



Sodium & Potassium Valuation Training



Industry Compliance



Accurate Revenues & Data



Professionalism & Integrity



OVERVIEW



- **Regulations and Guidelines**
- **Product Types**
- **Valuation Principles**
 - Arm's-Length Sales
 - Gross Proceeds
 - Transportation Allowance
 - Packaging Allowance
 - Non-Arm's-Length Sales
 - Secondary Products
 - Reagent Calculation (First Marketable Secondary Product)
- **Court Decisions**
- **Things to Remember**
- **Guidance**





REGULATORY AUTHORITY

30 CFR §1206.301



- Value basis for royalty computation
- Royalty value largely depends on the disposition of lease products:
 - Royalty on lease products sold under arm's-length conditions will be based on their sales prices.





REGULATORY AUTHORITY

30 CFR § 1206.301 (cont.)



- Royalty value for lease products:
 - sold under non-arm's-length conditions
 - sold for considerations in lieu of or in addition to sales price, or
 - consumed by lessee will be determined by an authorized officer.





REGULATORY AUTHORITY

30 CFR § 1206.301 (cont.)



Authorized officer **must** take into account:

- prices lessee receives for arm's-length sales
- --prices paid for like-quality commodities in area
- --other relevant factors.





COMMON LEASE TERMS



- Older leases (before 1980)
- 5% ad valorem royalty
- Gross output of the lease deposits
- At the point of shipment to market





COMMON LEASE TERMS



- Newer leases (after 1980)
- 5% ad valorem royalty
- Gross output of the lease deposits
- At the point of shipment to market and/or the place of consumption





GUIDELINES



- “Guidelines for Determining the Value to be Used to Compute Royalty on Federal Potassium and Sodium Leases”
- Assistant Secretary - Energy and Minerals
- 1977 Sodium and Potassium Valuation Guidelines





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PRODUCTS Terminology



- The products produced are termed as:
 - Primary Product
 - Secondary Product
 - First Marketable Secondary Product
 - Tertiary





PRODUCTS Primary



- Primary products include those products which are naturally occurring components of the ore or brine.
- Primary products are the first marketable products produced from processing the raw ore or brine without adding chemicals.
- Incompletely processed and refined products.





PRODUCTS

Reagents



- Reagent is defined as a chemical (or a component of a chemical) used in processing ore.





PRODUCTS Reagents



- If the product you produced first from your ore contains a reagent that first marketable product is a secondary product.
- The valuation of a first marketable secondary product differs from the valuation of other secondary products.





PRODUCTS Secondary



- When a primary product undergoes chemical processing and is used to make another saleable compound, the result is a secondary product.
- If a secondary product is consumed to make another saleable compound, the result is a tertiary product.





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VALUATION PRINCIPLES

Primary products



- Primary products include those products which are naturally occurring components of the ore or brine.
- Primary products are the first marketable products produced from processing the raw ore or brine without adding reagents that end up in marketed product.
- Other primary products may be unprocessed or incompletely processed products.





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VALUATION PRINCIPLES

Primary products--A-L sales



- Royalty on primary products will be based on gross value of primary product sales.
- Gross value of primary products sold by lessees will be contract value of products sold under arm's-length conditions, f.o.b. mine.





VALUATION PRINCIPLES

Primary products--A-L sales



- Value for royalty purposes will be sales or contract unit price (f.o.b. mine) times number of units sold.





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VALUATION PRINCIPLES

Primary products-gross proceeds



- Value for royalty purposes may not be based on less than gross proceeds accruing to lessee for primary products sold.
- Gross proceeds is defined as total moneys and other consideration accruing to lessee for disposition of primary products.





VALUATION PRINCIPLES

Primary products-gross proceeds



- If sales value includes considerations other than sales price, those considerations are part of gross proceeds.
- Dollar equivalent value of those considerations must be included in gross value for royalty purposes.





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VALUATION PRINCIPLES

Primary products--transportation



- Where sales or contract price includes cost of transporting product from mine to distant sales point, lessee will be permitted transportation deduction.





