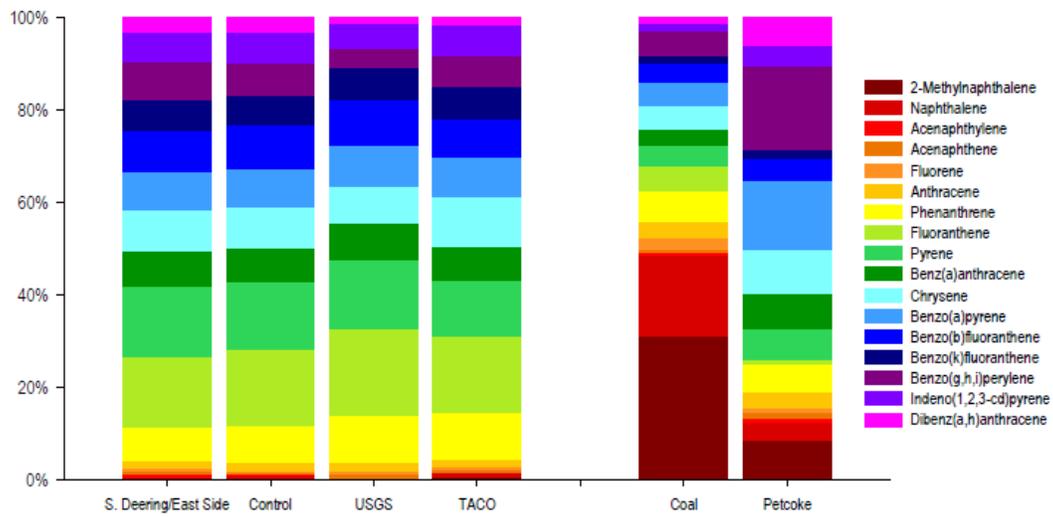
GREATER CHICAGO AREA

SAMPLED NEIGHBORHOODS - ABUTTING COAL SITES AND CONTROLS



Soil of South Deering and East Side neighborhoods is similar to the rest of Chicago, and different from coal and petcoke.

# PAH Profiles

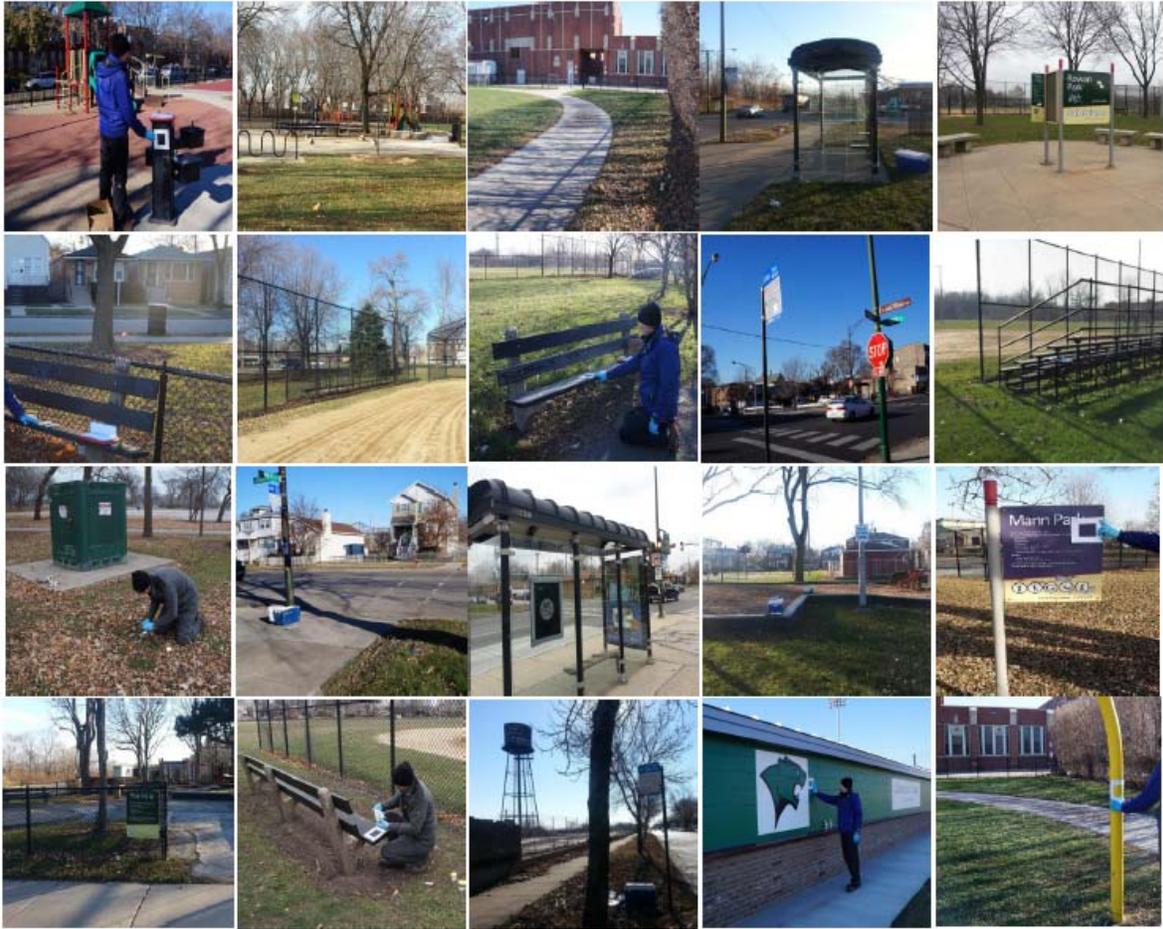


## Study Outline

- Conducted an investigation with the objective of examining surfaces and soil in the East Side and South Deering neighborhoods for the presence of petcoke and coal.
- Examined the soil and surfaces for chemical indicators (signatures) of petcoke and coal, including certain metal (vanadium to nickel) and polynuclear aromatic hydrocarbon (PAHs) ratios.
- Samples were collected and tested in accordance with ASTM and EPA methods by independent environmental professionals and laboratories.
- Collected 69 samples of soil and surface dust in late November-early December 2013 from the East Side and South Deering neighborhoods and control areas.
  - Publicly accessible locations: parks and rights of way
  - Many locations near the petcoke/coal terminals
  - Benches, bleachers, bus stop shelters, sides of storage buildings, and green space
  - Selected to be representative of homes, buildings and yards on private property

