APPENDIX B

Review of BRKW's Market Analysis: The Impact on Property Values in Scandia Due to the Proposed Zavoral/Tiller Mining Operation

I am Lisa Philippi, a Scandia Resident and professional mortgage banker. I have reviewed the BRKW Market Analysis used in the Zavoral Mining and Reclamation Project Draft Environmental Impact Statement ("DEIS"). I have been employed in the mortgage industry for 32 years and have knowledge of appraisal practices and property value trends. I have also consulted with a commercial appraiser in the Twin Cities Metro area to determine what an adequate property value study looks like. In reviewing the BRKW analysis, I have found their study to be inaccurate and insufficient. The study ignores available data and information on the impact of a gravel mine in this market and grossly underestimates the home value reduction that will occur if the Zavoral/Tiller CUP is approved. Based on available market information and studies, a reduction of 25% in home value is likely. The ¼ mile radius and the impact on home values could extend up to three mile from the mine.

1. Time Frame of home sales Comparables

The housing market assumptions used by BRKW do not reflect the current market. Information on the current market indicates the Zavoral/Tiller Mine will have a larger impact on home values.

This is what BRKW says in their study regarding Time Frame of home sales Comparables:

In order to determine the impact, if any, from the introduction of a gravel mining operation into the area, a study was made of sales of single family residences within and without gravel mining and sites with perceived environmental hazard areas (i.e. demolition landfill and former superfund site). It is noted that home prices have been declining over recent years due to a variety of economic problems. In order to avoid the corruption of data from this down turn, single family home sale activity in the years 2006 and 2007 were selected. This timeframe is period of market stabilization and change from the rapid increase of property values in the first half of the decade and the sharp declines of the past few years. Based upon this study, it was concluded that a negative impact would most likely occur to property values within, but not beyond, 1/4 mile of the Zavoral Site.

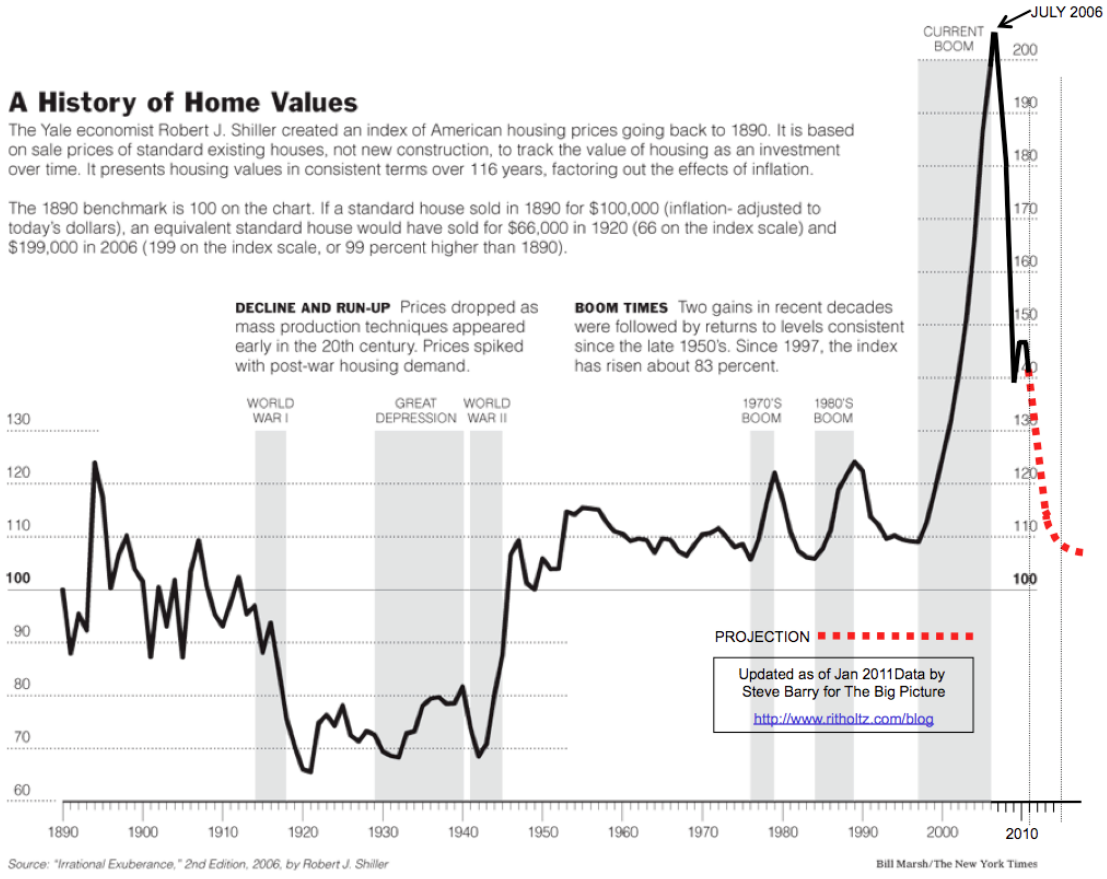
July of 2006 was the peak of the housing market. This was not a period of market stabilization. This was a period of peak demand, which would mean that homes would be purchased with less concern of location due to the numerous buyers and less homes for sale per buyer. This would result in not as much of a loss in property values due to adverse conditions such as a mine. So, then if the housing market were in decline, this would cause an increase in property value loss due to an adverse condition. BRKW admits this in their study conclusion. Here are their comments:

It is logical to assume that properties values abutting a new gravel mining operation could be adversely affected. This affect dissipates with distance from the mining operation. It is also noted that throughout the area, single family homes are in a declining market. The introduction of a perceived negative factor into this environment can have a stronger impact than if appearing in a

growth market where demand is more important. Taking all factors into consideration, it was concluded that properties located in a radius of 1 /4 mile from the Site (Figure 14), have a potential for some loss.

So, why would BRKW use 2006 and 2007 home sales comparables, when using current data would be more representative of today's market? Since the housing market is currently in decline you would expect a greater loss in property values. This greater impact should be analyzed in the DEIS to properly assess the impacts of the proposed mine on the Scandia residents. It should also be noted that the housing value decline is not expected to increase dramatically any time soon. This is even more reason to assess property value losses due to this proposed mine that the Scandia residents will suffer. If BRKW had intended on showing home sales comparables during market stabilization then the years of 2000 – 2001 would have been more appropriate.

Here is a Case Shiller home value study to show this:



In the mortgage profession where I have 32 years of experience, lending requires appraisers to use home sales comparables that have sold within six months to a year

in order to be a valid appraisal. We would never allow the appraiser to go back to a peak market and give us a value from that period when the market is not like that today.

In reviewing BRKW's use of old sales comparison data, so I discovered BRKW Appraisals had previously performed a property value study for Excel Energy in 2007 for a Fly Ash Landfill site in West Lakeland, MN, located on a Tiller owned property. This study was completed in 2007. They utilized home sales comparables from 2006 and 2007, which at that time were current comparables and at the peak of the market. I also discovered in reviewing this Fly Ash study that BRKW also used three of the same Comparables at the Rosemount Gravel Mine and all six of the same Comparables at the Andover Site, as they used in the Zavoral/Tiller study. Based on this information, it appears the 2007 Comparables were used to short cut the work needed to prepare a study for the Zavoral/Tiller mine rather than finding new recent home sales comparables and completing an accurate study. BRKW's Xcel Fly Ash study is attached to this review as addendum 1.