VALUATION PRINCIPLES

Primary products--example



- 800 tons bulk ash @ \$80/ton (weighted average), at mine
- 300 tons bulk ash @ \$98/ton, at dest. \$16/ton out-of-pocket transportation cost
- Royalty values:
 - 800 tons bulk ash @ \$80/ton, at mine
 - 300 tons bulk ash @ \$82/ton, at mine





VALUATION PRINCIPLES

Primary products--transportation



- No transportation allowance is permitted for cost of transporting ore from mine to processing plant.
- Under no circumstances reported sales price less permitted transportation costs be less than average gross value of specific product, f.o.b. mine.





VALUATION PRINCIPLES

Primary products--example



- 2500 tons bulk ash @ \$80/ton (w. a.), at mine
- 300 tons bulk ash @\$94/ton, at dest. \$16/ton transportation cost = \$78 f.o.b. < \$80, use \$80/ton
- 200 tons bulk ash @\$98/ton, at dest. \$16/ton transportation cost = \$82/ton, at mine
- Royalty Value:
 - 2500 tons bulk ash @ \$80/ton, at mine
 - 300 tons bulk ash @ \$80/ton, at mine
 - 200 tons bulk ash @ \$82/ton, at mine





VALUATION PRINCIPLES

Primary products--transportation



- On the P&R form, we require reporters to include the allowed transportation cost.





VALUATION PRINCIPLES

Primary products--transportation



- Example:
 - 200 tons bulk ash @ \$80/ton (w. a.), at mine
- 200 tons bulk ash @ \$86/ton, at dest. \$8/ton transportation cost = \$78 f.o.b. < \$80, use \$80/ton
- 400 tons bulk ash @ \$89.5/ton at dest. \$11/ton transportation cost = \$78.5 f.o.b. < \$80, use \$80/ton





VALUATION PRINCIPLES

Primary Products --- example, cont



- Gross proceeds (f.o.b. mine) = 200 tons x \$80/ton = \$16,000
- Gross Proceeds (@ dest.)= 200 tons x \$86/ton = \$17,200
- Transportation Cost = 200 tons x \$6/ton trans. cost = \$1,200
- Gross proceeds (@ dest.) = 400 tons x \$89.5/ton = \$35,800
- Transportation cost = 400 tons x \$9.5/ton trans. cost = \$3,800
- Sum on P&R
- Tons sold = 800, Gross proceeds = \$69,000
- Transportation cost = \$5,000
- Royalty = (\$69,000 - \$5,000) x .05 = \$3,200





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VALUATION PRINCIPLES

Primary products--allowances



- Packaging allowances:
- For primary products sold in packages (bags, drums), a packaging allowance will be granted.
- Allowance is equal to the difference of packaged and bulk sales values.
- To compute royalty, use the tonnage of packaged product sold and the weighted average unit price of the same product sold in bulk form, f.o.b. mine.





VALUATION PRINCIPLES

Primary products--allowances



- If lessee has no or insignificant A-L bulk sales, royalty value will be based on packaged sales price less packaging costs.
- In the case of insignificant bulk sales, that royalty value can be no less than the calculated value using the unit price received for same product sold in bulk form.





VALUATION PRINCIPLES

Primary products--allowances



- On the P&R form, reporters enter the total actual or computed allowable packaging cost. The entry is made in the Processing Cost box.
- The system will compute the packaging allowance by lease.





VALUATION PRINCIPLES

Primary products--allowances



- If the lessee tracks actual packaging costs, he can request that ONRR approve his claiming packaging allowances based on those actual costs (AL or NAL).
- Royalty will be based on packaged sales price less actual packaging costs.





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VALUATION PRINCIPLES

Primary products--NAL sales



- Primary products may also be:
 - sold under NAL conditions
 - consumed internally by lessee.
- Generally, royalty value will be based on sales price lessee receives in comparable arm's-length sales.
 - Use the weighted average of all AL sales of the same product.
- Gross proceeds comparison.