# Snapshot of Sampling Locations

1	A	B	C	D	E	F
2	ID	Location Type	Location Description	Surface Type	Description	Area
3	110	Bus Stop	Michigan & 115th Street	Metal	Bus sign pole	Control
4	60	Intersection	107th Street & S. Hoxie Street	Metal	Stop sign	S. Deering / East Side
5	20	Park	Camulet Park	Metal	Vertical bar	S. Deering / East Side
6	85	Park	Rowan Park	Painted wood	Bench	S. Deering / East Side
7	107	Park	Langston Hughes Elementary	Metal	Bench	Control
8	55	Bus Stop	3033 E 106th Street	Metal	Bent bus sign	S. Deering / East Side
9	98	Bus Stop	Ewing & 102nd Street	Metal	Bus sign	S. Deering / East Side
10	76	Bus Stop	Avenue C & 109th Street	Metal	Bus stop	S. Deering / East Side
11	102	Park	Burnside Park	Painted wood	Bench	Control
12	37	Park	Trumbull Park	Painted wood	Bench	S. Deering / East Side
13	109	Park	Morgan Field Park	Painted wood	Fountain	Control
14	86	Park	Off of E 126th St	Painted wood	Bench	S. Deering / East Side
15	95	Park	Lion Field	Painted Concrete	Building	Control
16	82	Bus Stop	Avenue O & 114th Street	Glass	Bus shelter	S. Deering / East Side
17	88	Bus Stop	103rd Street CTA Terminal	Plastic	Glass wall panel	S. Deering / East Side
18	43	Bus Stop	Ewing & 103rd St	Metal	Bus sign	S. Deering / East Side
19	87	Park	Harborside International Golf Center	Metal	Guardrail	S. Deering / East Side
20	53	Bus Stop	2801 E 106th Street	Metal	Bus stop sign	S. Deering / East Side
21	57	Park	Krause Park	Concrete	Barrier	S. Deering / East Side
22	29	Bus Stop	Yates & 102nd Street	Metal	Bus sign	S. Deering / East Side
23	32	Bus Stop	Commercial & 102nd St	Metal	Bus sign	S. Deering / East Side
24	6	Park	Veteran's Memorial Park	Painted wood	Bench	S. Deering / East Side
25	12	Bus Stop	Yates & 99th St	Metal	Bus sign	S. Deering / East Side
26	84	Park	Eggers Woods	Wood	Table	S. Deering / East Side
27	21	Park	Luella Park	Painted wood	Bench	S. Deering / East Side
28	100	Bus Stop	Commercial & 104th Street	Metal	Bus sign	S. Deering / East Side
29	46	Bus Stop	2700 E 104th Street	Metal	Bus sign	S. Deering / East Side



# Technical Review

- All sampling and testing designed by David L. MacIntosh, Sc.D, C.I.H, Chief Science Officer with Environmental Health & Engineering, Inc.
  - Adjunct Associate Professor at the Harvard School of Public Health
  - Technical advisor to government agencies and the World Health Organization
  - 20 years experience as an active member of the environmental health profession
  - Author of numerous publications in the area of exposure assessment, risk analysis, and environmental management
- Test results interpreted and analyzed by Dr. MacIntosh

