SENATE NATURAL RESOURCES
EXHIBIT NO. 13
DATE
BILL NO.

Impacts of Opencut Mining:

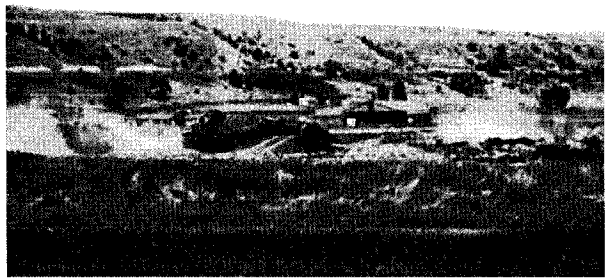
Public Health and Safety:

Respiratory health –airborne dust, diesel / machinery emissions, organic emissions from asphalt plants

Disease – mosquito populations in man-made ponds and standing water at mining facilities

Stress – noise, lights and traffic proven to increase stress and disturb sleep of nearby residents

Road safety – gravel trucks and equipment



Environmental:

Water resources -- ponds increase evaporative loss of water from the watershed

Ground water table – lowering of ground water table due to depression of water table at pit

Surface water -- siltation and thermal impacts

Vegetation -- disturbance increases annual, invasive weeds

Wildlife – severe disruption of terrestrial wildlife use during operations

Hazardous materials -- potential spills of fuels, solvents and lubricants

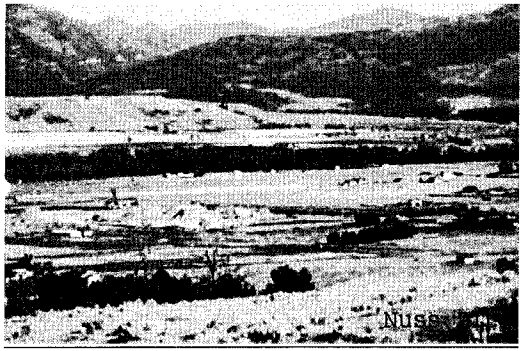
Erosion -- extreme perturbation of natural landscape

Quality of Life:

Viewshed – unsightly berms and stockpiles of materials

Noise –trucks, excavators, sorters, rock crushers, conveyors, back-up alarms

Dust – nuisance for neighbors and direct impacts to outdoor activities



Property Values:

Sellability – limits sellability and liquidity of real property assets

Market value – effects neighborhood property competitiveness

Maintenance – concerns about future maintenance of pond

Community, Social, Cultural: Changes in neighborhood development, relationships and community life due to heavy industry

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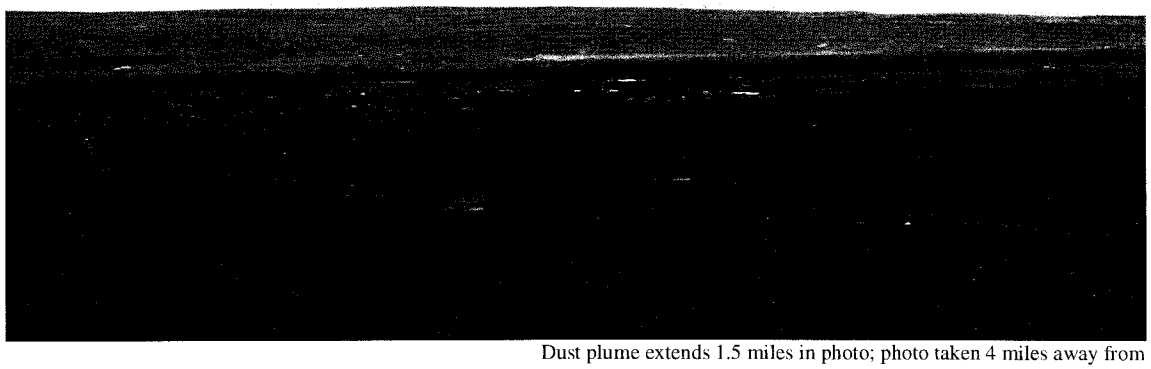
- ***Air Quality Impacts***

1. Off-site dust emissions are rarely (if ever) monitored
    a. dust irritates eyes, nose, throat, repiratory tract
    b. exacerbates existing conditions (allergies, asthma, CPODs)
    c. long term exposure to silica dust may cause silicosis
2. Dust plumes from unvegetated areas and stockpiles when wind is >10mph are considered by MDEQ to be "unavoidable" using best available technology, yet wind conditions are not considered when permitting a site
3. Emissions from asphalt plants and diesel engines include organic carcinogens for which exposures are cumulative over a life time. Smells from asphalt plants that are in compliance with air quality regulations still routinely cause headaches, nausea, etc.
4. Cumulative analysis of impacts of multiple gravel pits are not evaluated during permitting



Dust plume extends 1.5 miles in photo; photo taken 4 miles away from pit.