VALUATION PRINCIPLES

Primary products--NAL sales



Application of gross proceeds comparison:

- If the NAL f.o.b. mine price is less than the lowest comparable AL f.o.b. mine price of the same product, use the weighted average of all AL sales for computing royalty.
- If the NAL f.o.b. mine price is equal to or greater than the lowest (within the range or higher) of comparable AL f.o.b. mine prices of the same product, use the NAL f.o.b. mine price for computing royalty.





VALUATION PRINCIPLES

Primary products--NAL sales-example



- You sold AL f.o.b. mine
- 200 tons @ \$80/ton = \$16,000
- 300 tons @ \$86/ton = \$25,800
- 500 tons @ \$92/ton = \$46,000
- Weighted average \$87.8/ton





VALUATION PRINCIPLES

Primary products--NAL sales-example



- You sold NAL f.o.b. mine
- 400 tons @ \$75/ton < \$80 use \$87.8
- 200 tons @ \$79/ton < \$80 use \$87.8
- 100 tons @ \$82/ton > \$80 use \$82
- 300 tons @ \$96/ton > \$80 use \$96





VALUATION PRINCIPLES

Primary products—NAL (Inter. Cons.)- example



- What is the royalty value of soda ash consumed internally by the lessee?
- His arm's-length sales are:
 - 100 tons bulk ash @ \$80/ton, at mine
 - 200 tons bulk ash @ \$98/ton, at dest. \$16/ton out-of-pocket transportation cost = \$82/ton at mine





VALUATION PRINCIPLES

Primary products—NAL (Inter. Cons.)- example



- Answer: based on arm's-length sales royalty value
- Royalty values:
100 tons bulk ash @ \$80/ton, at mine 200 tons bulk ash @ \$82/ton, at mine
- AL sales weighted average is \$81.33/ton





VALUATION PRINCIPLES

Primary products—NAL (Inter. Cons.)- example



- If lessee makes insignificant or no arm's-length sales of a particular product, use the regional weighted average sales value, provided by ONRR, to calculate royalties for that product.
- If the NAL sales price is higher, use the NAL sales price.





VALUATION PRINCIPLES

Domestic and Foreign Sales



- Same valuation rules
- Separate and equal:
 - Use averages of only domestic sales to value other domestic sales
 - Use averages of only foreign sales to value other foreign sales





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VALUATION PRINCIPLES

Processing products to higher grades



- When first marketable primary product undergoes supplemental treatment or additional refining to produce higher grades or different particle sizes of same compound, resulting product is also considered primary.
- If conditions warrant, and at ONRR' discretion, ONRR may permit you to value the product at its original (lower grade) price.
- First Marketable secondary product further treated as above and sold will be valued at its sales price.





VALUATION PRINCIPLES

Secondary Products



- When the first marketable product is produced with the use of a reagent, the product is a secondary product.
- When a primary product undergoes chemical processing and is used to make another saleable compound, the result is a secondary product. I.e. not a first marketable secondary product.





VALUATION PRINCIPLES

Secondary prods.--royalty values



Royalty on secondary products, produced from primary products, will be based on:

- tonnage of primary product consumed to produce the secondary product sold
- sales price of primary product consumed to produce secondary product sold.





VALUATION PRINCIPLES

Secondary prods.--royalty values



- Royalty value equals:
- $T_s / Ef_s \times Cf \times P_p$ where
- T_s = Secondary product tons sold
- Ef_s = Secondary product process efficiency factor
- Cf = Molecular weight conversion factor between primary and secondary products
- P_p = Weighted average price of primary product





VALUATION PRINCIPLES

Secondary prods.--royalty values



- Molecular weight conversion factor:

MW primary product consumed

MW secondary product produced

- Expl: Soda ash is used to make TSP(trisodium phosphate)



- $2 \text{ MW Soda ash} / \text{MW TSP} =$
 $2 \times 105.989 / 265.904 = 0.797$





