

Limestone, Sand & Gravel Assessments

- A. Assessments are based on the Net Present Value (NPV) of yearly royalty income being received and/or to be received by the mineral owner over the life of the quarry or mine.
- B. Producers report total tons of reserve per owner, the estimated life, the production during the last three years and royalty rate.
- C. If producer is also the mineral owner, the royalty is imputed based on local market. Due to the characteristics of a typical discount curve, maximum life is 15 years. If income is to be delayed for several years, NPV calculation is also offset for those years. NPV is calculated at a 17% discount (capitalization rate).

Example: Underground limestone mine reported have a 1.5 million ton reserve with a life of 15 years. Actual production for 2008 = 120,000 tons; 2007 = 105,000 tons; 2006 = 98,000 tons. A royalty of \$0.08/ton is paid to the owner of the minerals.

Assessment: $1.5 \text{ million tons} \div 15 \text{ years} = 100,000 \text{ tons per year}$ which is in line with reported production. $100,000 \text{ tons per year} \times \$0.08 = \$8,000/\text{year}$ cash flow to owner. NPV = assessment = \$42,593

	ROYALTY	TONS	FACTOR	ASSESSMENT
YEAR 1	\$ 0.08	100,000	0.854701	\$ 6,838
YEAR 2	\$ 0.08	100,000	0.730514	\$ 5,844
YEAR 3	\$ 0.08	100,000	0.624371	\$ 4,995
YEAR 4	\$ 0.08	100,000	0.533650	\$ 4,269
YEAR 5	\$ 0.08	100,000	0.456111	\$ 3,649
YEAR 6	\$ 0.08	100,000	0.389839	\$ 3,119
YEAR 7	\$ 0.08	100,000	0.333195	\$ 2,666
YEAR 8	\$ 0.08	100,000	0.284782	\$ 2,278
YEAR 9	\$ 0.08	100,000	0.243404	\$ 1,947
YEAR 10	\$ 0.08	100,000	0.208037	\$ 1,664
YEAR 11	\$ 0.08	100,000	0.177810	\$ 1,422
YEAR 12	\$ 0.08	100,000	0.151974	\$ 1,216
YEAR 13	\$ 0.08	100,000	0.129892	\$ 1,039
YEAR 14	\$ 0.08	100,000	0.111019	\$ 888
YEAR 15	\$ 0.08	100,000	0.094888	\$ 759
				\$ 42,593