What is needed:

The Opencut Mining Act should require that, if requested by neighbors, there will be:

- air monitoring at the boundaries of the permitted mine / parcel of land and
- that dust be mitigated to avoid impacts to adjacent properties. Monitoring could be limited to the down-wind boundary at any one time.

- ***Noise Impacts:***

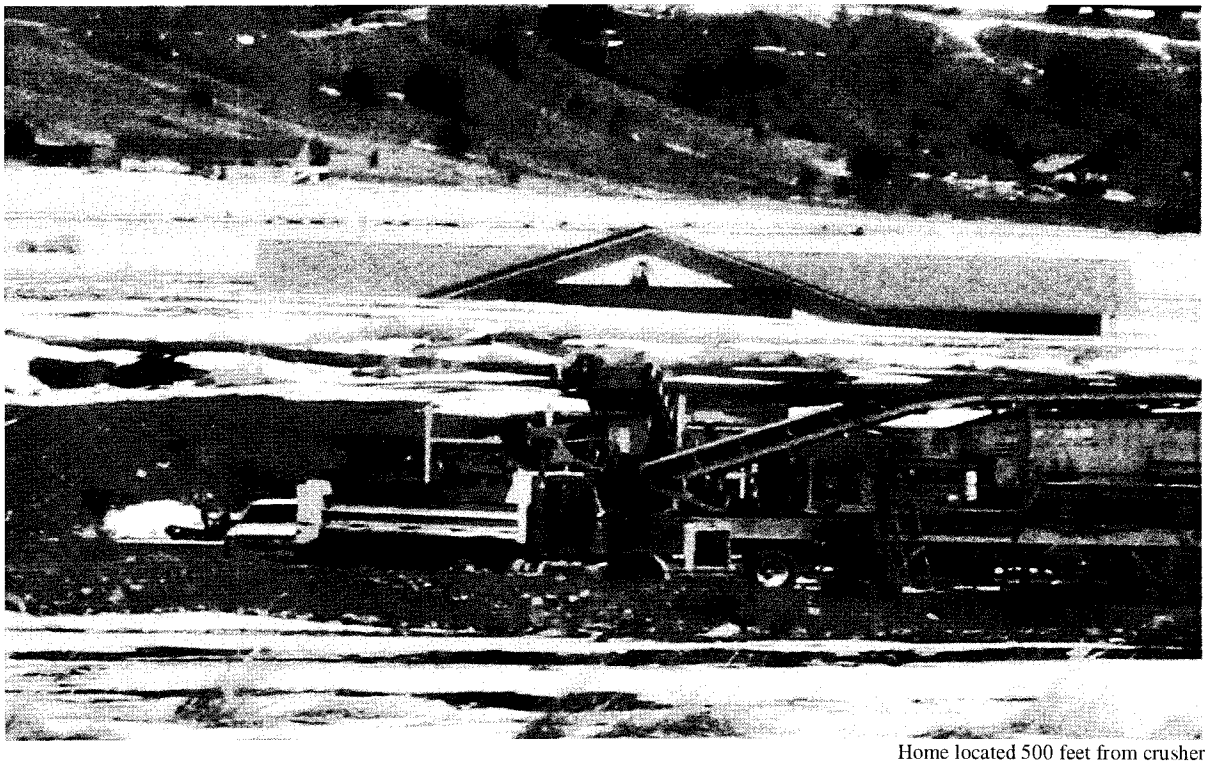
1. Levels of noise on property adjacent to gravel operations routinely exceed the levels of background noise identified by the us EPA as requisite to protect public health and welfare with an adequate margin of safety

2. Noise levels measured in neighborhoods surrounding operating pits:

   a. have been correlated to higher levels of stress hormones, increased blood pressure, immune system suppression

   b. have a detrimental effect on performance, behavior, cognition, communication.

