MRC S/R

PK ENVIRONMENTAL
Planning & Engineering
PO Box 1066, 205 Main Street
Chatham, New Jersey 07928

Sandra E. Kehrley, PE
John P. Peel, PP

tel (973) 635-4011
fax (973) 635-4023

January 7, 2014

Myrna Turner, Bureau Chief
Bureau of Inspection and Review
NJDEP Site Remediation Program
401-05D, PO Box 420
Trenton, NJ 08625-0420

Re: RAO – 4/19/13
PI# 564497 (Madison Recreation Center)
Block 601 Lot 1.01 (184 Ridgedale Avenue)
Borough of Madison, Morris County, NJ

Dear Myrna:

On behalf of Madison Borough, PK ENVIRONMENTAL (PK) submits the following additional documents and information as a result of our September 9, 2013 meeting. Enclosed for your administrative review is the following information:

1. Documentation of the correspondence between the Madison Board of Education (BOE), Robert Vogel, PE (Madison Borough Engineer), and Joseph Norton, LSRP. We have made numerous attempts advising the Madison BOE to notify the NJDEP Spill Hotline regarding the potential spill of waste oil adjacent to the BOE maintenance building. As discussed with Len Romino (NJDEP) on November 15, 2013, this documentation of our correspondence will close out the NJDEP review.

2. A copy of the December 31, 2013, Madison Borough arsenic contamination (AOC) notice letter that was submitted to all parties with right-of-way access along the road. This notice provides the Borough's contact data for further information and guidance to health and safety for any utility work conducted below the roadway.

As discussed, the additional information included herein completes the NJDEP review, and the case should now be closed. If you have any questions or require any additional information, you can contact us at any time.

Sincerely,

PK ENVIRONMENTAL

Sandra Kehrley

Sandra Kehrley, PE

ENC
cc: Leonard J. Romino, Assistant Director, NJDEP
Raymond Codey, Administrator
Robert Vogel, PE
Joseph Norton, LSRP
Certified Mail/RRR

PIL ENV.
PO 1066
205 MAIN ST
CHATHAM NJ
07928

HARTLEY DODGE MEMORIAL
BOROUGH OF MADISON
MADISON, NEW JERSEY
07940

December 31, 2013

Rock-GW, LLC
Rock Miramar Inc.
1221 Avenue of the Americas
New York, NY 10020

Rock-Florham, LLC
Rock-Morris, Inc.
1221 Avenue of the Americas
New York, NY 10020

Wells REIT II – 180 Park Avenue, LLC
6200 The Corners Parkway
Norcross, GA 30092

Wells REIT II – 180 Park Avenue B 105, LLC
6200 The Corners Parkway
Norcross, GA 30092

NEW JERSEY SPORTS & EXPOSITION AUTHORITY
Meadowlands Sports Complex
50 State Route 120
East Rutherford, NJ 07073

Re: Madison Recreation Center
184 Ridgedale Avenue
Block 601, Lot 1.01
Madison, NJ

To Whom It May Concern:

Be advised that Madison Borough has discovered Arsenic in surface soils within a 2.1 acre area of concern (AOC) at the above listed site. Madison Borough has completed remedial activities, which included sampling & testing, soil removal, fencing, and deed restrictions within the AOC site depicted in the attached Map.

The access road for the property bisects this AOC. The intent of this notice is to advise those parties which have right of way pertaining to the access road, about the arsenic hazard, which may also exist under the roadway.

All parties must contact Madison Borough before completing utility work beneath the roadway or within the roadway utility corridor. All work within the area of concern must be inspected by a Licensed Site Remediation Professional (LSRP) retained by Madison Borough. Madison Borough recommends health and safety measures be incorporated in all work involving direct contact with soil in the AOC. A Health and Safety Plan (HASP) is on file in the Madison Borough offices which details health and safety precautions. An Arsenic fact sheet is attached to this letter.

Be advised that soils excavated from within the AOC cannot be re-used or removed from the site without prior authorization from the Madison Borough LSRP.