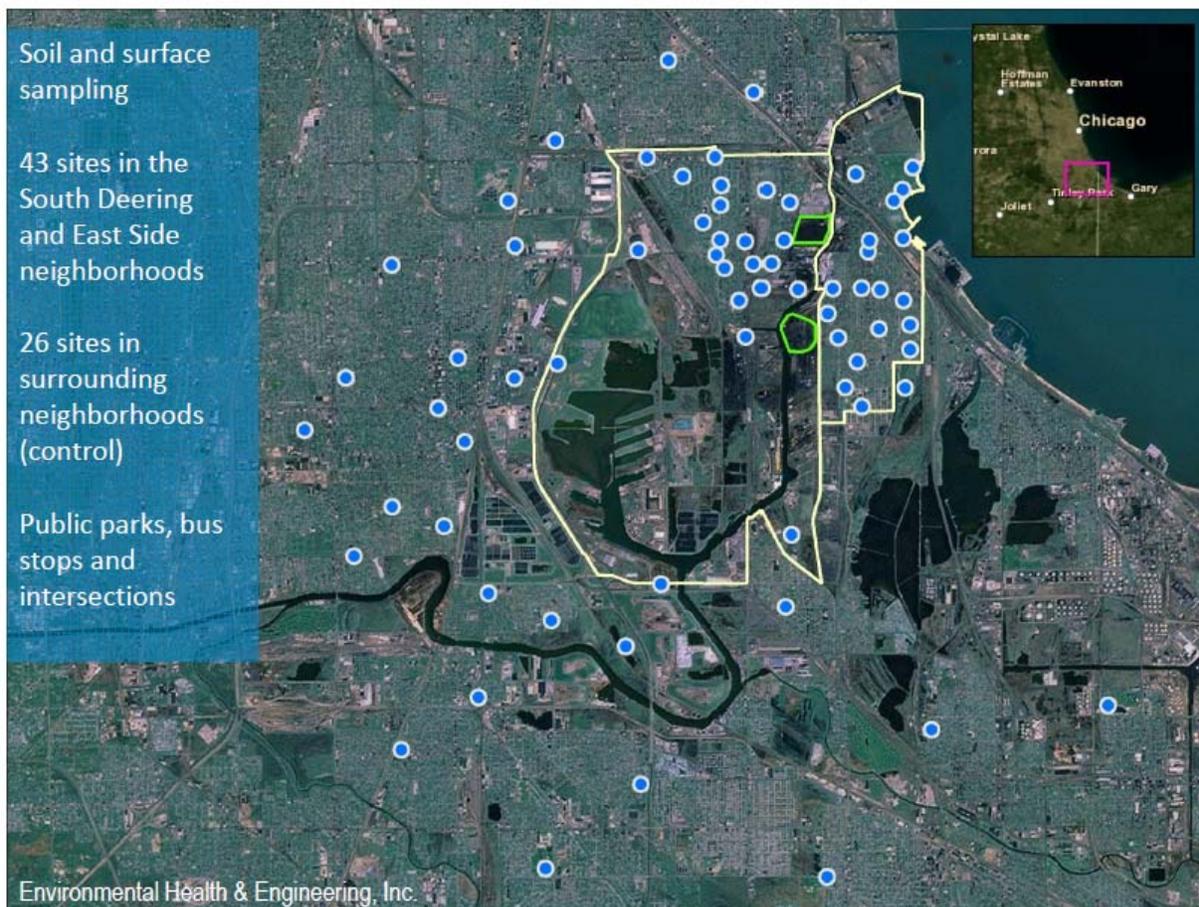
Soil and surface  
sampling

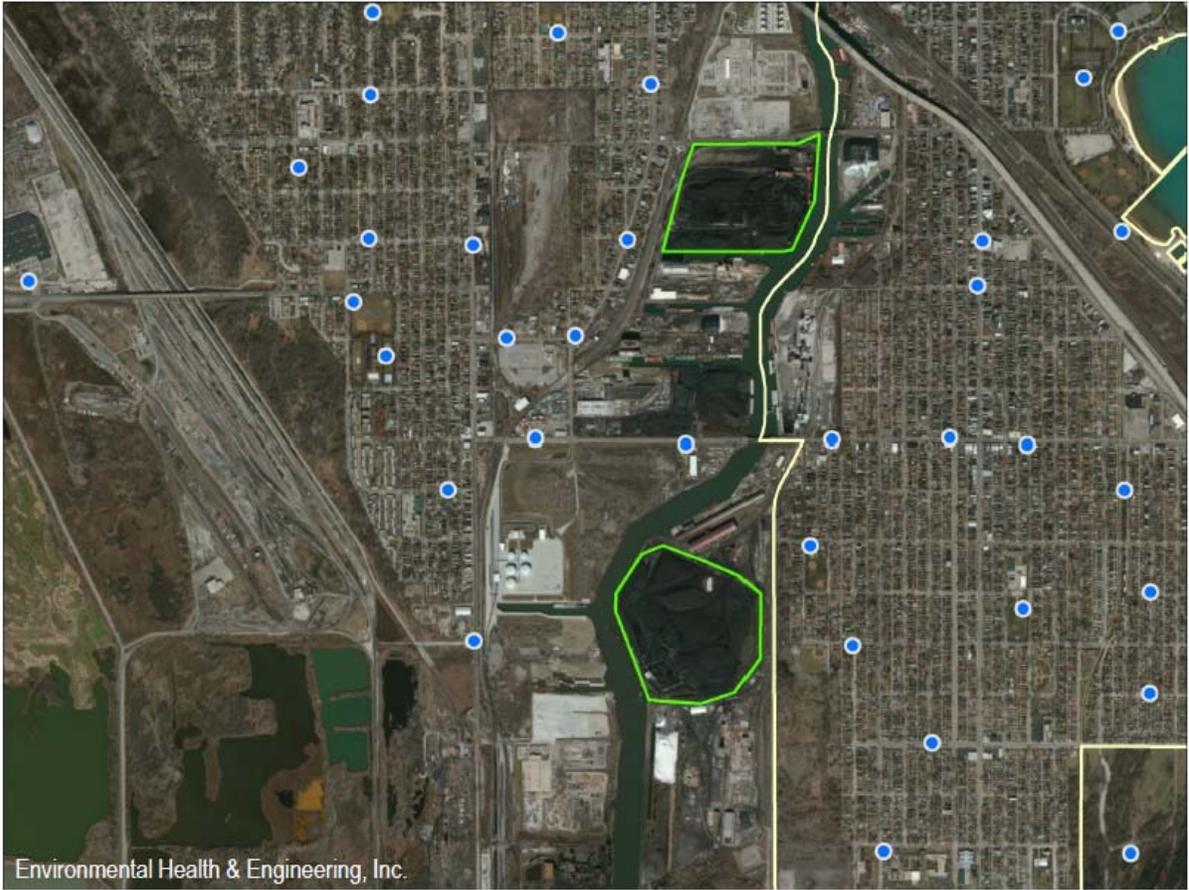
43 sites in the  
South Deering  
and East Side  
neighborhoods

26 sites in  
surrounding  
neighborhoods  
(control)

Public parks, bus  
stops and  
intersections

Environmental Health & Engineering, Inc.



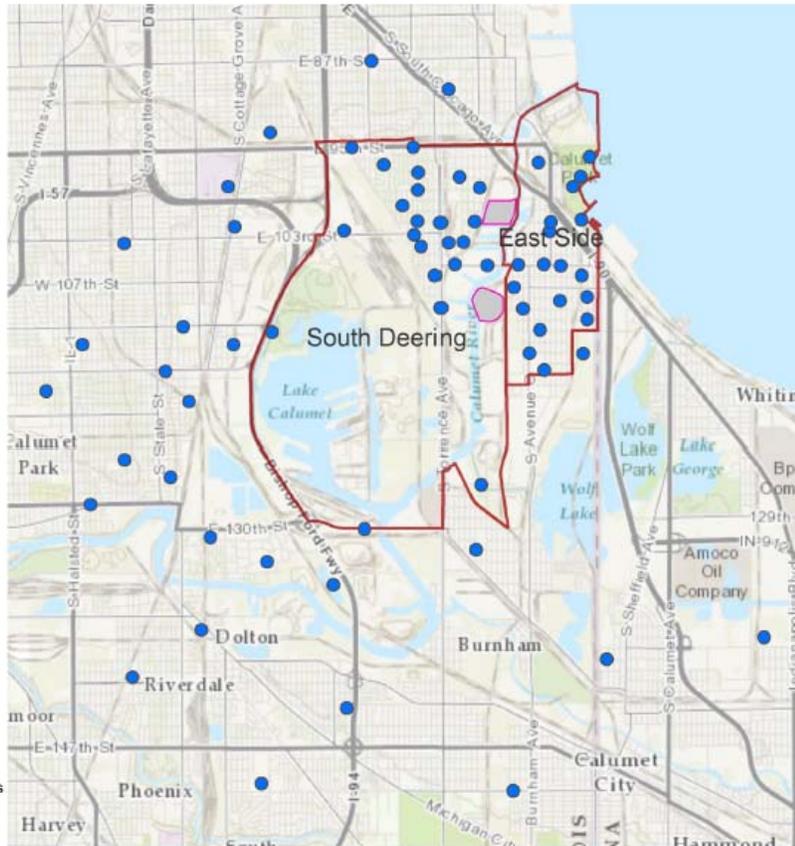
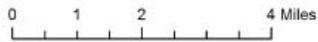


Environmental Health & Engineering, Inc.

**Sampling Locations**

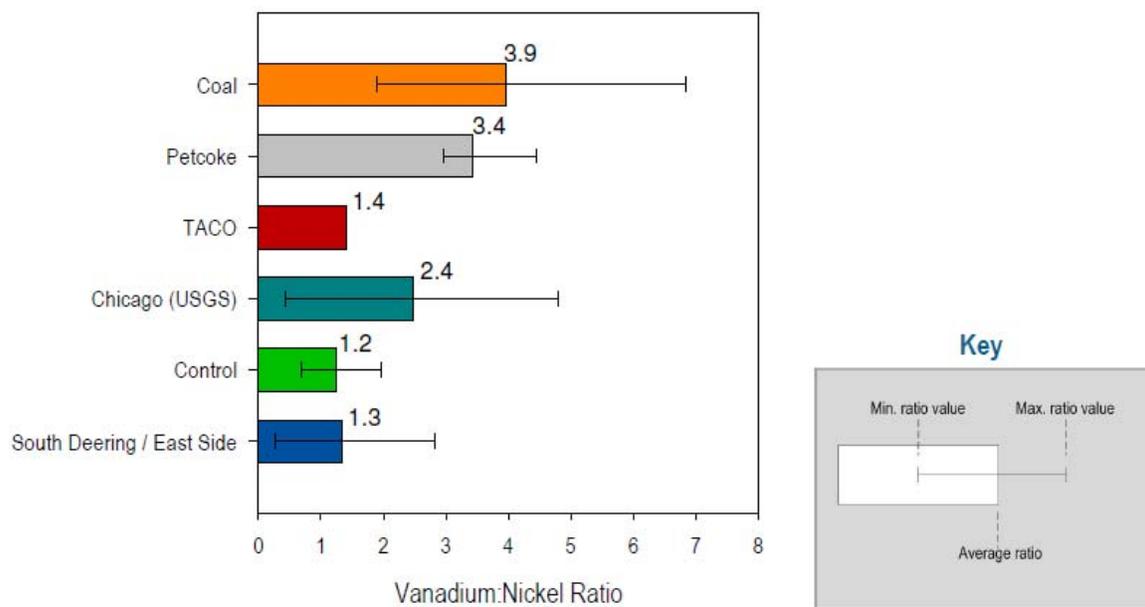
- Sampling Locations
- Site Locations
- ▭ Neighborhood Boundaries

