

ANALYSIS OF TRAFFIC IMPACTS CAUSED BY THE NEW SHINE QUARRY ON STATE ROUTE 104

This analysis is a Comment in response to the Jefferson County Public Notice of Type 1 Land Use Application and Pending SEPA Determination MLA10-00072, December 14, 2011. It addresses the overview aspects of traffic impacts caused by the Iron Mountain Quarry's (IMQ) New Shine Quarry (NSQ) truck access and egress to State Route 104 (SR-104).

The technical details presented by IMQ's consultant Transportation Solutions Inc. (TSI) are replete with complex details that are based on layers of unsound assumptions and gross underestimates that obscure and confuse the fundamental issues of public safety. Rather than assure road safety, TSI's study goes far beyond reasonable technical and professional bounds in attempting to minimize their client's startup costs at significant risk to public safety.

BACKGROUND

The existing quarry operated by Mason uses the registered name Shine Quarry. The planned quarry to be operated by Burnett has been named the New Shine Quarry (NSQ). For clarity, we have added the prefix to Mason to the name Shine Quarry (MSQ). The two quarries, which are located to the North of SR-104, are independently permitted, leased, and operated. There is some animosity between the operators, which has been demonstrated at public hearings. In addition, three nearby quarries existing to the South that also ship by truck onto SR-104 have consolidated into two companies.

The most common type of quarry trucks planned by NSQ are 80-foot long tandem units with a gross vehicle weight of 105,500 pounds (47 tons)—the heaviest vehicles regularly permitted on US roads. The road under primary consideration is SR-104, which is a **60-mph two-lane highway** without traffic signals for 36 miles between Sequim and the Hood Canal Bridge. In the vicinity of the NSQ, **each lane is 11-foot wide** with an 8-foot shoulder. SR-104 is the only road directly connecting the North Olympic Peninsula communities to the rest of the US. The road is well known to be dangerous and subject to very heavy congestion in the summer—it has for many years been a **"lights on for safety"** road. Along the 14½ miles stretch from Highway 101 to the Hood Canal Bridge, **the average number of accidents is 36 per year, including one fatality per 2-years**, with peaks where lane-crossing traffic occurs. Those of us who live in the area are aware of and gravely concerned about these dangers, while the large numbers of tourists are not aware and are at considerably more risk.

Trucks from the planned NSQ will enter from the north side of SR-104, cross the westbound traffic lane and accelerate into the eastbound traffic (see aerial view on page 3). Though the downgrade in the eastbound lane helps acceleration, the entrance and crossing are horizontal. Consequently, the fully loaded trucks move at very low speed across the westbound lane while entering the eastbound lane. Because the trucks are more than seven times as long as the lane width, they take a long time to cross. **Monitoring the extra NSQ traffic, but NO SIGNIFICANT MITIGATION, is required in the Jefferson County Notice re Pending SEPA NSQ Mitigated Determination of Non-Significance 14-Dec-2011.**

MASON SHINE QUARRY ACTUAL ANNUAL PRODUCTION

The actual history of product shipping data provided by the 40-acre Mason Shine Quarry (MSQ) is shown in the table at right (data received by D. Armitage from MSQ). Depending on the time frame chosen, the average production ranges from a peak of 414,102 tons/year in 2006 to an 8-year average of 288,967 tons per year.

Mason Shine Quarry (MSQ) Actual Annual Production		
Size Acres	Year	Tons
20	2003	257,560
20	2004	322,792
40	2005	384,015
40	2006	414,102
40	2007	368,208
40	2008	256,756
40	2009	156,700
40	2010	151,600
Peak Year 2006		414,102
3 Peak Years Avg.		388,775
5 Peak Years Avg.		349,175
8 Years Avg.		288,967

NEW SHINE QUARRY “LOWBALLED” PRODUCTION NUMBERS

The 142-acre New Shine Quarry (NSQ) has various statements about projected annual production:

1. The pending IMQ-Pope NSQ Permit Application and SEPA determination both state that annual production at the proposed quarry **could** produce as much as 400,000 tons per year. This is an implausibly low number, since it is less than the demonstrated 414,102 tons per year at peak production from MSQ that is **only 28 percent of the NSQ size**. The key change to increase NSQ’s production rate radically is to add a faster or second crusher, which can be achieved with relative ease. It is clear that the planned NSQ 400,000 ton per year production number is a substantial under-representation of the NSQ true and probable potential.
2. Transportation Solution Inc. (TSI) is IMQ’s handpicked consultant. Their SEPA report uses an annual production rate of 160,000 tons per year for their traffic study—i.e., **only 38 percent of the actual peak production of the MSQ and only 46 percent of MSQ’s 5-year actual average production**, as shown in the table above.
3. The TSI report goes on to **lowball all their other assumptions** to produce a technical report that minimizes the planned NSQ traffic impacts. This is covered extensively in the [report from the Port Ludlow South Bay Homeowners’ Association and its SEPA Committee dated December 24, 2011](#). For example, it states “The TSI report contains many erroneous assumptions and calculations that lead to a **serious underestimation of the truck traffic onto SR 104 by a factor of at least three (3)**.” The County has already received copies of this SBCA report.