Sincerely,
BOROUGH OF MADISON

Robert A. Vogel, PE
NJ Lic.No.#34463

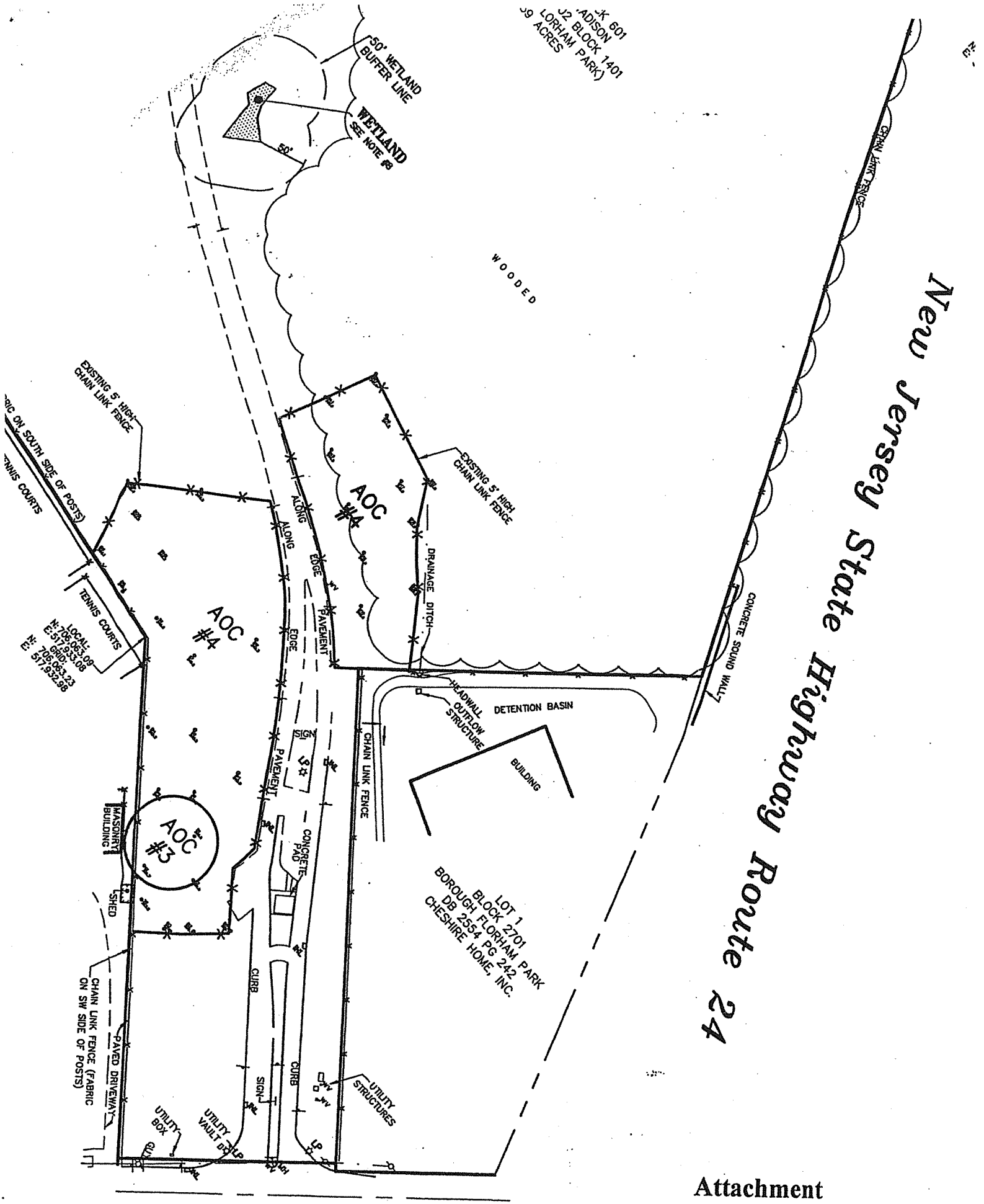
Attachment (Area Of Concern Map)

CC: Ray Codey and Jim Burnet, Administrator(s), Borough of Madison
Matt Giacobbe, Attorney, Borough of Madison

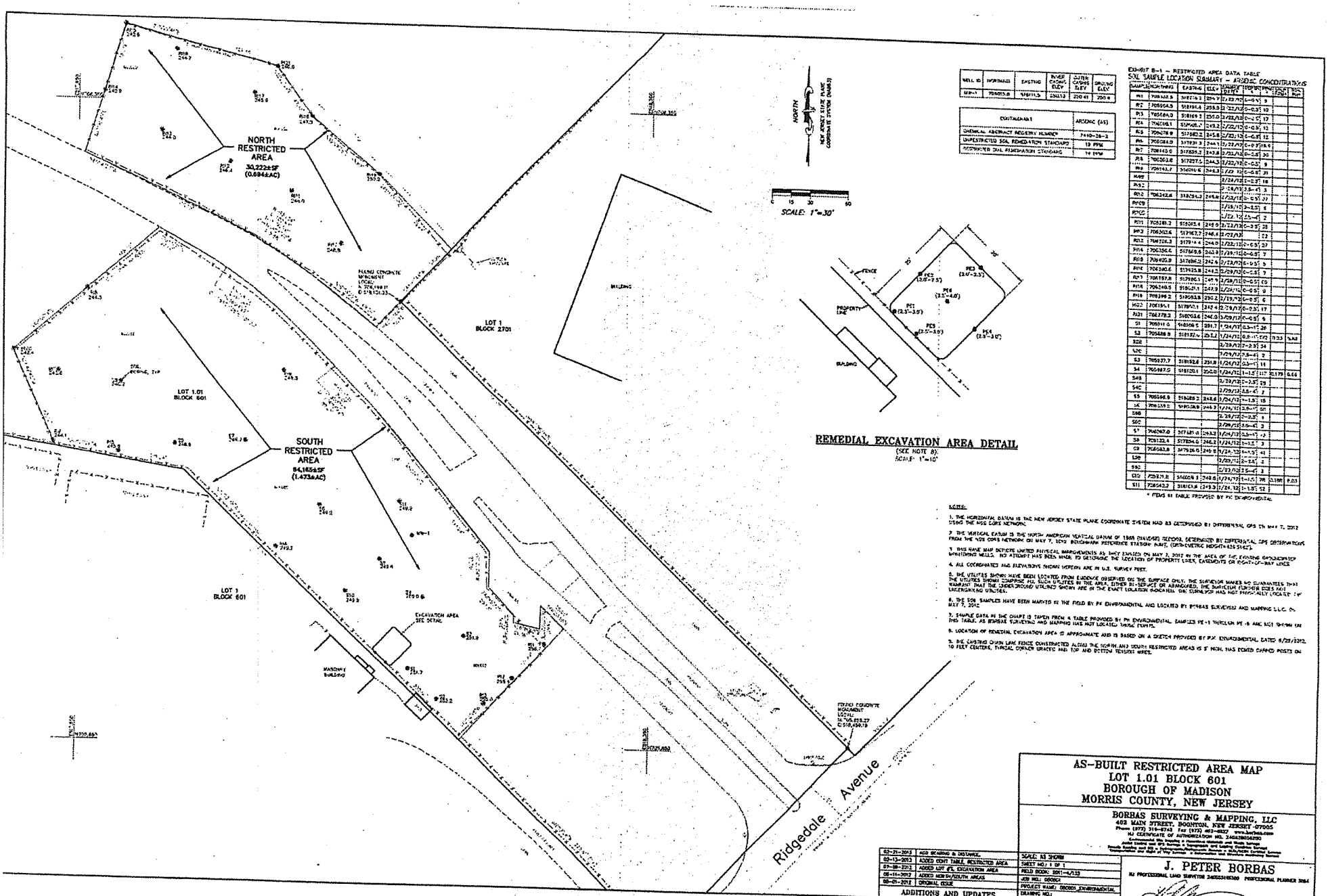
Len Romino, Myrna Campion
NJDEP Bureau of Site Remediation