Soil and surface sampling  
69 total sites, 26 sites in control area  
Public parks, bus stops and intersections



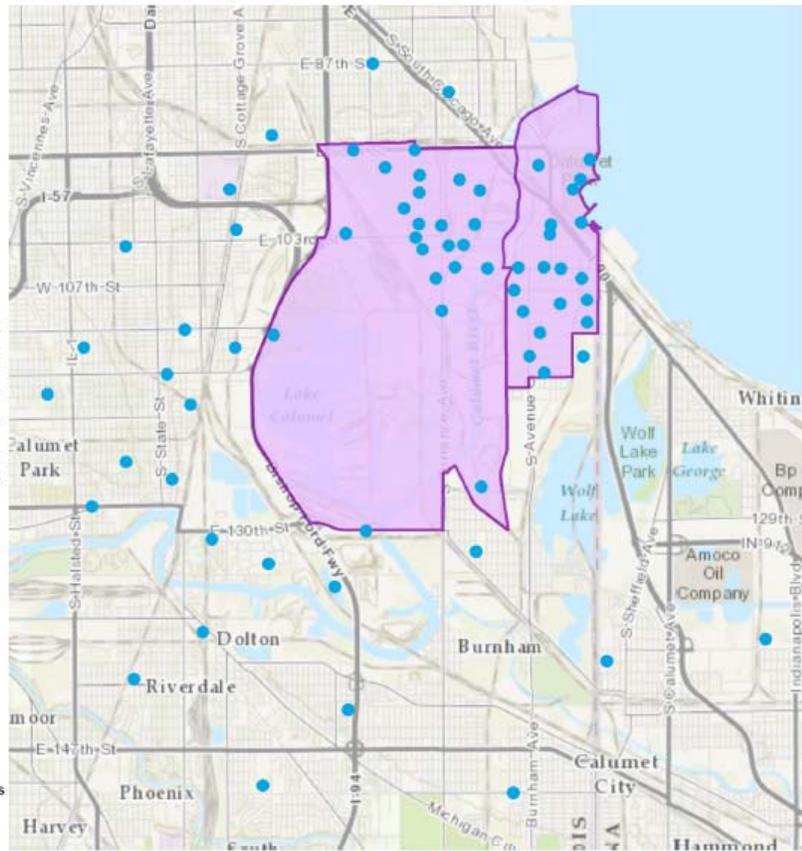
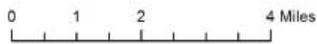
Environmental Health & Engineering, Inc.

# Signature Metal Ratios



- Sampling Locations
- S. Deering / East Side

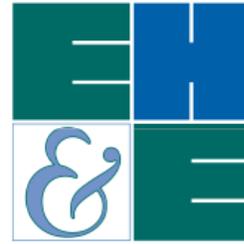
	Mean V:Ni Ratio
S. Deering/East Side	1.3
Control	1.2
Chicago (USGS)	2.4
TACO	1.4
Petcoke	3.4
Coal	3.9



Environmental Health & Engineering, Inc.

For more information:  
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## **EXHIBIT 2**

# Petcoke-Coal Test Results

David L. MacIntosh, Sc.D., C.I.H.,  
Chief Science Officer  
April 21, 2014



ENVIRONMENTAL HEALTH  
& ENGINEERING, INC.

## David L. MacIntosh

- All sampling and testing designed by David L. MacIntosh, Sc.D, C.I.H, Chief Science Officer with Environmental Health & Engineering, Inc.
  - Adjunct Associate Professor at the Harvard School of Public Health
  - Technical advisor to government agencies and the World Health Organization
  - 20 years experience as an active member of the environmental health profession
  - Author of numerous publications in the area of exposure assessment, risk analysis, and environmental management
- Test results interpreted and analyzed by Dr. MacIntosh

# Findings

- No evidence of petcoke or coal on surfaces or in soil of East Side and South Deering neighborhoods based on indicators identified by testing petcoke and coal and by geography\*
- Supporting Information
  - Composition of soil in East Side and South Deering neighborhoods similar to control neighborhoods and was not different in any statistically significant way from levels in soil in the City of Chicago as reported by the U.S. Geological Survey or from background levels reported by the State of Illinois Environmental Protection Agency Tiered Approach for Corrective Action (TACO) program
  - Signature trace metals and PAHs for petcoke and coal not found on surfaces sampled

\* Indicators include vanadium, V:Ni ratio, distribution of trace element and PAH concentrations, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1-chloronaphthalene, benzo(a)pyrene, benzo(g,h,i)perylene, dibenz(a,h)anthracene; proximity to petcoke/coal terminals; and surrogates of transportation-related impacts (lead, proximity to roads and asphalt)

## Study Outline

- Conducted an investigation with the objective of examining surfaces and soil in the East Side and South Deering neighborhoods for the presence of petcoke and coal.
- Examined the soil and surfaces for chemical indicators (signatures) of petcoke and coal, including certain metal (vanadium to nickel) and polynuclear aromatic hydrocarbon (PAHs) ratios.
- Samples were collected and tested in accordance with ASTM and EPA methods by independent environmental professionals and laboratories.
- Collected samples of soil and surface dust in late November-early December 2013 and April 2014 from the East Side and South Deering neighborhoods and control areas.
  - 69 locations in November-December 2013
  - 39 locations in April 2014, collected after an extended period of windy and dry conditions
  - Publicly accessible locations: parks and rights of way
  - Many locations near the petcoke/coal terminals
  - Benches, bleachers, bus stop shelters, sides of storage buildings, and green space
  - Selected to be representative of buildings and yards on private property