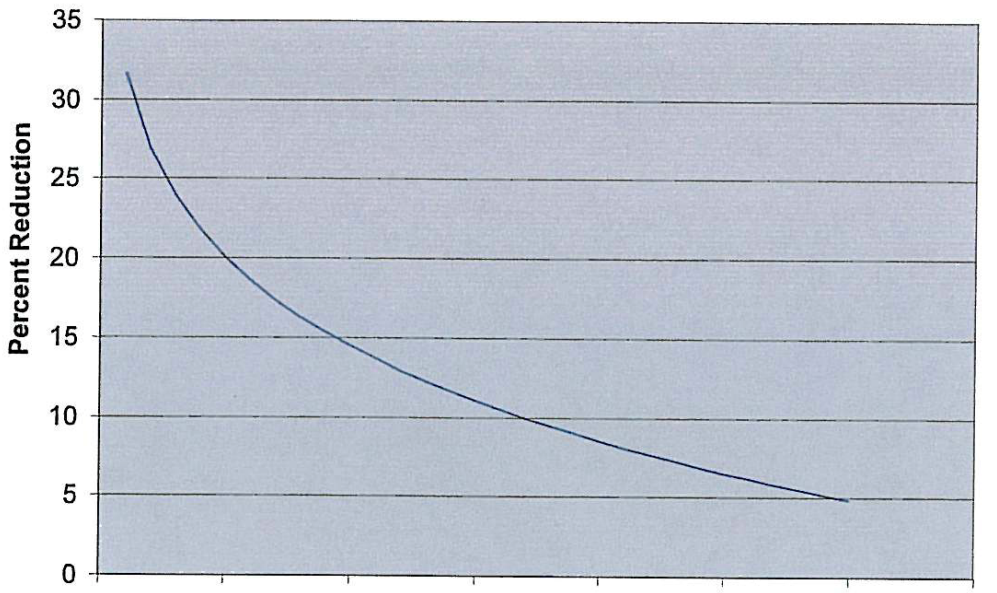
2. Property value study approach

BRKW used a matched pair comparable approach. They used four gravel mines and took two to three pairs of property comparisons per mine. They compared a property close to the mine and then one further away. This is a very small number of comparables to base their value loss from and is inconsistent with industry standards.

I have reviewed several property loss studies and looked at their property loss approach. I reviewed the Economic Impact of the proposed Stoneco Gravel Mine Operation on Richland Township, Michigan. George Erickcek from W.E. Upjohn Institute for Employment Research prepared this study. W.E. Upjohn Institute is an internationally recognized economic research organization. In his study he utilized the Hedonic pricing models. Hedonic pricing models use a statistical regression technique that allows for estimating the impact of one factor while holding the other factors impacting house value constant. He sites a Professor Diane Hite, an agricultural economist who has published widely in the area of property value impact analysis and has applied the hedonic pricing methodology to study the effects of a gravel mine on nearby residential values. She examined the effects of distance from a 250-acre gravel mine, on the sale price of 2,552 residential properties from 1996 to 1998. This model controls a large set of other factors such as rooms, square footage, lot size, age of home etc. so that she can focus solely on the effect of proximity to the gravel mine on house values. Here is the property value loss expected on residential property values that are impacted by this Gravel Mine.

Figure 1 displays the estimated effects of distance from the gravel pit on house price. A residential property located a half mile from the gravel mine would experience an estimated 20 percent reduction in value; one mile from the mine, a 14.5 percent reduction; 2 miles from the mine, an 8.9 percent reduction; and 3 miles from the mine, a 4.9 percent reduction. These estimates are similar to estimates published in academic journals on the effects of landfills on nearby property values.

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



The loss in property value results from the negative consequences of the mining operation and reflects the deterioration in the area's quality of life due solely to the operation of the gravel mine. In other words, the loss in house value is a way to quantify in dollars the deterioration in quality of life, as capitalized in the price of the house. It captures the price reduction the homeowner would have to offer to induce a new buyer to purchase the property. Even if homeowners do not move as a result of the gravel mine, they will lose homeowner equity as the potential sale price of their house is less.[6] Therefore, regardless of whether or not a person actually sells their property, it measures

[6] Only those owning property at the time of the establishment of the gravel mine would experience a loss in equity. Those purchasing property near an established mine would not experience an equity loss because any negative effects from the mine's operation would have been incorporated into the purchase price. By implication, few property owners near long-established mines could claim loss of property value from the mine because few would have owned the properties at the time the mine went into operation.

This study shows that that a ¼ mile from the Mine will have a 25% reduction in property value and three miles from the mine will have 5% reduction in property value. This is much larger than the BRKW study, where ¼ mile has a 2-5% value reduction. The Hite study is a far better prediction of the impact on the mine since it used 2,552 properties, compared to the BRKW study that used 22 properties. See addendum 2 for a copy of the study.

I also reviewed the Potential financial impacts of the proposed Rockfort Quarry that was completed by the Centre for Spatial Economics. They also sited the Diane Hite Study. Diane Hite has a PH. D. in Agricultural Economics from Ohio State University and is well known for her use of the Hedonic value loss method. See addendum 3 for the study.