Sandra E. Kehrley, PE
PK ENVIRONMENTAL
Joseph G. Norton, NORCON
LSRP#573787

Clerk, Borough of Madison
Hartley Dodge Memorial Building
50 Kings Road
Madison, NJ 07940



Attachment
Environmental Notice
Area Of Concern Map



REMEDIAL EXCAVATION AREA DETAIL

(SEE NOTE 8).
SCALE: 1"=10'

WELL ID	NORTHING	EASTING	INNER CASING ELEV	OUTER CASING ELEV	GROUND ELEV
MW-1	709015.0	518115.0	254.13	250.43	250.6

CONTAMINANT	ARSENIC (AS)
CHEMICAL ABSTRACT REGISTRY NUMBER	7440-38-2
UNRESTRICTED SOIL REMEDIATION STANDARD	19 PPM
RESTRICTED SOIL REMEDIATION STANDARD	77 PPM

EXHIBIT B-1 – RESTRICTED AREA DATA TABLE
SOIL SAMPLE LOCATION SUMMARY – ARSENIC CONCENTRATIONS

SAMPLE LOCATION	NORTHING	EASTING	ELEV.	SAMPLE DEPTH	DEPTH INTERVAL	ARSENIC (AS) PPM	ARSENIC (AS) PPM
PE1	708,122.5	518716.1	254.7	7/23/13	0-0.5'	9	
PE2	708,054.5	518,191.4	255.3	7/23/13	0-0.5'	10	
PE3	708,064.3	518169.3	254.0	7/23/13	0-0.5'	10	
PE4	708,081.1	518,205.7	253.2	7/23/13	0-0.5'	11	
PE5	708,078.9	517,982.2	245.8	7/23/13	0-0.5'	12	
PE6	708,084.9	517,931.3	244.1	7/23/13	0-0.5'	18.5	
PE7	708,143.0	517,839.2	243.8	7/23/13	0-0.5'	30	
PE8	708,063.8	517,927.5	244.3	7/23/13	0-0.5'	9	
PE9	708,163.7	516,016.9	244.3	7/23/13	0-0.5'	21	
PE10				7/29/13	0-0.5'	18	
PE11				7/29/13	0-0.5'	14	
PE12	708,162.8	518,216.2	245.8	7/29/13	0-0.5'	27	
PE13				7/29/13	0-0.5'	6	
PE14				7/29/13	0.5-1'	7	
PE15	708,281.2	518,015.4	248.9	7/23/13	0-0.5'	28	
PE16	708,102.6	517,962.7	246.4	7/23/13		23	
PE17	708,126.3	517,914.4	244.0	7/23/13	0-0.5'	37	
PE18	708,156.6	517,869.9	243.3	7/29/13	0-0.5'	7	
PE19	708,105.9	517,896.2	242.6	7/29/13	0-0.5'	5	
PE20	708,340.6	517,933.9	244.2	7/29/13	0-0.5'	7	
PE21	708,157.8	517,996.1	247.1	7/29/13	0-0.5'	10	
PE22	708,216.5	518,051.1	249.9	7/29/13	0-0.5'	9	
PE23	708,286.2	518,058.8	250.2	7/29/13	0-0.5'	6	
PE24	708,184.1	517,870.1	247.4	7/29/13	0-0.5'	17	
PE25	708,278.2	518,003.6	246.0	7/29/13	0-0.5'	9	
S1	708,911.0	518,108.5	251.7	7/24/13	0.5-1'	28	
S2	708,588.9	518,132.4	251.2	7/24/13	0.5-1'	172	7.33	5.48
S2B				8/29/13	0-0.5'	34	
S2C				7/29/13	0.5-1'	2	
S3	708,217.7	518,192.6	251.9	7/24/13	0.5-1'	11	
S4	708,187.5	518,120.1	250.0	7/24/13	1-1.5'	117	10.179	6.66
S4B				8/29/13	0.5-1'	29	
S4C				7/29/13	0.5-1'	7	
S5	708,598.9	518,289.2	248.6	7/24/13	1-1.5'	15	
S6	708,259.0	518,208.9	248.2	7/24/13	0.5-1'	50	
S6B				8/29/13	0-0.5'	9	
S6C				7/29/13	0.5-1'	2	
S7	708,067.0	517,681.0	243.2	7/24/13	0.5-1'	43	
S8	708,132.4	517,854.0	246.2	7/24/13	1-1.5'	3	
S9	708,463.8	517,916.5	248.8	7/24/13	1-1.5'	41	
S9B				8/29/13	0-0.5'	3	
S9C				8/29/13	0-0.5'	3	
S10	708,371.8	518,008.3	248.6	7/24/13	1-1.5'	98	3.188	8.03
S11	708,543.2	518,151.8	249.3	7/24/13	1-1.5'	12	

* ITEMS IN TABLE PROVIDED BY PK ENVIRONMENTAL

NOTES:

1. THE HORIZONTAL DATUM IS THE NEW JERSEY STATE PLANE COORDINATE SYSTEM NAD 83 DETERMINED BY DIFFERENTIAL GPS ON MAY 7, 2012 USING THE NJS CORS NETWORK.

2. THE VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) RECEIVED, DETERMINED BY DIFFERENTIAL GPS OBSERVATIONS FROM THE NJS CORS NETWORK ON MAY 7, 2012. BENCHMARK REFERENCE STATION: NJMT, (ORTHOMETRIC HEIGHT=426.514').

3. THIS MAP MAY DEPICT UNITED PHYSICAL IMPROVEMENTS AS THEY EXISTED ON MAY 3, 2012 IN THE AREA OF THE EXISTING GROUNDWATER MONITORING WELLS. NO ATTEMPT HAS BEEN MADE TO GEOTHORE THE LOCATION OF PROPERTY LINES, EASEMENTS OR RIGHT-OF-WAY LINES.