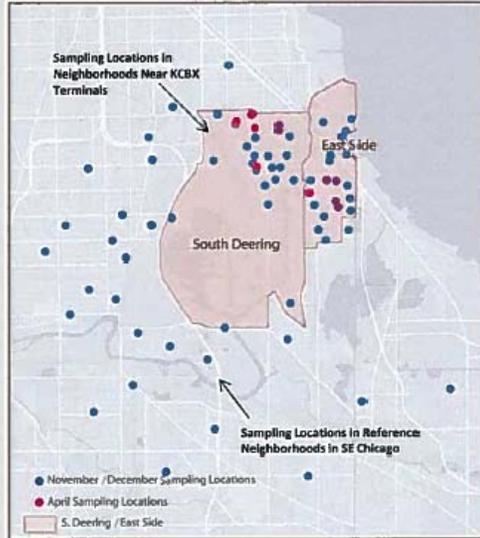




# Polynuclear Aromatic Hydrocarbon Profiles



GREATER CHICAGO AREA



SAMPLED NEIGHBORHOODS  
ABUTTING COAL SITES AND CONTROLS

## WHAT ARE POLYNUCLEAR AROMATIC HYDROCARBONS?

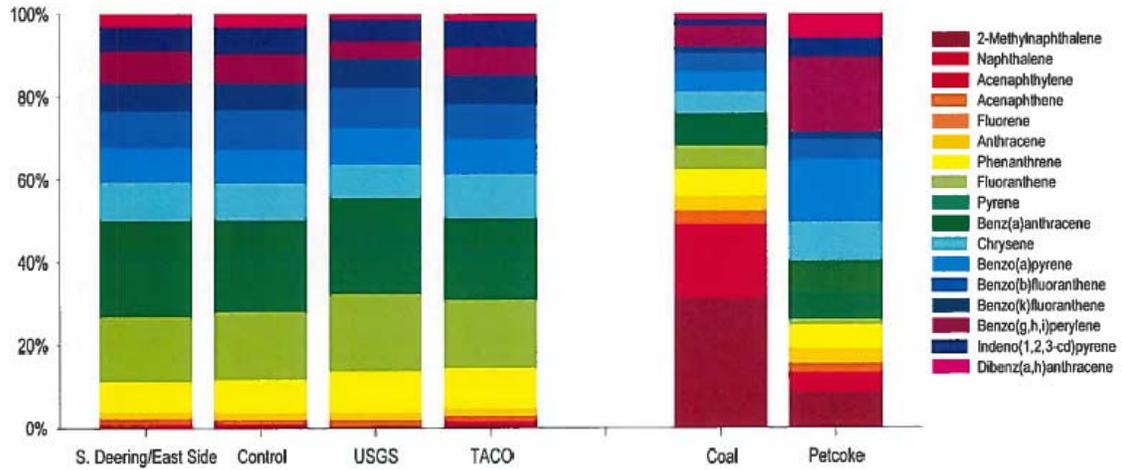
Polynuclear aromatic hydrocarbons (PAHs) are a group of chemicals that occur naturally in coal and crude oil. Forest fires and volcanoes produce PAHs naturally as well. PAHs also are present in products made from fossil fuels, such as home heating oil, kerosene, gasoline, diesel fuel, and asphalt. PAHs are released into the air whenever fossil fuels, petroleum products, wood, garbage and other carbon-based substances are burned. PAHs are widespread in soil, air, and water throughout the United States and the world.

The amounts and mixture of PAHs in soil are generally consistent over an area, such as within a neighborhood. As a result, we usually expect to find similar levels for each PAH at locations throughout that area. Levels can differ within an area when natural or human-related processes add or remove PAHs from soil. Ratios between specific PAHs can often be used to identify sources of these differences. For example, petcoke and coal contain a different mixture of PAHs than is typically found in cities.

We measured PAHs in soil and on surfaces of the South Deering and East Side neighborhoods and compared those levels to PAHs measured in other locations in Chicago as well as to PAHs in petcoke and coal from the KCBX terminals in Chicago. The PAHs amounts and mixture in the neighborhoods were similar to other locations in the City and different from the PAH levels in petcoke and coal. There is no evidence of contamination from petcoke and coal in the neighborhoods based on these data.

The soil of South Deering and East Side neighborhoods is similar to the rest of Chicago, and different from coal and petcoke.

# PAH Profiles in Soil Samples

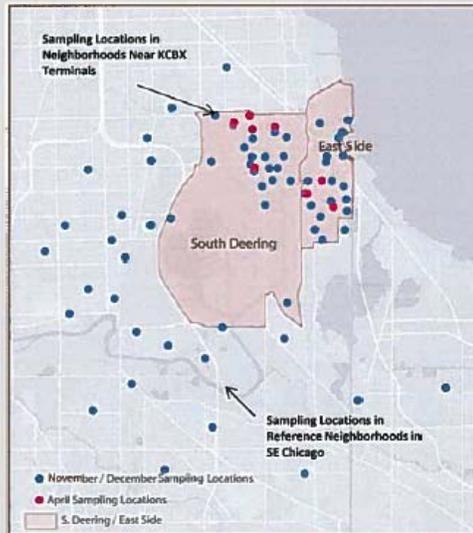


The soil of South Deering and East Side neighborhoods is similar to the rest of Chicago and different from petcoke and coal.

# Trace Metals in Soils



GREATER CHICAGO AREA



SAMPLED NEIGHBORHOODS  
ABUTTING COAL SITES AND CONTROLS

## WHAT ARE TRACE METALS?

Trace metals, such as nickel, zinc, and copper are metals that are normally found at low levels in the Earth's crust. All soils naturally contain trace metals. Many trace metals are vital nutrients for plants, animals, and humans. Aluminum, iron, calcium, and potassium (not represented in the figures below) make up about 99% of the metals in soil. Trace metals usually make up the other 1%.

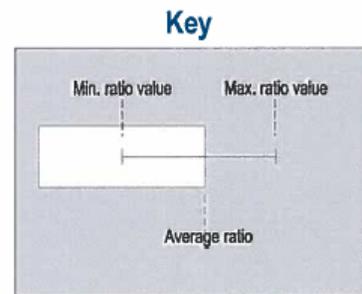
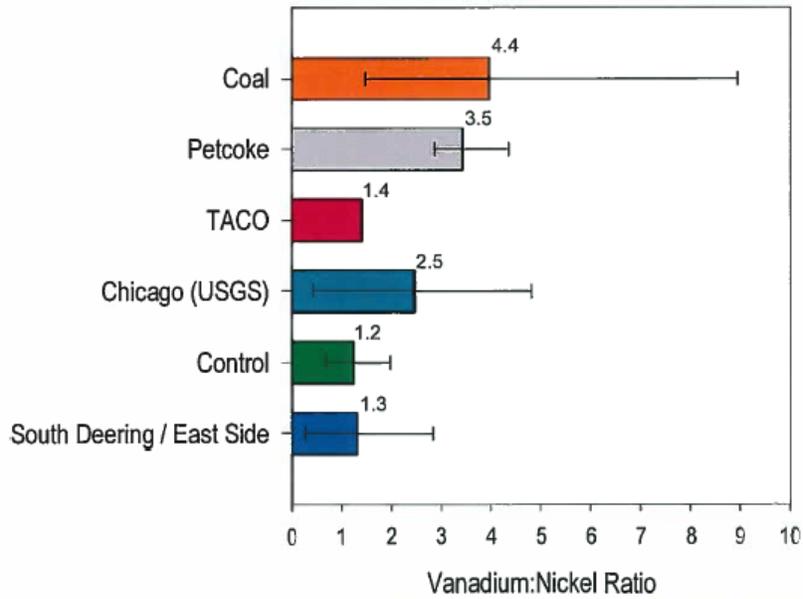
Amounts of trace metals in soils vary from location to location as soil types vary. If soil type is fairly consistent over an area, such as within a neighborhood, we usually expect to find similar levels for each trace metal at locations throughout that area. Levels can differ within an area when natural or human-related processes add or remove trace metals from soil. Ratios between specific trace metals can often be used to identify sources of these differences.