I also spoke with several Twin City appraisers who were familiar with Diane Hite's study and use of the Hedonic method. The Diane Hite study was very extensive and included numerous properties for data. There was a consensus that the BRKW study did not collect near enough data to determine what the value loss would be and not enough different methods used to determine value loss. BRKW only used one method, the matched pair analysis. For the Diane Hite Study see addendum 4, Diane Hite's Curriculum Vitae see addendum 5 and the definition of the Hedonic pricing method see addendum 6.

If Scandia had value losses similar to the Diane Hite study, then homes in a three-mile radius would have a 5% property value loss, and a two mile radius would have an 8% value loss, and one mile radius would have 14% value loss, and ½ mile a 20% value loss, and a ¼ mile a 25% loss. See addendum 7.

The BRKW report shows that $12,886,000 is 2011's total market value for all of the properties ¼ mile from the mine. Only considering the area within a ¼ mile radius, the more accurate decrease in home value of 25% would cause a loss of $3,221,500 to Scandia residents and potential annual real estate tax loss would be $29,959. This loss is much greater when the larger radius of impact is considered.

3. BRKW's Market Analysis Inadequacies

When consulting with a local commercial appraiser, it was confirmed that in order to have an adequate Market analysis you must meet certain appraisal standards.

The USPAP (uniform standards professional appraisal practices) says that the scope of work must match the definition of the problem. Here is scope of work issues that should be addressed in an adequate appraisal:

1. Appropriate study should use small and large data methods or techniques.

2. Appropriate study should utilize outside experts.

3. The data should be verified.

4. Appropriate study should use alternative sources of information.

5. Has the appraiser visited all comparables?

6. How will qualitative factors be addressed?

7. Is the appraiser experienced in this type of work?

8. Is the scope of work adequate to arrive at a value conclusion that is reliable?

BRKW's study does not sufficiently address these issues.

BRKW compared a very small sampling of 22 home sales comparables compared to Diane Hite's study using 2,552 homes. BRKW only used a small data set analysis, which was the matched pair approach. An adequate appraisal would also use a large data set analysis such as the Hedonic method.

BRKW did not explain why the scope of the study was only a one-mile radius of properties and then also did not explain why it ended up with only ¼ mile radius of affected properties.

BRKW did not use a cross section of property values, such as a high priced home, middle range home, low valued home, large acreage properties, especially with Scandia having varied property types and values. The home sale comparables were all in the $200,000 - $300,000 range.

BRKW did not utilize recent home sale comparables within the last couple of years. They utilized 2006 and 2007 comparables from the peak of the housing market boom, which would show a decreased effect on value loss.

BRKW did not utilize home sale comparables from either the Scandia Mine area, located off of Lofton or the Franconia Mine area. Even if there were limited comparables available, this information should have been evaluated.

BRKW's study did not compare value reduction with the different mining time lines. Such as the 10-year, five- year and one- year proposed plan. For example, the one-year plan having increased truck traffic over the other plans could affect property values more but for a shorter period of time.

BRKW utilized mines located in Maple Grove, Rosemount, and Andover, which are very high density housing areas in a suburban setting. This is not at all comparable to Scandia's rural nature and their unique river front properties.

Conclusion

In summary: In my professional opinion, BRKW's Market Analysis is not adequate to determine value losses in Scandia due to the proposed Zavoral/Tiller mine. Nor does this Market Analysis meet all appraisal standards. BRKW acknowledges these problems in their conclusion where they state: "**Basically the analysis is inconclusive**". Their estimated value reduction of 2%-5% in a ¼ mile radius from the mine is arbitrary and is grossly inconsistent with available market information and industry research. Current information indicates that as a result of the mine,

there will be a home value reduction of 25% within ¼ mile of the mine and a 5% reduction as far as three miles from the mine. This represents a loss of millions of dollars to the residents of Scandia and has the potential to impose significant economic hardship on individual residents. All residents of Scandia deserve to have the real impact on their homes, farms and property values from the Tiller/Zavoral Mine fully and accurately analyzed in the EIS

Lisa Philippi – Scandia Resident