4. ALL COORDINATES AND ELEVATIONS SHOWN HEREON ARE IN U.S. SURVEY FEET.

5. ALL UTILITIES SHOWN HAVE BEEN LOCATED FROM EVIDENCE OBSERVED ON THE SURFACE ONLY. THE SURVEYOR MAKES NO GUARANTEES THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

6. THE PZ# SAMPLES HAVE BEEN MARKED IN THE FIELD BY PK ENVIRONMENTAL AND LOCATED BY BORBAS SURVEYING AND MAPPING L.L.C. ON MAY 7, 2012.

7. SAMPLE DATA IN THE CHART IS TAKEN FROM A TABLE PROVIDED BY PK ENVIRONMENTAL. SAMPLES PE-1 THROUGH PE-9 ARE NOT SHOWN ON THIS TABLE, AS BORBAS SURVEYING AND MAPPING HAS NOT LOCATED THESE POINTS.

8. LOCATION OF REMEDIAL EXCAVATION AREA IS APPROXIMATE AND IS BASED ON A SKETCH PROVIDED BY PK ENVIRONMENTAL DATED 8/29/2013.

9. THE EXISTING CHAIN LINK FENCE CONSTRUCTED ALONG THE NORTH AND SOUTH RESTRICTED AREAS IS 5' HIGH, HAS POSTS CAPPED POSTS ON 10 FEET CENTERS, THREE CORNER BRACES AND TOP AND BOTTOM TENSION WIRES.

02-21-2013	ADD BEARING & DISTANCE	SCALE: AS SHOWN
02-13-2013	ADDED CONT TABLE, RESTRICTED AREA	SHEET NO.: 1 OF 1
01-08-2013	ADDED LOT #'S, EXCAVATION AREA	FIELD BOOK: 2011-4,7,33
08-16-2012	ADDED NOR'H/SOUTH AREAS	JOB NO.: 080063
08-01-2012	ORIGINAL ISSUE	PROJECT NAME: 080063_ENVIRONMENTAL
ADDITIONS AND UPDATES		DRAWING NO.: 080063_SAMPLES-WELL 2013-02-21

AS-BUILT RESTRICTED AREA MAP
LOT 1.01 BLOCK 601
BOROUGH OF MADISON
MORRIS COUNTY, NEW JERSEY

BORBAS SURVEYING & MAPPING, LLC
402 MAIN STREET, BOONTON, NEW JERSEY 07005
Phone (973) 316-9743 Fax (973) 402-0032 www.borbas.com
NJ CERTIFICATE OF AUTHORIZATION NO. 24GA28034200

J. PETER BORBAS
NJ PROFESSIONAL LAND SURVEYOR 24GS03416300 PROFESSIONAL PLANNER 3084

Date: FEBRUARY 21, 2013

Right to Know
Hazardous Substance Fact Sheet

Common Name: **ARSENIC**

Synonyms: Gray Arsenic; Arsen

Chemical Name: Arsenic

Date: June 1998 Revision: April 2008

CAS Number: 7440-38-2

RTK Substance Number: 0152

DOT Number: UN 1558

EMERGENCY RESPONDERS >>>> SEE PAGE 6

Description and Use

Arsenic is a silver-gray or white metallic, odorless, brittle solid. It is used as an alloying agent for heavy metals, and in solders, medicines and herbicides.

Hazard Summary

Hazard Rating	NJDHSS	NFPA
HEALTH	4	-
FLAMMABILITY	0	-
REACTIVITY	0	-
CARCINOGEN POISONOUS GASES ARE PRODUCED IN FIRE		

Hazard Rating Key: 0=minimal; 1=slight; 2=moderate; 3=serious; 4=severe

Reasons for Citation

- **Arsenic** is on the Right to Know Hazardous Substance List because it is cited by OSHA, ACGIH, DOT, NIOSH, NTP, DEP, IARC, IRIS and EPA.
- This chemical is on the Special Health Hazard Substance List.

SEE GLOSSARY ON PAGE 5.

FIRST AID

Eye Contact

- Immediately flush with large amounts of water for at least 15 minutes, lifting upper and lower lids. Remove contact lenses, if worn, while rinsing. Seek medical attention.

Skin Contact

- Quickly remove contaminated clothing. Immediately wash contaminated skin with large amounts of soap and water.

Inhalation

- Remove the person from exposure.
- Begin rescue breathing (using universal precautions) if breathing has stopped and CPR if heart action has stopped.
- Transfer promptly to a medical facility.

EMERGENCY NUMBERS

Poison Control: 1-800-222-1222

CHEMTREC: 1-800-424-9300

NJDEP Hotline: 1-877-927-6337

National Response Center: 1-800-424-8802

- **Arsenic** can affect you when inhaled and may be absorbed through the skin.
- **Arsenic** is a CARCINOGEN and may cause reproductive damage. HANDLE WITH EXTREME CAUTION.
- Skin contact can cause irritation, burns, rash and loss of pigment
- Eye contact can cause irritation and burns.
- Inhaling **Arsenic** can irritate the nose and throat and can cause an ulcer or hole in the "bone" (septum) dividing the inner nose.
- Exposure to **Arsenic** can cause weakness, poor appetite, nausea, vomiting, headache, and even death.
- **Arsenic** may damage the nervous system and the liver.
- **Arsenic** is a noncombustible solid, but when in *dust* or *fine powder* form it can EXPLODE when exposed to heat, flame or hot surfaces.

Workplace Exposure Limits

OSHA: The legal airborne permissible exposure limit (PEL) is **0.01 mg/m^3** averaged over an 8-hour workshift.

NIOSH: The recommended airborne exposure limit (REL) is **0.002 mg/m^3**, which should not be exceeded at any time.

ACGIH: The threshold limit value (TLV) is **0.01 mg/m^3** averaged over an 8-hour workshift.