Substances such as petcoke and coal are not formed by the same processes that create soil. As a result, trace metal levels and ratios in those substances are generally different from those in soil. For example, the ratio between vanadium and nickel in petcoke and coal is quite different from the ratio of vanadium and nickel in natural soil. Finding soil with vanadium to nickel ratios that differ from natural soil and are similar to those of coal and petcoke may indicate the presence of these substances in that soil.

We measured vanadium, nickel, and other trace metals in soil and on surfaces of the South Deering and East Side neighborhoods and compared those levels to trace metals measured in other locations in Chicago as well as to levels in petcoke and coal from the KCBX terminals in Chicago. The trace metal amounts and ratios in the neighborhoods were similar to other locations in the City and different from the levels in petcoke and coal. There is no evidence of contamination from petcoke and coal in the neighborhoods based on these data.

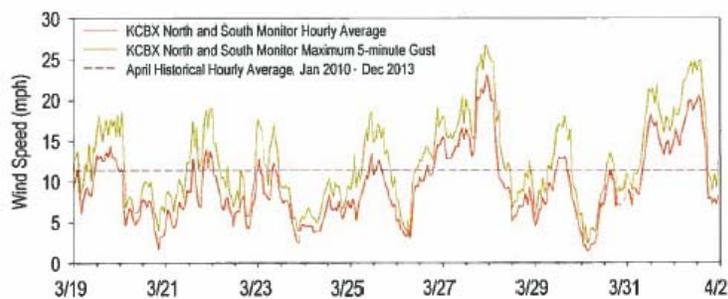
Trace metals in soil of South Deering and East Side neighborhoods are similar to those in soil from control neighborhoods and different from petcoke and coal.

# Signature Metal Ratios



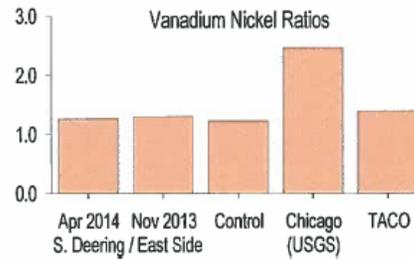
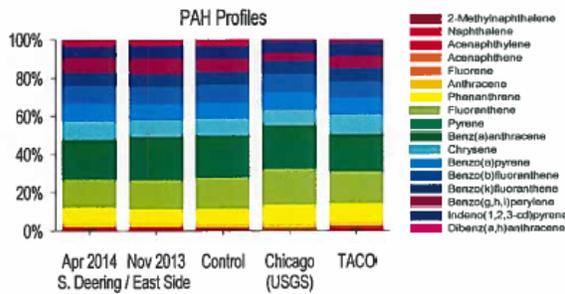
## April 2, 2014 Sampling

- Samples collected from 39 locations in parks within the abutting neighborhoods after extended period of windy and dry conditions
  - 39 surface dust samples
  - 8 soil samples
- Parks selected ranged from within 0.25 miles to greater than 1.5 miles of the KCBX terminals



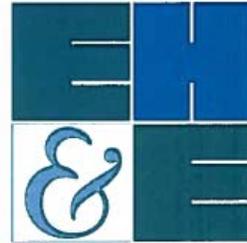
# April 2, 2014 Sampling

- April sample results consistent with findings for samples in South Deering and East Side neighborhoods collected in late November-early December 2013
- PAHs and petcoke/coal signature components and ratios not detected



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# **EXHIBIT 3**



April 25, 2014

Re: KCBX On-site Air Monitoring

We have received and analyzed six weeks of preliminary air monitoring data that KCBX Terminals Company ("KCBX") provided to the U.S. Environmental Protection Agency ("EPA"). As explained below, the preliminary data indicates that concentrations of dust (PM<sub>10</sub>) associated with KCBX's North and South Terminals are consistent with short-term and long-term, off-site PM<sub>10</sub> levels that would meet standards designed to provide public health protection.

**KCBX's Air Monitoring**

At the beginning of 2014, KCBX installed on-site air monitors to actively monitor airborne dust at its facilities. KCBX worked with the EPA to develop a plan to measure particulate matter with a diameter of 10 micrometers or less (PM<sub>10</sub>) at its North and South Terminals for a one-year period.

KCBX began measuring PM<sub>10</sub> at its North and South Terminals on February 18, 2014. Five (5) Federal Equivalent Method PM<sub>10</sub> monitors are operating at the North Terminal, and four (4) PM<sub>10</sub> monitors are operating at the South Terminal. Meteorological measurements (wind speed, wind direction, temperature, and barometric pressure) are also being collected at one site at the South Terminal and one site at the North Terminal. All air monitoring locations and methods have been approved by the EPA.

In accordance with the plan approved by the EPA, KCBX has now submitted 61 days (February 18 through April 19, 2014) of data from these on-site air monitors.

03964.000095853871.1

**National Ambient Air Quality Standards (NAAQS) for PM<sub>10</sub>**

EPA has established National Ambient Air Quality Standards ("NAAQS") for PM<sub>10</sub> and five other widespread compounds. For PM<sub>10</sub>, the NAAQS is based on a 24-hour average concentration of 150 µg/m<sup>3</sup>, which is not to be exceeded more than once per year over a 3-year period. The NAAQS is intended to be protective of public health, including the health of at-risk populations such as asthmatics, children, and the elderly. The NAAQS only apply to air quality in community settings to which the general public has access, rather than on industrial sites and other industrial facilities like the KCBX terminals. States, rather than individual industrial sites, are intended to implement and demonstrate attainment of the NAAQS.

KCBX's PM<sub>10</sub> monitors that EPA approved are source monitors, meaning that they are located within the fence line of KCBX's facilities and adjacent to active piles and emissions sources. Because of their on-site location next to active piles, KCBX's PM<sub>10</sub> monitors do not measure ambient air and therefore cannot be used to directly measure PM<sub>10</sub> concentrations to which the public is exposed in the neighborhoods surrounding the KCBX facilities. Thus, the PM<sub>10</sub> monitoring being conducted by KCBX is not directly applicable to evaluation of compliance with the NAAQS in the nearby neighborhoods. In order to evaluate potential air quality impacts of the KCBX facilities on the surrounding neighborhoods, we performed air quality modeling using meteorological and PM<sub>10</sub> measurements from the KCBX on-site monitors.