In General, each of the under-representations creates traffic safety risks that must be multiplied together to come up with their total impact because risks probabilities are generally multiplicative rather than additive. This reveals a massive understatement of traffic environmental and safety impact issues once the economy recovery starts. IMQ assumes the economy will recover or there is no justification for a second Shine quarry permit—the Mason Shine quarry would suffice for the foreseeable future. This combination of environmental and safety impact understatements of the planned NSQ traffic impacts create a **gross misrepresentation** of the facts and any SEPA decisions based upon them are **irresponsible and unsafe**. However, this it is not the end of these blunders, as shown below.

CUMULATIVE EFFECTS OF TRAFFIC FROM MULTIPLE QUARRIES AND SR-19 ON A 1½ MILE SECTION OF SR-104

Trucks from **five quarries** will use SR-104 to transport aggregate product as shown by the aerial view on the next page.

- At 1,820 feet west of the SR-104/SR-19 Intersection

Trucks from two Miles Sand and Gravel (Rocktogo Road) quarries and one Seton Construction (Thorndyke Pit Road) quarry enter on the South side of SR-104 at a specially constructed acceleration entry and deceleration exit ramps with a central turning lane 1,820 feet west of SR-19—see figure below. The vast majority normally travel east, so they can accelerate and **merge without crossing** a 60-mph traffic lane.

- At 5,200 feet east of the SR-104/SR-19 Intersection

Trucks from the planned NSQ enter SR-104 by **crossing the westbound lane and merge into the eastbound lane**—a far more complex maneuver. At this point, the SR-104 traffic has increased by the trucks entering from and returning to the Miles and Seton quarries, plus the traffic from SR-19 that connects from Port Townsend, Port Hadlock, Chimacum, and Port Ludlow, plus the traffic from the MSQ.



FIGURE 1 QUARRIES AND ROADS AERIAL VIEW

Clearly, the trucks from the planned NSQ encounter substantially higher public vehicle and truck traffic volumes than those from entering at from the three Miles and Seton quarries. Moreover, their entry maneuvers are far more dangerous. Yet **TSI's proposed mitigation for the NSQ's crossroad trucks access is far less than for the simpler merge** required for trucks from Miles and Seton quarries. This makes **no sense whatsoever**.

ACCIDENT EVENT CASCADES

In effect, the truck drivers from the planned NSQ, and from the MSQ, will have a great deal more to consider. We know from recent studies of drivers using cell phones that increasing the “thinking load” on a driver causes distraction and mental blindness due to excessive multi-tasking. The truck drivers are trained but they are not superhuman. A relatively minor unexpected trigger—e.g., a car braking and thereby obstructing the truck from merging, a deer entering the roadway, etc.—can quickly cascade into a major disaster. **The driving public does not expect to encounter slow 80-foot long tandem unit trucks at right angles across an 11-foot wide 60-mph high-speed lane.** Complex 80-foot long heavy-truck maneuvers **across** a busy high-speed road with **huge vehicle speed differentials** create such triggers even with professional drivers and most certainly amongst the public who share the road with these behemoth trucks. These are **predictable serious accidents** waiting to happen and **should not be countenanced for the benefit of reduced quarry startup costs.**

CUMULATIVE EFFECTS

Though cumulative traffic effects from multiple quarries are obviously an important issue, TSI's study does not address cumulative effects and does not explain why this issue is omitted though such cumulative analysis is required under SEPA WAC 197-11-330(3)(c). It is a glaringly serious error for several reasons:

1. The five quarries all supply construction aggregate and associated products. They are independently operated and leased from Pope. The NSQ will compete with the other quarry operators. Competition will lower the price. Overall demand will increase, not least because it will increase the feasible trucking radius of the market served—the market area increases as the square of the trucking radius.
2. When the 2008 housing market collapse ends, as it inevitably will, pre-collapse conditions will re-emerge, augmented by the interim increase in population and pent-up demand from postponed construction. In this category, we include the areas in which Pope Resources (which owns the land and leases the quarries) will develop [major new housing estates](#).
3. Major new construction may arise, about which the quarry companies are understandably unwilling to comment for competitive reasons. For example, Naval Base Kitsap is the [third-largest Navy base in the U.S.](#) It features one of the U.S. Navy's four nuclear shipyards, one of two nuclear-weapons facilities, the only West Coast [dry dock](#) capable of handling a [Nimitz-class](#) aircraft carrier and the Navy's largest fuel depot. There are indications that other facilities will be consolidated here and that new construction is imminent e.g., the [\\$600 million wharf construction project](#) on the Hood Canal.

The five quarries all affect the NSQ SEPA traffic issues and they are all partners with Pope via their Pope Resource leases, Pope's per-ton royalty arrangements, and Pope's participation in the mining rights. Therefore, they must all be considered collectively and cumulatively for traffic impacts or an explicit and convincing explanation made as to why they should be omitted—which is not offered in the applicant's submission. TSI's approach of **assuming that truck traffic from other quarries somehow does not exist** is grossly misleading and unacceptable. Moreover, it compounds and is additive to the gross errors TSI makes by deeply lowballing its detailed NSQ traffic assumptions.