- **Arsenic** is a CARCINOGEN in humans. There may be no safe level of exposure to a carcinogen, so all contact should be reduced to the lowest possible level.
- The above exposure limits are for air levels only. When skin contact also occurs, you may be overexposed, even though air levels are less than the limits listed above.

Determining Your Exposure

- Read the product manufacturer's Material Safety Data Sheet (MSDS) and the label to determine product ingredients and important safety and health information about the product mixture.
- For each individual hazardous ingredient, read the New Jersey Department of Health and Senior Services Hazardous Substance Fact Sheet, available on the RTK Program website (www.nj.gov/health/eoh/rtkweb) or in your facility's RTK Central File or Hazard Communication Standard file.
- You have a right to this information under the New Jersey Worker and Community Right to Know Act, the Public Employees Occupational Safety and Health (PEOSH) Act if you are a public worker in New Jersey, and under the federal Occupational Safety and Health Act (OSHA) if you are a private worker.
- The New Jersey Right to Know Act requires most employers to label chemicals in the workplace and requires public employers to provide their employees with information concerning chemical hazards and controls. The federal OSHA Hazard Communication Standard (29 CFR 1910.1200) and the PEOSH Hazard Communication Standard (N.J.A.C. 12:100-7) require employers to provide similar information and training to their employees.

This Fact Sheet is a summary of available information regarding the health hazards that may result from exposure. Duration of exposure, concentration of the substance and other factors will affect your susceptibility to any of the potential effects described below.

Health Hazard Information

Acute Health Effects
The following acute (short-term) health effects may occur immediately or shortly after exposure to **Arsenic**:

- Skin contact can cause irritation, burns, rash and loss of pigment.
- Eye contact can cause irritation, burns and red, watery eyes.
- Inhaling **Arsenic** can irritate the nose and throat causing coughing and wheezing.
- Exposure to **Arsenic** can cause weakness, poor appetite, nausea, vomiting, headache, muscle cramps and even death.

Chronic Health Effects
The following chronic (long-term) health effects can occur at some time after exposure to **Arsenic** and can last for months or years:

Cancer Hazard
- **Arsenic** is a CARCINOGEN in humans. It has been shown to cause skin and lung cancer.
- Many scientists believe there is no safe level of exposure to a carcinogen.

Reproductive Hazard
- Chronic **Arsenic** exposure has been associated with spontaneous abortions and still births.
- There is limited evidence that **Arsenic** is a teratogen in animals. Until further testing has been done, it should be treated as a possible teratogen in humans.

Other Effects
- Repeated skin contact can cause thickened skin and/or patchy areas of darkening and loss of pigment. Some persons may develop white lines on the nails.
- Long-term exposure can cause an ulcer or hole in the "bone" (septum) dividing the inner nose, hoarseness and sore eyes.
- **Arsenic** may damage the nervous system causing numbness, "pins and needles," and/or weakness in the hands and feet.
- **Arsenic** may damage the liver.

Medical

Medical Testing
Before first exposure and every 12 months thereafter, OSHA requires your employer to provide (for persons exposed to greater than **0.005 mg/m^3** of *Arsenic*) a work and medical history and exam which shall include:

- Chest x-ray
- Exam of the nose, skin and nails
- Test for urine **Arsenic**. This is most accurate at the end of the workday. Eating shellfish or fish may elevate **Arsenic** levels for up to two days. At NIOSH recommended exposure levels, urine **Arsenic** should not be greater than **100 micrograms per liter** of urine.

After suspected overexposure, repeat these tests and consider exam of the nervous system and liver function tests. Also examine your skin periodically for abnormal growth. Skin cancer from **Arsenic** can be easily cured when detected early.

OSHA requires your employer to provide you and your doctor with a copy of the OSHA *Inorganic Arsenic* Standard (29 CFR 1910.1018).

Any evaluation should include a careful history of past and present symptoms with an exam. Medical tests that look for damage already done are not a substitute for controlling exposure.

Request copies of your medical testing. You have a legal right to this information under the OSHA Access to Employee Exposure and Medical Records Standard (29 CFR 1910.1020).

Mixed Exposures
- More than light alcohol consumption can cause liver damage. Drinking alcohol may increase the liver damage caused by **Arsenic**.

Conditions Made Worse By Exposure
- May scientists believe that skin changes such as thickening and pigment changes make those skin areas more likely to develop skin cancer.

Workplace Controls and Practices

Very toxic chemicals, or those that are reproductive hazards or sensitizers, require expert advice on control measures if a less toxic chemical cannot be substituted. Control measures include: (1) enclosing chemical processes for severely irritating and corrosive chemicals, (2) using local exhaust ventilation for chemicals that may be harmful with a single exposure, and (3) using general ventilation to control exposures to skin and eye irritants. For further information on workplace controls, consult the NIOSH document on Control Banding at www.cdc.gov/niosh/topics/ctrlbanding/.

The following work practices are also recommended:

- Label process containers.
- Provide employees with hazard information and training.
- Monitor airborne chemical concentrations.
- Use engineering controls if concentrations exceed recommended exposure levels.
- Provide eye wash fountains and emergency showers.
- Wash or shower if skin comes in contact with a hazardous material.
- Always wash at the end of the workshift.
- Change into clean clothing if clothing becomes contaminated.
- Do not take contaminated clothing home.
- Get special training to wash contaminated clothing.
- Do not eat, smoke, or drink in areas where chemicals are being handled, processed or stored.
- Wash hands carefully before eating, smoking, drinking, applying cosmetics or using the toilet.

In addition, the following may be useful or required:

- Specific engineering controls are required for this chemical by OSHA. Refer to the OSHA *Inorganic Arsenic* Standard (29 CFR 1910.1018).
- Use a vacuum or a wet method to reduce dust during clean-up. DO NOT DRY SWEEP.
- Use a high efficiency particulate air (HEPA) filter when vacuuming. Do not use a standard shop vacuum.