3. Back-up beepers may just be the most annoying, stressful noise known to humanity.



Home located 500 feet from crusher

What is needed:

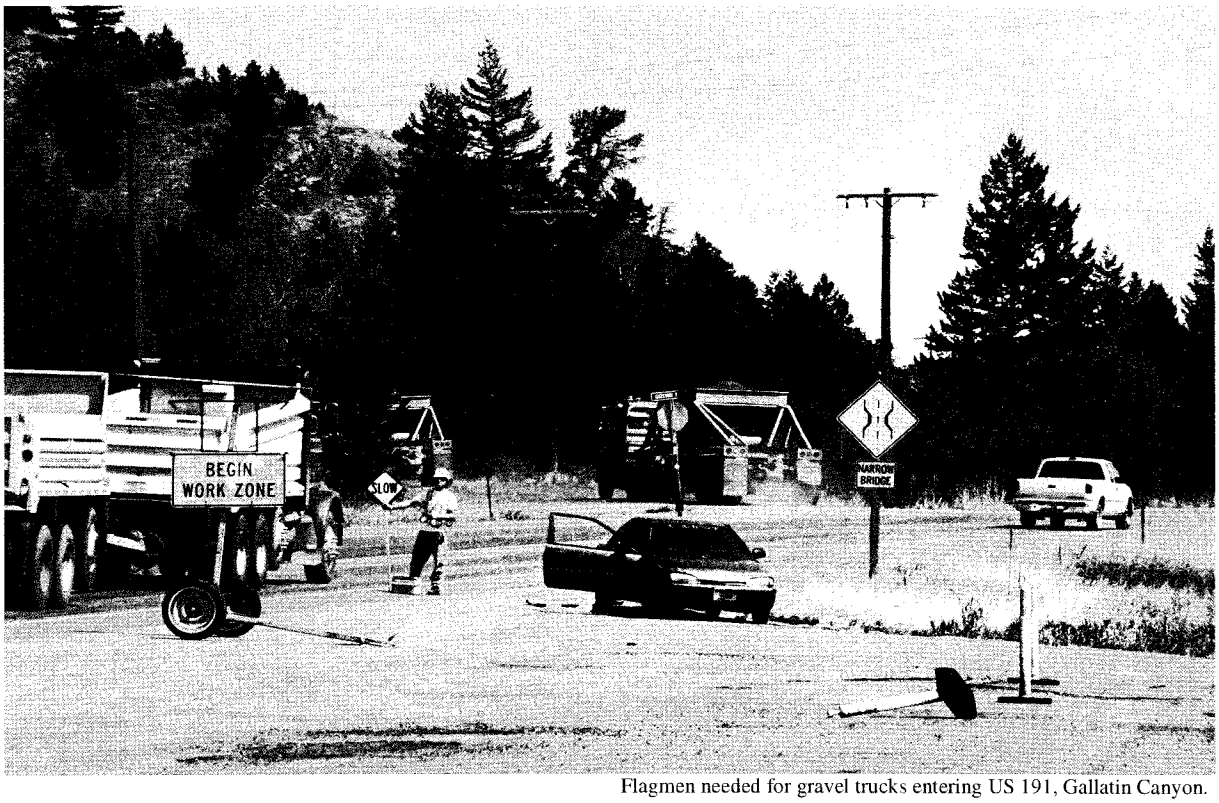
The Opencut Mining Act should require that, if requested by neighbors, there will be:

- noise monitoring at the boundaries of the permitted mine / parcel of land and that

- mitigation of off-site noise impacts to avoid adverse impacts to adjacent property. Increase in noise to adjacent properties during work hours should be restricted to a maximum 10 decibel increase over pre-operations day-night average noise (baseline determined through pre-mining noise study).

- ***Traffic Impacts***

  1. Increased traffic and congestion on local roads and highways
  2. Gravel trucks pose a potential danger to children, walkers, joggers, and bicyclists on rural roads without shoulder/berm for refuge from traffic
  3. Increased wear and damage to county roads from heavy trucks
  4. Many intersections on haul routes are not appropriate for turning gravel trucks.
  5. There is no DEQ authority to enforce haul routes.



Flagmen needed for gravel trucks entering US 191, Gallatin Canyon.

What is needed:

- County authority over permitting gravel pits for wear and loading on county roads, and
- county authority to require improvements of haul roads for safety..

- ***Surface Water and Ground Water Impacts***

1. In-stream mining can negatively impact the surface water quality, aquatic habitat, and recreational use of streams.

2. Mining in ground water within gravel alluvial aquifers potentially impacts the quality and quantity of available drinking water and the quality, quantity, and physical/chemical character of ground water influx to springs, streams and rivers.

3. Ponds, pumping and other de-watering methods can negatively impact ground water levels, impacting wells, agricultural sub-irrigation, and ground water inflow to rivers and streams.