PHASED REVIEW

In effect, TSI has only made a **study of the current MSQ traffic and used it as a surrogate for mitigation of NSQ's operation**. It splits off the NSQ startup from its future. For example, it argues from a narrow initial startup perspective without looking ahead to even a meaningful portion of the 40-year life of the project. It has divided and fragmented the traffic issues on SR-104 by excluding the impacts of four other comparable quarry operations in close proximity, thereby avoiding discussion of their cumulative impacts. It segments and ignores issues that are required to address properly the full environmental traffic issues and their impact on public safety. This can only be described as **phased review** under WAC 197-11-060(5)(d)(i, ii, and iii). A phased review, however, is not appropriate and has not been condoned for this project. Therefore, TSI's analysis is mostly irrelevant for a mitigation determination.

PROBABLE SIGNIFICANT ADVERSE ENVIRONMENTAL IMPACT

Based upon the above discussion, the proposed DMNS, after a year of effort by the applicant, continues to have a probable significant adverse traffic environmental impact. It certainly comes nowhere close to meeting the SEPA mandate. Under WAC 197-11-350 the **remedy, even with mitigation measures, is that an Environmental Impact Statement (EIS) shall be prepared**.

The Judge Laurie's opinion regarding the Writ of Certiorari with damages won by IMQ against Jefferson County concluded that Jefferson County's DS did not devote sufficient attention to IMQ's filing to provide an adequate basis upon which a determination decision may be based. It did not conclude that the DS was in error. Consequently, **Jefferson County has the authority to make a Determination of Significance (DS)** and require an EIS or to proceed with a DMNS.

If the decision is made now for a DS, then a proper evaluation of the issues can be made in an EIS—as has normally occurred in the past for Jefferson County quarries (e.g., Mats Mats and Fred Hill) and presumably a valid and fair result will ensue.

If the decision is made for additional mitigation of the above probable significant adverse environmental impacts, then consideration should be given to alleviating the increased safety risk to the public. This is best accomplished by safety engineering that addresses the **cause of the safety problem** rather than **trying to fix the symptoms**. The logical solution is an overpass so that quarry traffic does not need to cross the traffic lanes. This will save lives and reduce injuries to the public. However, it will be more expensive than interim measures such as channelization with acceleration and deceleration lanes that will reduce the applicant's startup costs. On the other hand, when the market demand returns and an excessive numbers of accidents and deaths occur to the public, the **demand for an overpass will become politically urgent and its costs will have to be borne by the people of Washington State**.

TIMING AND DURATION OF PUBLIC COMMENT PERIOD

The TSI study was received by Jefferson County Department of Community Development (DCD) from their consultant Shockey Planning Group. On December 14, 2011 the Jefferson County DCD noticed that it expects to issue a Mitigated Determination of Non-Significance (MDNS) on this proposal, and the optional MDNS process under WAC 197-11-355 is being used, which effectively **terminates any subsequent public involvement**.

The period for public comment is December 14 through 28, and there will be no public hearing. The obvious and undeniable effect is to stifle public comment. Throughout the legal power plays employed by IMQ, government officials (particularly examiners and judges) have rationalized their decisions in favor of IMQ by noting that the residents of Port Ludlow would have their opportunity to comment via the SEPA process. **Two weeks over the Christmas holiday period for comments, no public hearing, and no subsequent public participation are brazen and disgraceful stifling of public comment**. It would

appear that **IMQ and Pope had considerable influence on this decision, otherwise it is inexplicable.** Nevertheless, given no option, the community has attempted to respond to the Notice as best they can.

If the MDNS traffic plans go through as proposed, the subsequent remedial costs of road safety improvements will be at public expense. The road [bypass around Granite Falls](#), where IMQ also has a quarry, is a classic example—to accommodate the effects of quarry traffic damage to the environment, the bypass was built at an **eventual cost of well over \$30,000,000 entirely by government funds and the quarries paid not a cent.**

This is a matter that cries out for additional comment and study per WAC 197-11-335. At an insufficient minimum, WSDOT advice should be obtained and a truly independent traffic consultant retained. **Rightfully, the County should make a determination of significance per WAC 197-11-350(2)** as the SEPA process intends.

The public today has reached a high level of intolerance to this type of business and government collaboration to transfer wealth from the public to corporations that use their economic power and influence to control government. The NSQ is a [zero-sum game](#) in which corporate gains are at the public's expense and reduced safety. Jefferson County gets minimal revenue from the quarry because quarry product sales (and thereby sales tax) will occur primarily in other counties and the employees and truck rigs will come primarily from Kitsap County. Unless there is adequate SEPA protection, Port Ludlow residents will incur environmental and real estate losses plus additional taxation to pay for remedial costs due to quarry damage to environment and roads, and Jefferson County's residential property tax base will decline.



Anthony U. Simpson, PhD, PEng
Chair, PLVC IMQ Mitigation Committee