Personal Protective Equipment

The OSHA Personal Protective Equipment Standard (29 CFR 1910.132) requires employers to determine the appropriate personal protective equipment for each hazard and to train employees on how and when to use protective equipment.

The following recommendations are only guidelines and may not apply to every situation.

Gloves and Clothing

- Avoid skin contact with **Arsenic**. Wear personal protective equipment made from material which can not be permeated or degraded by this substance. Safety equipment suppliers and manufacturers can provide recommendations on the most protective glove and clothing material for your operation.
- Safety equipment manufacturers recommend *Nitrile*, *Natural Rubber* or *Silver Shield®* for gloves and DuPont *Tyvek®*, or the equivalent, as protective materials for clothing.
- All protective clothing (suits, gloves, footwear, headgear) should be clean, available each day, and put on before work.

Eye Protection

- Wear impact resistant eye protection with side shields.
- Wear a face shield with goggles when working with corrosive, high irritating or toxic substance.

Respiratory Protection

Improper use of respirators is dangerous. Respirators should only be used if the employer has implemented a written program that takes into account workplace conditions, requirements for worker training, respirator fit testing, and medical exams, as described in the OSHA Respiratory Protection Standard (29 CFR 1910.134).

- Where the potential exists for exposure not higher than **0.1 mg/m^3**, use a half-mask air purifying respirator equipped with high efficiency filters.
- Where the potential exists for exposure not higher than **0.5 mg/m^3**, use a full facepiece, air purifying respirator with high efficiency filters.
- Where the potential exists for exposure not higher than **5 mg/m^3**, use any powered-air purifying respirator with high efficiency filters or a half-mask supplied-air respirator operated in a positive pressure mode.
- Leave the area immediately if (1) while wearing a filter or cartridge respirator you can smell, taste, or otherwise detect **Arsenic**, (2) while wearing particulate filters abnormal resistance to breathing is experienced, or (3) eye irritation occurs while wearing a full facepiece respirator. Check to make sure the respirator-to-face seal is still good. If it is, replace the filter or cartridge. If the seal is no longer good, you may need a new respirator.
- Consider all potential sources of exposure in your workplace. You may need a combination of filters, prefilters or cartridges to protect against different forms of a chemical (such as vapor and mist) or against a mixture of chemicals.
- Exposure to **5 mg/m^3** is immediately dangerous to life and health. If the possibility of exposure above **5 mg/m^3** exists, use a NIOSH approved self-contained breathing apparatus with a full facepiece operated in a pressure-demand or other positive-pressure mode equipped with an emergency escape air cylinder.

Fire Hazards

If employees are expected to fight fires, they must be trained and equipped as stated in the OSHA Fire Brigades Standard (29 CFR 1910.156).

- **Arsenic** is noncombustible, however, **Arsenic** *dust* or *fine powder* can explode when exposed to heat, flame or hot surfaces.
- Use dry chemical, CO_2, water spray or foam as extinguishing agents.
- POISONOUS GASES ARE PRODUCED IN FIRE, including *Arsenic Oxides*.
- Use water spray to keep fire-exposed containers cool.

Spills and Emergencies

If employees are required to clean-up spills, they must be properly trained and equipped. The OSHA Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120) may apply.

If **Arsenic** is spilled, take the following steps:

- Evacuate personnel and secure and control entrance to the area.
- Eliminate all ignition sources.
- Collect powdered material in the most convenient and safe manner, or use a HEPA-filter vacuum for clean-up, and deposit in sealed containers.
- Ventilate area of spill after clean-up is complete.
- DO NOT wash into sewer.
- It may be necessary to contain and dispose of **Arsenic** as a HAZARDOUS WASTE. Contact your state Department of Environmental Protection (DEP) or your regional office of the federal Environmental Protection Agency (EPA) for specific recommendations.

Handling and Storage

Prior to working with **Arsenic** you should be trained on its proper handling and storage.

- A regulated, marked area should be established where **Arsenic** is handled, used or stored as required by the OSHA *Inorganic Arsenic* Standard (29 CFR 1910.1018).
- **Arsenic** reacts with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE) to cause fires and explosions.
- **Arsenic** reacts with ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC) and HYDROGEN GAS to produce toxic *Arsine gas*.
- **Arsenic** is not compatible with *powdered* METALS (such as ZINC, LITHIUM, RUBIDIUM and PLATINUM); BROMINE AZIDE; LEAD MONOXIDE; and MERCURY OXIDE.
- Store in tightly closed containers in a cool, well-ventilated area away from COMBUSTIBLES and HEAT.
- DO NOT store in metal tanks.

Occupational Health Information Resources

The New Jersey Department of Health and Senior Services, Occupational Health Service, offers multiple services in occupational health. These services include providing informational resources, educational materials, public presentations, and industrial hygiene and medical investigations and evaluations.

For more information, please contact:

New Jersey Department of Health & Senior Services
Right to Know Program
PO Box 368
Trenton, NJ 08625-0368
Phone: 609-984-2202
Fax: 609-984-7407
E-mail: rtk@doh.state.nj.us
Web address: http://www.nj.gov/health/eoh/rtkweb

ARSENIC

GLOSSARY

ACGIH is the American Conference of Governmental Industrial Hygienists. They publish guidelines called Threshold Limit Values (TLVs) for exposure to workplace chemicals.

Acute Exposure Guideline Levels (AEGLs) are established by the EPA. They describe the risk to humans resulting from once-in-a lifetime, or rare, exposure to airborne chemicals.

Boiling point is the temperature at which a substance can change its physical state from a liquid to a gas.

A **carcinogen** is a substance that causes cancer.

The **CAS number** is unique, identifying number, assigned by the Chemical Abstracts Service, to a specific chemical.

CFR is the Code of Federal Regulations, which are the regulations of the United States government.

A **combustible** substance is a solid, liquid or gas that will burn.

A **corrosive** substance is a gas, liquid or solid that causes destruction of human skin or severe corrosion of containers.