**Air Quality Modeling Demonstration**

Our air modeling was designed to investigate how on-site PM<sub>10</sub> concentrations, which were measured within an active industrial facility near emissions sources, change with distance from the facility. Emissions generated by ground-based sources such as the material piles at the KCBX facilities are known to decrease exponentially with distance from the source. For example, studies conducted near heavily-traveled roadways have shown that virtually all measured concentrations drop to background levels within 125 to 625 yards from the edge of

the roadway.<sup>1</sup> In the case of the neighborhoods near the KCBX facilities, background levels represent expected PM<sub>10</sub> concentrations in the absence of the KCBX terminals (i.e., from other regional sources such as traffic emissions, other industrial facilities, and windblown soil dust).

To estimate PM<sub>10</sub> concentrations outside the KCBX facilities, we conducted air quality modeling with the EPA-approved AERMOD dispersion model, a peer-reviewed plume model designed to evaluate near-field (i.e., local) impacts of emissions from stationary sources (i.e., the material piles at the KCBX facilities). We modeled PM<sub>10</sub> concentrations at the North Terminal for February 27, 2014 and April 12, 2014 using on-site meteorology, because those were the days with the highest 24-hour PM<sub>10</sub> measurements during the February 18 – April 19 monitoring period. These measurements of 128 µg/m<sup>3</sup> and 155 µg/m<sup>3</sup> were collected at the North Terminal's Southeast and Northeast monitoring sites, respectively.

Similarly, we modeled PM<sub>10</sub> concentrations at the South Terminal for March 31, 2014, which was the day with the highest 24-hr PM<sub>10</sub> measurement in March. This measurement of 114 µg/m<sup>3</sup> was collected at the South Terminal's Northeast monitoring site. We also modeled an example day (March 9) when winds had a westerly component (i.e., were directed toward the residences). This approach covers the days during which we would expect the greatest impacts from both the North and South Terminals during the February, March and April monitoring periods.

#### ***North Terminal Modeling***

At the KCBX North Terminal, the Southeast monitor is located about 50 yards from the nearest emissions source (i.e., material pile), and the nearest residence to this monitor is located to the east about 350 yards away (or 400 yards total from the emissions source). On February 27, 2014, prevailing winds were from the west-northwest and oriented toward the nearest residential area. Based on the preliminary modeling results, PM<sub>10</sub> concentrations would

<sup>1</sup> Kameer A., Elsinger D.S., and Niemeler D. (2010) Near-roadway air quality: synthesizing the findings from real-world data. *Environ. Sci. Technol.*, 44, 14, ed., 5334-5344. doi: 10.1021/es100008x. Available on the Internet at <http://pubs.acs.org/doi/abs/10.1021/es100008x>.

be expected to decrease sharply with distance from the facility, decreasing to 103  $\mu\text{g}/\text{m}^3$  at the facility fence line, and 44  $\mu\text{g}/\text{m}^3$  at the nearest residence, as shown in Figure 1. The latter value of 44  $\mu\text{g}/\text{m}^3$  is very close to the background  $\text{PM}_{10}$  concentration of 40  $\mu\text{g}/\text{m}^3$  estimated for this date based on monitoring data from all 9 sites, as shown by the dashed line in Figure 1. Therefore, any  $\text{PM}_{10}$  from the facility would be negligible by the time it reached the closest residence. In any event, all modeled concentrations remain well below the NAAQS level of 150  $\mu\text{g}/\text{m}^3$  for  $\text{PM}_{10}$ .

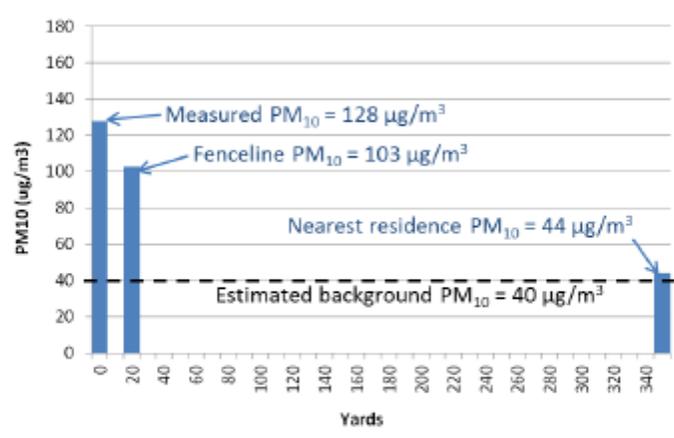


Figure 1. Representation of  $\text{PM}_{10}$  concentration decreases with distance from the KCBX North Terminal.

At the North Terminal, a 24-hr  $\text{PM}_{10}$  measurement of 155  $\mu\text{g}/\text{m}^3$  was collected at the Northeast monitoring site on April 12, 2014, when winds were out of the south-southwest. Concentrations of at least 86  $\mu\text{g}/\text{m}^3$  were observed at all the KCBX sites on this day, including both upwind and downwind sites, which indicates elevated background  $\text{PM}_{10}$  levels. Based on the preliminary modeling results,  $\text{PM}_{10}$  concentrations would be expected to decrease sharply

with distance from the facility, decreasing to near background levels ( $86 \mu\text{g}/\text{m}^3$ ) at the nearest residence that is in line with prevailing winds, as shown in Figure 2.

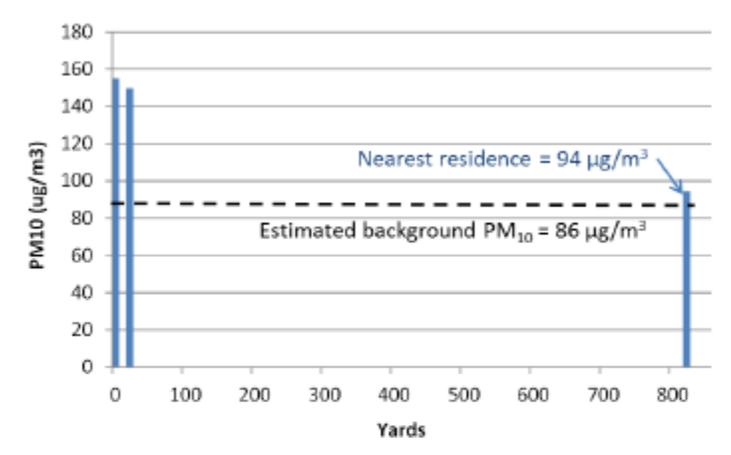


Figure 2. Representation of  $\text{PM}_{10}$  concentration decreases with distance from the KCBX North Terminal for April 12, 2014 (winds were predominantly from the south/southwest).

