



July 21, 2018

To Draper City Officials:

Utah Physicians for a Healthy Environment (UPHE), the largest civic organization of health care professionals in the state of Utah, write to express our concern about the likely health effects from a new zoning change proposal by Geneva near the Point of the Mountain.

Overwhelming scientific evidence based on human studies from all over the world clearly indicates that air pollution generated by the Geneva pit expansion would have important adverse health consequences for the residents of Draper and others along the Wasatch front. Not only will Draper residents who breathe the dust and diesel exhaust from these operations have their health compromised, but the impact will be felt for most of the residents of Salt Lake and Utah Counties for the next 20-30 years.

Geneva has publicly defended their proposal claiming that they are in compliance with state regulations, and have been commended by the state for their dust suppression. They fail to mention that in their recent history they were issued the largest fine in state history at the time, \$1.7 million, for their failure to suppress dust. Furthermore, compliance with state regulations is no barometer as to whether public health is being harmed. All pollution is harmful to human health, even at levels far below what complies with state and federal regulations.

More specifically, the health hazard of Geneva's gravel pit is not merely their contribution to overall community air pollution. Dust from mining and gravel pits are in and of themselves hazardous, and diesel exhaust from heavy equipment is well established to be toxic. Both types of pollution contain unique toxins. In the case of dust, analysis of the soil at the edges of Geneva's existing operations has revealed significant contamination with toxic heavy metals, including high concentrations of uranium and arsenic.

Crystalline silica, which is ubiquitous in gravel pit dust, causes destruction of lung tissue, and can increase susceptibility to tuberculosis and lung cancer. While chronic silicosis is usually thought of as an occupational disease, significant rates of non-occupational silicosis have been documented in residents exposed to frequent dust storms (1).

Residents of communities near gravel pits may have even greater exposure than gravel pit employees. The mining activity exceeds a 40 hour work week, and the dust that lands on their yards, driveways, and inside their homes can be resuspended during their daily activity, perpetuating their exposure and augmenting the health risks. Of even greater concern, the nearby residential communities include children and babies in utero, greatly magnifying the public health consequences. Because of greater physical activity, higher metabolic rates, and hand to mouth actions, young children will be more exposed than adults via both inhalation and ingestion. Exposure of pregnant women who live nearby will extend the public health consequences to more than one generation because of the damage that diesel exhaust and industrial pollution can do to chromosomes and fetal development (2,3,4,5,6,7,8,9). The toxic dust generated will continue for years, but the health consequences will last much longer.

Thousands of medical studies have identified the broad base of health outcomes provoked by air pollution. Numerous additional studies of residential populations chronically exposed to dust from such things as the desiccated Aral Sea, Owens Lake, and the Sahara Desert reveal a wide range of poor health outcomes, including shortened life expectancy, high rates of cancer, infectious diseases, respiratory and heart disease, reproductive pathologies, adverse pregnancy outcomes, anemia, birth defects, and infant mortality (10). Even short term inhalation of the type of particles typical of gravel pit dust are associated with increased hospitalizations for heart disease (11).

But the dust from a newly dug gravel pit is likely even more toxic, because excavation produces “freshly fractured” silica particles, which cause even more micro trauma to lung tissue than “aged” particles (12).

Dust kicked up from mining operations can travel hundreds of miles. This is especially so from the Point of the Mountain which is simply the worst possible place on the Wasatch Front to have a gravel pit because of the steady winds that make it a world class paragliding destination. On 80% of days the winds at the Point are strong enough to carry the dust well into both Salt Lake and Utah Counties.

Constant diesel emissions at the pit will add significantly to the health hazard to nearby residents. Diesel exhaust is a proven carcinogen, revealed by recent research to be even more toxic than previously thought. A recent landmark study indicates that long term exposure to even low levels of diesel exhaust raises the risk of dying from lung cancer about 50% for residents who live near industrial operations, and about 300% for the workers (13, 14).

Residents near the area have also expressed concern to us that the proposed zoning change could also threaten their physical safety and that of their homes. Some residents have observed cracks in their walls and foundations caused by blasting at the current pit. There is every reason to believe that would be an issue with new mining in the rezoned area. Rock falls and potential mining mishaps are also possible as large mining equipment will work on the edge of a greater than 30 degree slope within 1500 feet of existing Draper and Lehi homes.

Moreover, Geneva's proposal is starkly incompatible with the large scale residential/commercial development of the Draper prison site, and would likely have a net negative economic impact on Draper. If the Geneva zoning request for new and perpetual large scale mining is approved, in the heart of the most heavily populated part of the state, it is more likely to drive away new high tech businesses and residents. Real estate values throughout Draper will be negatively impacted, especially homes near the mining. That of course, would decrease tax revenues.

Draper can only serve the needs of the millions of people on the Wasatch Front by rejecting this proposal. UPHE urges you to do so. We would like to meet with your group in person and give you a more detailed presentation on the latest research on air pollution, dust and health.

An addendum at the end of this letter gives a more comprehensive outline of the health consequences of air pollution.

Sincerely,

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In response to these studies, Joseph Fraumeni Jr., Director of the National Cancer Institute's Division of Cancer Epidemiology and Genetics, stated, "The findings suggest that the risks may extend to other workers exposed to diesel exhaust and to people living in urban areas where diesel exhaust levels are elevated."

Addendum

Medical research in the last 15 years has dramatically increased our understanding of how extensive are the health consequences of air pollution, including soil dust and diesel emissions. From over 3,000 medical studies, many important conclusions can be drawn.

* Particulate air pollution acts much as dilute cigarette smoke, causing most of the same health consequences.

* In the same way there is no safe number of cigarettes a person can smoke, there is no safe level of air pollution a person can breathe. Even small increases have detrimental effects.

* Air pollution increases blood pressure throughout the age spectrum, from newborns to the elderly. Good cholesterol (HDL) is decreased, and bad cholesterol (LDL) is increased with more air pollution.

* Strokes, heart attacks, and sudden death are all triggered, even by low concentrations. Worldwide, one out of every eight deaths is caused by air pollution. Air pollution decreases average life expectancy.

* Lung function is decreased, and virtually every known lung disease is caused or exacerbated by air pollution, including stunting of lung growth in children and teenagers.

* Air pollution damages and kills brain cells, decreases brain mass, and triggers brain scar tissue. It is associated with lower intelligence, behavioral problems in children, multiple sclerosis, autism, impaired olfactory sense, Parkinson's, Alzheimer's and other neurodegenerative diseases, depression, anxiety, and suicide.

* Air pollution impairs fetal development. Virtually every known pregnancy complication occurs at higher rates with even modest increases in air pollution--pre-mature birth, lower birth weight, pre-eclampsia, birth defects, gestational diabetes, and still births.

* More exposure to air pollution decreases insulin sensitivity, glucose tolerance, increases rates of Type I and Type II diabetes, and promotes obesity. Prenatal exposure has a particularly strong association with childhood obesity.

*The World Health Organization (WHO) has declared air pollution the most important environmental cause of cancer, more important than second hand cigarette smoke. The WHO placed it in the same category as asbestos and ionizing radiation. Air pollution is associated with higher rates of breast, lung, prostate, cervical, brain, nasal, pharyngeal, liver and stomach cancer, and childhood leukemia. Prenatal pollution exposure is associated with increased rates of multiple childhood cancers. Air pollution is associated with decreased survival in breast cancer patients.