The DME provides mineral evaluations for the Department’s bureaus and offices. When requested by other OVS Client Service Offices, DME evaluates mineral potential, minerals contributory value to the estate valued, prepares value schedules, provides mapping or other property descriptions, or identifies potential fractionated estates.

**Mineral Evaluation for Leases or Sales**
- Determine mineral values related to the whole property for land tenure adjustment activities and/or appraisals: sale, acquisition, exchange
- Determine Minerals - in place
- Market Studies

**Market Studies**

The mission of the Office of Valuation Services is to provide independent professional real property valuation services to DOI and in an efficient, timely, and fiscally responsible manner in accordance with the highest professional and ethical standards.

The mission of the Division of Minerals Evaluation is to provide unbiased information through mineral assessments and market analyses as they pertain to the role of minerals in Federally managed and entrusted lands. This information and methodologies either stand alone or support the appraisal process.

**Mineral Commodity:**
- the mineral itself,
- is in direct correlation to the geology,
- severable & saleable.

**The Economic Viability Of The Commodity Depends On:**
- how it measures against other similar deposits in the geographical and mineral market areas,
- its specific influence on a resource, the resource area, and the markets impacting its value (filters).

Evaluate mineral commodities & mineral markets by:
- geological analyses,
- well-supported industry standards and standardized data,
- mineral economics,
- mining & petroleum engineering,
- area-wide analyses,
- minerals market participants, and
- well-supported science and resource filters.

Use and maintenance of geologic data from academia, as well as from county, state and federal sources.
FILTERS
- Geologic
- Geographic (ie. distance to markets)
- Market trends
- Technological
- Environmental
- Cultural
- Wildlife
- Legal Restrictions/Permit requirements
- Size of deposit
- Size of mining operation
- Surface and/or subsurface encumbrances
- Infrastructure (ie. water sources, roads, electricity)

DMF Evaluates Minerals, Mining Operations
- Ask an Appraiser: "What’s the value of the property rights being appraised?"
- Ask a Geologist, Mining/Petroleum Engineer/Mineral Economist: "What is the viability and/or marketability; what is the market value of the minerals?"
  - Geology + Income Approach: derive DCF (income and/or royalty stream)
  - Geology result: compare with other deposits
  - DCF result: compare with others in the mineral markets
For the Appraiser: "Does the mineral commodity(s) or mining operations (potential and existing) impact the appraiser’s H&B? If so, how?"

Evaluations/analyses support the appraiser’s process

Requires Minerals Experts:
- Mineral Economists / Geologists / Mining and Petroleum Engineers
Combines And Synthesizes All Available Information Within Their Field Of Expertise:
- GIS / Mineral Markets / Geologic Data / Exploration / Mining / Mineral Economics / Mineral Markets
Includes Complex:
- Evaluations / Interpretations / Determinations Of Viability And Marketability Of Mineral Sources

DMF PRODUCTS
- Due Diligence Reporting:
- Mineral and Geologic Evaluations/Mineral Economic Valuations (ie. Area-wide or site specific through cash flows, NPV’s, Regression analyses):
- Consultations:
- Coordinated marketing efforts/products with appraisers:
- MOU’s between agency and OME, i.e., GSA:
- Contracting: Request For Proposals (RFP) for OME review for approval, or identify discrepancies, errors:
- Mineral viability for development.

Stages of Analysis
- Stage 1 evaluations to determine existence
  Determine probable or known viability.
- Stage 2 evaluations to determine development feasibility, risks and benefits/marketability.
- Stage 3 evaluations are complex products requiring in-depth analyses & determinations from environmental considerations/detailed market analyses/relationships to the current mineral market/present market value (site specific).
- Appraisers may use any stage of analysis to assist in their processes; stage 3 may assist appraisers in determining H&B.

DME CLIENTS
- OVS and Contract Appraisers/Contract Geologists and Engineers
- BIA, FWS, BLM, BOR, NPS Land Managers/ Realty Staff, Mining/Petroleum Engineers & Geologists
- Office of Special Trustee, Office of Appraisal Services, Office of Hearings and Appeals
- External Agencies, i.e., GSA, FS
An Asset to the Appraiser

DME Experts: understand mineral commodities and related markets to provide appraisers defensible support for their final HBU and FMV of the WHOLE PROPERTY.
It's Your Responsibility!
PREVENT SUMMATION VIOLATIONS

- Client request: surface only appraisal
- Mineral estate ownership not defined
- Appraisal excluded mineral interests

The result:
- Private landowner retained mineral ownership
- NPS purchased surface for Park expansion
- Mineral estate owner notified NPS of interest to develop sand and gravel
- NPS purchased mineral estate after surface estate to prevent development = paid for surface rights + subsurface rights = SUMMATION = Windfall Profit!

Surface Minerals
- A portion of property held petrified wood (PW) deposits. Severable/saleable commodity?
- Appraiser requests solicitor opinion of PW to the surface or mineral estate.
- Solicitor opines on mining law. What is the correct law to review?
- No mineral expertise requested = appraiser completed the assignment based on erroneous opinion.
- AZ law is specific: PW is a leasable mineral.
- Appraiser identified PW as Common source of commodity supply
- Geology data/maps demonstrate petrified wood locations - reveal only a portion of subject lands contain PW:
  - All parcels valued for PW, $100/acre.
- Gross overpayment occurred without acquiring the mineral estate
- Agency Decision: Purchase mineral estate, separate from the surface purchase.

RESULT: Agency OVERPAYS = windfall profit to private party

SURFACE vs. SUBSURFACE MINERALS, ask questions,... DME can answer
- Minerals part of the surface estate?
- How does it affect the surface estate?
- How does the surface affect the minerals attached to it?
- Severable/Saleable?
1. Donated surface: FWS
   Expected low mineral development risk.
2. Mining company threatened managers to develop minerals.
3. FWS contacts DME.
4. Result of analysis and subsequent meeting: DEVELOPMENT RISK - LOW
5. FWS called mining company’s bluff.
6. Result: no development occurred.

CONSULTATION WITH DME WORKS

Contact DME on Mining Claims
Patented or unpatented

- Variations in geological formations.
- Variations in the actual deposits.
- Variations of quality of the deposits.
- Commodities in question, i.e. disseminated or vein types
- Distances to Markets

QUESTIONS??