VALUATION PRINCIPLES

Secondary prods.--royalty values



➤ Example: 100 tons of TSP

- $Ef_s = 98.9\%$
- $P_p = \$70/\text{ton}$
- $Cf = 0.797$
- $RR = 5\%$

➤ $Roy = (100 / 0.989) \times .797 \times 70 \times .05$
 $Roy = \$282$





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VALUATION PRINCIPLES

First Marketable Secondary Products--Reagents



- Products may be produced with or without use of lessee introduced reagents.
- Reagent is defined as a chemical (or a component of a chemical) used in processing ore.
- If the reagent becomes part of a marketed product, product is termed secondary.





VALUATION PRINCIPLES



First Marketable Secondary Products--Reagents

- If the reagent becomes part of a marketed product, we grant lessee royalty deductions (reagent allowances) for value of reagent.
- However for reagent allowance to be permitted, elements of reagent may not occur naturally in ore in same or greater quantity as in product sold.





VALUATION PRINCIPLES

First Marketable Secondary products-Reagent allow.



➤ Value and weight:

--Reagent value is the actual cost of the reagent.

--Weight of reagent used in determining reagent allowance is weight of reagent entering product sold or consumed, not weight of reagent used by lessee.





VALUATION PRINCIPLES

First Marketable Secondary products-Reagent
allow



➤ *Example: sodium bicarbonate*

- *2 trona ---> 3 soda ash + 1 CO₂ + 5 H₂O*
- *3 soda ash + 3 H₂O + 3 CO₂ --->6 bcarb*
- *$\frac{\text{Molecular Weight } 2 \text{ CO}_2}{\text{Molecular Weight } 6 \text{ bicarb}} = 0.175$*





VALUATION PRINCIPLES

First Marketable Secondary products-Reagent
allow



- Example: sodium bicarbonate (cont.)
- If you produced: 100 tons Sodium Bicarbonate
- You added: 17.5 tons of CO₂





VALUATION PRINCIPLES

First Marketable Secondary products-Reagent allow



- Example: sodium bicarbonate (cont.)
- Product royalty:

100 tons of sodium bicarbonate at
\$140/ton, and 17.5 tons CO₂ at \$40/ton
5% royalty rate

Roy = [(tons SB x price – tons CO₂ x price)] x royalty rate

Roy = [(100x140) – (17.5 x 40)] x .05 = \$665





VALUATION PRINCIPLES

First Marketable Secondary products-Reagent allow



- Except for reagent allowances, no other processing deductions may be claimed for the cost of producing first marketable products.





VALUATION PRINCIPLES Allowances



- Sodium/Potassium – lessees only permitted to deduct cost of transporting lease production, not the reagent component of product sold.
- Similarly, the rules limit packaging deduction to cost of packaging lease materials, not reagent component of product sold.





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VALUATION PRINCIPLES

Court Cases



Court Decisions





VALUATION PRINCIPLES

Precedent Setting Decisions



- U.S. v. Southwest Potash Corp.
 - sold unprocessed ore to another potash producer who produced finished product
 - Southwest Potash paid royalties on value of unprocessed ore
- Issue: What is the correct royalty value?
- Decision: Royalty value must be the same as if Southwest Potash had produced the finished product





VALUATION PRINCIPLES

Southwest Potash Decision (cont)



- Based on lease and statute provisions:
 - Secretary of DOI may establish minimum values, taking into consideration like quality products from the same general area.
 - Royalty is due on output of the lease at the point of shipment to market.





VALUATION PRINCIPLES

Southwest Potash Decision (cont)



- Market provision carries with it the implied requirement that lessee must place leased mineral in marketable condition at no cost to lessor
- There is a difference between marketing and merely selling; marketing requires a clearly defined market for the product





VALUATION PRINCIPLES

Precedent Setting Decisions



- IBLA decision 79-205, FMC Corp.
 - consumed soda ash to make a secondary product
 - soda ash was not a finished product when it was consumed; it was in slurry form
- Issue: What is the correct royalty value?
- FMC wanted the royalty value to be based on a price less than soda ash.