4. There is no requirement that ponds that are included as reclamation features be adequately maintained after reclamation is in place. Wildlife use of these ponds (geese and ducks, particularly) may impact quality of pond discharge (to groundwater or surface water). Pond creation should be thoroughly evaluated by MFWP.

5. Opencut Permits are issued without proof of ownership and appropriate types of water rights

6. Cumulative effects of impacts to ground and surface water quality and quantities are not assessed.

What is needed:

- Prohibition of in-stream mining except as required for stream resource management by government agencies.

- Prohibition of mining below ground water. If mining below ground water is allowed, there must be a detailed pre-mining hydrogeological investigation and assessment.

- Water quality and quantity must be monitored throughout operations.

- Hydrogeological assessment and monitoring data must be added to public databases and made available to local watershed groups.

- Mines that include water features in their reclamation plans must create a bond for maintenance of the pond after reclamation, which should encourage better pond design.

- Opencut permit applications should require proof of ownership of water rights –both appropriate quantity and types of water rights.

- ***Natural Environment Impacts***

1. Impacts to water, air, and noise as enumerated above degrade the terrestrial and aquatic habitat in the vicinity of the operations.
2. Large areas are unvegetated for the duration of operations
3. Disturbance increases annual invasive weeds (assuming noxious weeds are controlled, per local weed regulations)
4. Extreme perturbation of the natural landscape
5. Loss of vitality and sterility of soils stored in berms
6. Cumulative analysis of impacts of gravel operation permitting to terrestrial and aquatic biota not assessed

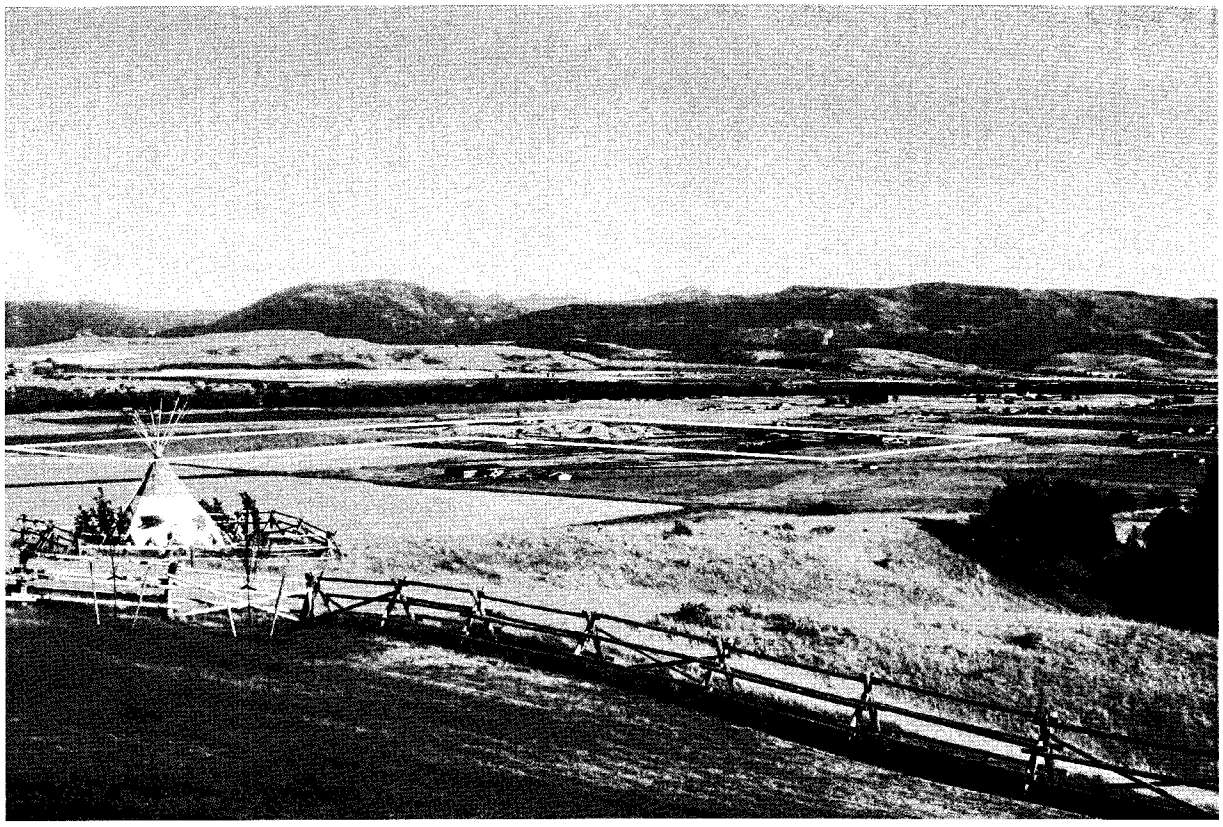
Bald eagle on gravel stockpile.