#### ***South Terminal Modeling***

At the South Terminal, the Northeast monitor is located about 250 yards from the material piles and about 80 yards from the nearest residence. However, on March 31, 2014 (when a 24-hr average  $\text{PM}_{10}$  measurement of  $114 \mu\text{g}/\text{m}^3$  was observed at the site), prevailing winds were from the south, directing impacts toward the north rather than toward the residences to the east of the facility. As a result, the nearest residences in the direction of impacts on March 31 are more than 1,000 yards (0.6 miles) away from the South Terminal. In addition, higher background  $\text{PM}_{10}$  concentrations of about  $50 \mu\text{g}/\text{m}^3$  were estimated for this date. Based on the preliminary modeling results,  $\text{PM}_{10}$  concentrations would again be expected to decrease sharply with distance from the facility, decreasing to background levels ( $50 \mu\text{g}/\text{m}^3$ ) at the nearest residence that is in line with prevailing winds, as shown in Figure 3.

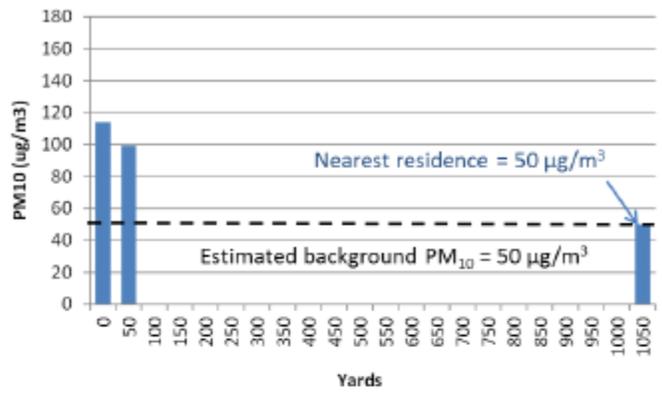


Figure 3. Representation of PM<sub>10</sub> concentration decreases with distance from the KCBX South Terminal for March 31, 2014 (winds were predominantly from the south).

At the South Terminal, days when winds had a westerly component (i.e., were directed toward the residences), PM<sub>10</sub> concentrations were low. However, we modeled an example day (March 9) when winds were from the southwest, the 24-hr PM<sub>10</sub> concentration at the North monitoring site (nearest the residences) was 58 µg/m<sup>3</sup>, and background concentrations were about 29 µg/m<sup>3</sup>. Model results indicate that PM<sub>10</sub> levels drop to background levels within 270 yards, as shown in Figure 4. This is the approximate distance of the nearest residence that is in line with prevailing winds on this day. All modeled concentrations at the South Terminal were well below the NAAQS level of 150 µg/m<sup>3</sup> for PM<sub>10</sub>.

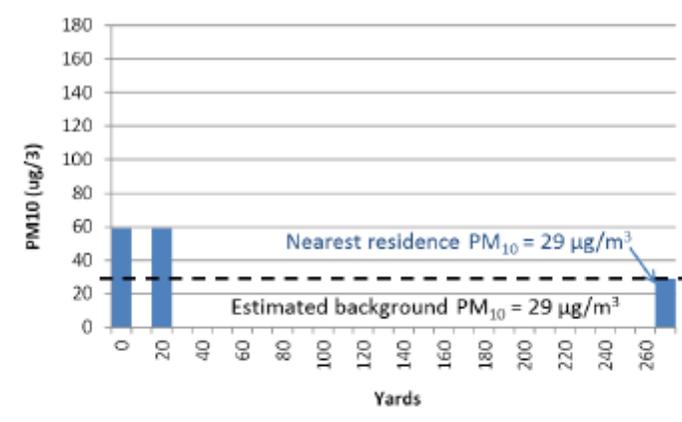


Figure 4. Representation of PM<sub>10</sub> concentration decreases with distance from the KCBX South Terminal for March 9, 2014 (winds predominantly from the southwest).

**Lyle Chinkin Qualifications**

I am the President of Sonoma Technology, Inc. (STI), which specializes in air quality and meteorological research and services. I received a Bachelor of Science degree in 1981 and a Master of Science in 1984 in Atmospheric Sciences from the University of California at Davis, and I have over 25 years of experience in professional consulting regarding meteorology and air quality. I have served as a U.S. EPA-invited peer reviewer of the EPA particulate matter National Ambient Air Quality Standards Criteria Document, an expert panel member for the review of the Valdez Air Health Study, and as an expert witness for the United States Department of Justice ("DOJ") in environmental enforcement actions.

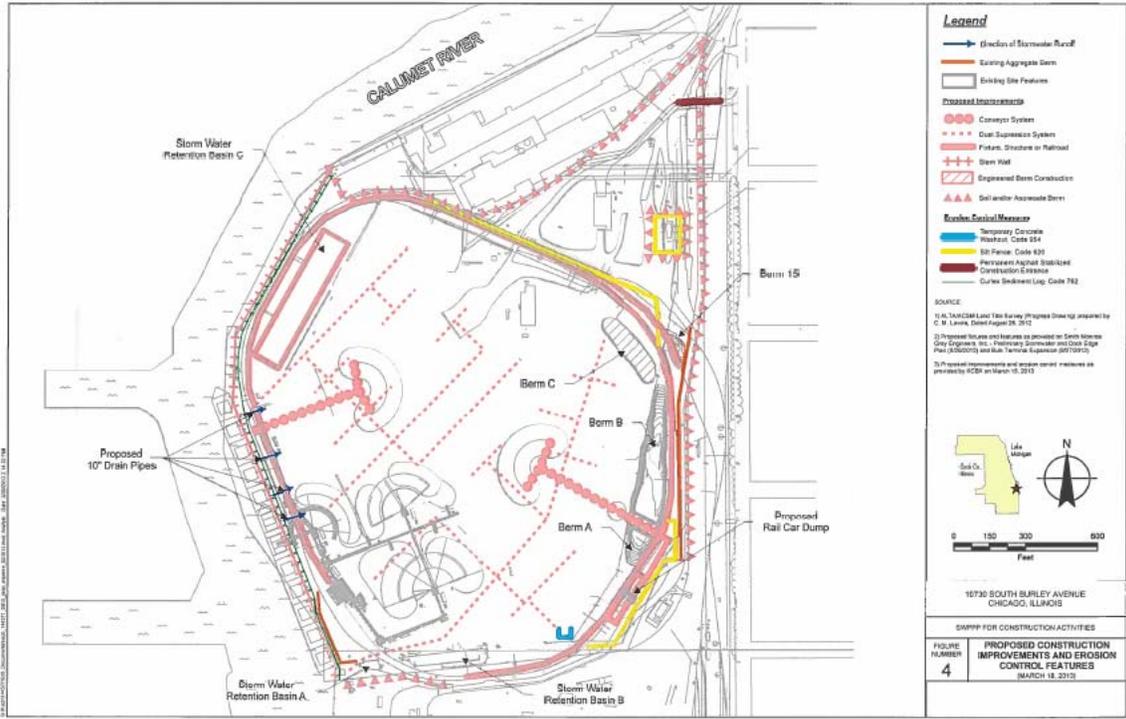
Sincerely,

Lyle R. Chinkin  
President

# **EXHIBIT 4**



# **EXHIBIT 5**



# **EXHIBIT 6**