VALUATION PRINCIPLES

FMC Corp-IBLA Decision (cont.)



- Decision: same value as finished soda ash.
- IBLA decided royalty should be based on the customary product sold to the marketplace--soda ash.
- To base royalty on value less than soda ash price would be granting a processing allowance.





VALUATION PRINCIPLES

FMC Corp-IBLA Decision



- IBLA decision 96-170 FMC
 - consumed purified sesquicarbonate solution to produce sodium bicarbonate (SB).
- Issue: what is the correct royalty value for SB.
- FMC wanted the royalty value to be based on the price of soda ash.





VALUATION PRINCIPLES

FMC Corp-IBLA Decision, cont.



- Decision: Sales value of SB with reagent allowance.
- IBLA decided that SB is a first marketable secondary product and its royalty value is equal to the SB price minus the value of the reagent entering the product sold.





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SUMMATION AND RULES OF THUMB—Things to look for



- AL prices are generally
 - all bulk sales prices, f.o.b. mine
 - all bulk prices at destination (minus allowable transportation deduction)
 - all sales through ANSAC (foreign sales)
- NAL prices are generally
 - all sales to affiliates





SUMMATION AND RULES OF THUMB--Things to look for



- Bagged products--royalty price may not be less than bulk price, except when you use actual bagging costs.
- Destination sales price--royalty price may not be less than f.o.b. mine price.
- Make sure royalty is paid on losses of inventory stored at remote sites.





SUMMATION AND RULES OF THUMB--Things to look for



Timing of royalty payments

- Monthly royalties on primary and secondary products are due no later than month following month primary or secondary product was sold.





SUMMATION AND RULES OF THUMB--Things to look for



- Secondary products
 - make sure conversion efficiencies and molecular weight factors are used.
- Lessee sales within partnerships and joint ventures:
 - are generally NAL sales.





SUMMATION AND RULES OF THUMB--Things to look for



- Under the P&R, AL and NAL sales are not distinguished.
- Sales Summaries should clearly define AL and NAL sales.
- Companies' Royalty Computation Worksheets should also clearly define AL and NAL sales, foreign and domestic.





SUMMATION AND RULES OF THUMB--Things to look for



- NAL sale royalty values
 - making the gross proceeds comparison
 - Compare sales of the same product under comparable contracts.
 - Compare each NAL sale with the range of AL values for the same product under comparable contracts.





SUMMATION AND RULES OF THUMB--Things to look for



- NAL sale royalty values--using an AL value,
--make sure that foreign and domestic sales are treated separately.





SUMMATION AND RULES OF THUMB--Things to look for



- NAL sale royalty values--using an AL value
--prices to use to compute weighted average AL price are generally:
 - all bulk sales, f.o.b. mine
 - all bulk sales at destination (transportation deduction)
 - all packaged sales: bulk price
 - all sales through ANSAC (for foreign sales).





SUMMATION AND RULES OF THUMB--Things to look for



NAL sales:

If the lessee has no or insignificant AL sales, ONRR will have to develop a valuation method, possibly taking into account:

- regional sales values, and
- actual packaging costs.





SUMMATION AND RULES OF THUMB--Things to look for



Non deductible expenses:

Items of expense specifically non-deductible for royalty computation are:

- analysis charges
- demurrage within the control of the lessee
- sales commissions, and
- tariffs.





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VALUATION GUIDANCE



Who: Royalty Valuation

What: Non-binding, consistent, supported by case law, statute, and regulations, case specific

When: Ideally before you are contacted by ONRR compliance teams

Where: royaltyvaluation@onrr.gov

Why: Timely and in-depth knowledge of regulations & policy, includes cites to case law & regulations, case specific

How: Email (preferred), phone call, letter





CONTACT INFORMATION



Questions? Contact ONRR Royalty Valuation:
royaltyvaluation@onrr.gov