DEP is the New Jersey Department of Environmental Protection.

DOT is the Department of Transportation, the federal agency that regulates the transportation of chemicals.

EPA is the Environmental Protection Agency, the federal agency responsible for regulating environmental hazards.

ERG is the Emergency Response Guidebook. It is a guide for emergency responders for transportation emergencies involving hazardous substances.

Emergency Response Planning Guideline (ERPG) values are intended to provide estimates of concentration ranges where one reasonably might anticipate observing adverse effects.

A **fetus** is an unborn human or animal.

A **flammable** substance is a solid, liquid, vapor or gas that will ignite easily and burn rapidly.

The **flash point** is the temperature at which a liquid or solid gives off vapor that can form a flammable mixture with air.

IARC is the International Agency for Research on Cancer, a scientific group.

Ionization Potential is the amount of energy needed to remove an electron from an atom or molecule. It is measured in electron volts.

IRIS is the Integrated Risk Information System database maintained by federal EPA. The database contains information on human health effects that may result from exposure to various chemicals in the environment.

LEL or **Lower Explosive Limit**, is the lowest concentration of a combustible substance (gas or vapor) in the air capable of continuing an explosion.

mg/m^3 means milligrams of a chemical in a cubic meter of air. It is a measure of concentration (weight/volume).

A **mutagen** is a substance that causes mutations. A **mutation** is a change in the genetic material in a body cell. Mutations can lead to birth defects, miscarriages, or cancer.

NFPA is the National Fire Protection Association. It classifies substances according to their fire and explosion hazard.

NIOSH is the National Institute for Occupational Safety and Health. It tests equipment, evaluates and approves respirators, conducts studies of workplace hazards, and proposes standards to OSHA.

NTP is the National Toxicology Program which tests chemicals and reviews evidence for cancer.

OSHA is the federal Occupational Safety and Health Administration, which adopts and enforces health and safety standards.

PEOSHA is the New Jersey Public Employees Occupational Safety and Health Act, which adopts and enforces health and safety standards in public workplaces.

Permeated is the movement of chemicals through protective materials.

PIH is a DOT designation for chemicals which are Poison Inhalation Hazards.

ppm means parts of a substance per million parts of air. It is a measure of concentration by volume in air.

A **reactive** substance is a solid, liquid or gas that releases energy under certain conditions.

STEL is a Short Term Exposure Limit which is usually a 15-minute exposure that should not be exceeded at any time during a work day.

A **teratogen** is a substance that causes birth defects by damaging the fetus.

UEL or **Upper Explosive Limit** is the highest concentration in air above which there is too much fuel (gas or vapor) to begin a reaction or explosion.

Vapor Density is the ratio of the weight of a given volume of one gas to the weight of another (usually *Hydrogen*), at the same temperature and pressure.

The **vapor pressure** is a measure of how readily a liquid or a solid mixes with air at its surface. A higher vapor pressure indicates a higher concentration of the substance in air and therefore increases the likelihood of breathing it in.

INFORMATION FOR EMERGENCY RESPONDERS

Common Name: **ARSENIC**

Synonyms: Gray Arsenic; Arsen
CAS No: 7440-38-2
Molecular Formula: As
RTK Substance No: 0152
Description: Silver-gray or white metallic, odorless, brittle solid

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
4 - Health **0 - Fire** **0 - Reactivity** **DOT#:** UN 1558 **ERG Guide #:** 152 **Hazard Class:** 6.1 (Poison)	**Arsenic** is noncombustible, however, *Arsenic dust* or *fine powder* can explode when exposed to heat, flame or hot surfaces. Use dry chemical, CO_2, water spray or foam as extinguishing agents. POISONOUS GASES ARE PRODUCED IN FIRE, including *Arsenic Oxides*. Use water spray to keep fire-exposed containers cool.	**Arsenic** reacts with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE) to cause fires and explosions. **Arsenic** reacts with ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC) and HYDROGEN GAS to produce toxic *Arsine gas*. **Arsenic** is not compatible with *powdered* METALS (such as ZINC, LITHIUM, RUBIDIUM and PLATINUM); BROMINE AZIDE; LEAD MONOXIDE; and MERCURY OXIDE.

SPILL/LEAKS

Isolation Distance:

Spills: 25 to 50 meters (75 to 150 feet)

Fire: 800 meters (1/2 mile)

Moisten spilled material first or use a HEPA-filter vacuum for clean-up.

DO NOT wash into sewer.

Toxic to aquatic organisms.

PHYSICAL PROPERTIES

Odor Threshold:	Odorless
Flash Point:	Noncombustible solid
Vapor Pressure:	1 mm Hg at 701°F (372°C)
Specific Gravity:	5.7 (water = 1)
Water Solubility:	Insoluble
Boiling Point:	1,350°F (613°C)
Ionization Potential:	9.87 eV
Molecular Weight:	74.9

EXPOSURE LIMITS

OSHA:	0.01 mg/m^3, 8-hr TWA
NIOSH:	0.002 mg/m^3, 15-min Ceiling
ACGIH:	0.01 mg/m^3, 8-hr TWA
IDLH:	5 mg/m^3

PROTECTIVE EQUIPMENT

Gloves:	Natural Rubber, Nitrile or Silver Shield®
Coveralls:	DuPont Tyvek®
Respirator:	<0.1 mg/m^3 - Full facepiece APR with High efficiency filter <0.5 mg/m^3 -Supplied air

HEALTH EFFECTS

Eyes:	Irritation, burns, red and watery eyes
Skin:	Irritation, burns, itching, rash and loss of pigment
Inhalation:	Nose and throat irritation with coughing, wheezing and hoarseness
Chronic:	Weakness, headache, nausea, vomiting, and muscle cramps Cancer (skin and lung) in humans

FIRST AID AND DECONTAMINATION

Remove the person from exposure.

Flush eyes with large amounts of water for at least 15 minutes. Remove contact lenses if worn. Seek medical attention.