What is needed:

- Increased mitigation of water, air and noise impacts.
- Limitations on size / duration of impacted areas.
- Rolling reclamation.
- Protection of topsoil micro flora and fauna in stored topsoils.
- Industrial land use limited to appropriate areas.

- ***Community, Social and Cultural Impacts:***

1. Loss of enjoyment and normal use of adjacent private property
2. Impacts to property value (both marketability and total value) if sold during operations
3. Changes in neighborhood development trends, relationships and community life.
4. Impaired viewshed impacts local businesses, homes and development
5. Gravel haul routes on county roads subject these roads and residences adjacent to these roads to a level of traffic that was never intended for many neighborhoods.



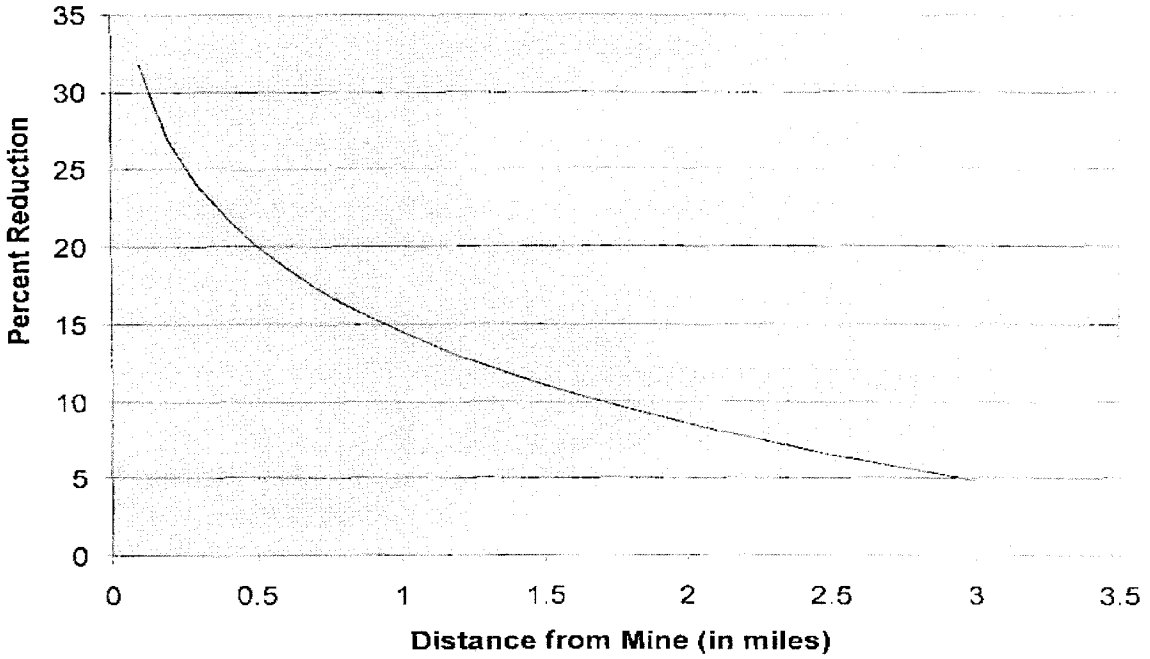
Yellow line shows full proposed extent of pit before any reclamation will take place.

Cary OKs gravel pit payments

CARY – The Village Board approved the first portion of nearly $1 million in reimbursement funds to Fox Trails residents Tuesday.
Trustees voted to approve the first eight payments under a program to provide $7,500 home improvement reimbursements to 130 homeowners in the Fox Trails subdivision bordering the Meyer Material Co. mining operation. The program was designed to offset the negative impact of the gravel pit on home values in the subdivision.

From the 2008 Northwest Herald, IL

Figure 1: Impact of Gravel Pit on Residential Property Values:
(Percent Reduction by Distance from Mine)



from D Hite, Auburn U, as cited in G. Erickcek, 2006, "An Assessment of the Economic impact of the Proposed Stoneco Gravel mine Operation on Richland Township"

What is needed:

- County authority over permitting gravel pits and mitigation of adverse impacts.
- Limitations on size / duration of impacted areas.
- Rolling reclamation.
- Scientifically valid research to determine economic impact of opencut mine on neighboring properties and the extent to which mitigation of dust, noise, etc., actually mitigate impacts to neighboring property values