Quickly remove contaminated clothing and wash contaminated skin with large amounts of soap and water.

Begin artificial respiration if breathing has stopped and CPR if necessary.

Transfer to a medical facility.

Sandra Kehrley

From: Joe Norton <joe@norconenviro.com>
Sent: Friday, November 15, 2013 12:26 PM
To: Sandra Kehrley
Cc: Vogel, Robert
Subject: Madison

Sandy, I had a conversation today with Len Romino at DEP, and related our difficulties with getting the BOE to notify DEP.
I told him we would send in our hotline request correspondence with BOE, and our Notice to the Right of Way parties to close out the review.
He agreed that getting these documents would finish the review process. I spoke with Bob, and he will get notice completed on Monday.

Joe Norton
Licensed Site Remediation Professional #573787
Norcon Environmental
PO Box 185
Allamuchy, NJ 07820
(908) 852-6046
www.norconenviro.com
www.moldspecialists.net

"Liberty means responsibility. That is why most men dread it". -George Bernard Shaw

Sandra Kehrley

From: Joe Norton <joe@norconenviro.com>
Sent: Thursday, November 07, 2013 8:04 AM
To: 'GARY LANE'; 'Codey, Ray'; 'Vogel, Robert'
Cc: 'Burnet, Jim'; Sandra Kehrley
Subject: RE: MRC Spill Hotline

Gary, the language of your second paragraph is perfectly acceptable to me, please send me the Case# ASAP.

Joe Norton
Licensed Site Remediation Professional #573787
Norcon Environmental
PO Box 185
Allamuchy, NJ 07820
(908) 852-6046
www.norconenviro.com
www.moldspecialists.net

From: GARY LANE [mailto:LANEG@madisonpublicschools.org]
Sent: Tuesday, November 05, 2013 5:41 PM
To: Joe Norton; 'Codey, Ray'; 'Vogel, Robert'
Cc: 'Burnet, Jim'; 'Sandra Kehrley'
Subject: RE: MRC Spill Hotline

Joe –

Thank you for your email and the information that it is our (BOE's) responsibility to make notification to the DEP regarding this matter; providing guidance as to the method by which notification should be conducted and, the contact information for the spill hotline, this is the first we've received this information.

I would just note that we (the BOE) have not "identified a potential surface spill of waste oil on your (our) property", but rather it has been reported to us by you, the LSRP of an adjoining property remediation project and as such you have informed us that it is our responsibility to contact the DEP of same.

Gary

Gary S. Lane, RSBA
School Business Administrator/Bd. Secretary
MADISON BOARD OF EDUCATION
359 Woodland Road, Madison, NJ 07940
Tel: 973-593-3101 ext. 3105

From: Joe Norton [mailto:joe@norconenviro.com]
Sent: Tuesday, November 05, 2013 4:15 PM
To: 'Codey, Ray'; GARY LANE; 'Vogel, Robert'
Cc: 'Burnet, Jim'; 'Sandra Kehrley'
Subject: RE: MRC Spill Hotline
Importance: High

Gary, et al.

Soil staining (and confirmed PAH contamination) as well as arsenic in excess of NJDEP soil clean-up standards, has been identified at the property line between the BOE property and the Borough property. Our best guess is that the staining is/was from your (former) maintenance operations, or it could predate the BOE ownership. However, since contamination has been identified at your property border, and the source of the soil staining was not on Borough property, and is not yet identified, the NJDEP is requesting that a case file (Spill #) be established. The borough has completed delineation and remediation of said contamination within their own property boundaries. We have notified you of the conditions we observed at your property line, as well as the arsenic conditions that were discovered in the same proximity. The property owner (BOE) is ultimately required to make notification to the DEP. Please call the NJDEP Spill Hotline (877-927-6337) and inform the operator that you have identified a potential surface spill of waste oil on your property. They will give you a Case #. Please respond to this email with the Case# for our records. I again urge you to *also* investigate for Arsenic in the surface soils on your property proximate to the borough border line.

Joe Norton
Licensed Site Remediation Professional #573787
Norcon Environmental
PO Box 185
Allamuchy, NJ 07820
(908) 852-6046
www.norconenviro.com
www.moldspecialists.net

From: Codey, Ray [mailto:codeyr@rosenet.org]
Sent: Monday, November 04, 2013 5:46 PM
To: GARY LANE; Vogel, Robert
Cc: Burnet, Jim; Joe Norton; Sandra Kehrley
Subject: RE: MRC Spill Hotline

Gary – Per our chat after the meeting today, you'll call Joe Norton tomorrow for next steps. Thanks.

From: GARY LANE [mailto:LANEG@madisonpublicschools.org]
Sent: Monday, November 04, 2013 3:33 PM
To: Vogel, Robert
Cc: Codey, Ray; Burnet, Jim; Joe Norton; Sandra Kehrley
Subject: RE: MRC Spill Hotline

To whom?

Gary S. Lane, RSBA
School Business Administrator/Bd. Secretary
MADISON BOARD OF EDUCATION
359 Woodland Road, Madison, NJ 07940
Tel: 973-593-3101 ext. 3105

From: Vogel, Robert [mailto:vogelr@lus.rosenet.org]
Sent: Monday, November 04, 2013 12:29 PM
To: GARY LANE
Cc: Codey, Ray; Burnet, Jim; Joe Norton; Sandra Kehrley
Subject: MRC Spill Hotline

Gary,

Please authorize the following request as soon as possible :

1) Acknowledge the November 2011 discovery of subsurface soil staining at the BOE MHS property adjoining the maintenance facility.
2) Acknowledge the notification letter of February 2012 from PK Environmental, and
3) Authorize PK Environmental to contact the Spill Hotline in order to open up an NJDEP case file on the MHS property.

These are the only items requiring your attention at this time.
Thank you for your cooperation.

Robert A. Vogel, P.E.
Borough of Madison
50 Kings Road
Madison, NJ 07940
(973) 593-3061