TABLE OF CONTENTS

FOREWORD 1
CHAPTER 1: INTRODUCTION TO FAIR MARKET VALUE (FMV) EVALUATIONS 3
1.1. PURPOSE 3
1.2 AUTHORITY FOR MINERAL MATERIALS DISPOSAL AND COST RECOVERY FEES 3
1.2.1 MINERAL MATERIALS DEFINITION 3
1.2.2 MINERAL MATERIALS AUTHORITY 4
1.2.3 COST RECOVERY 4
1.3 FAIR MARKET VALUE DETERMINATION 5
1.3.1 DEFINITION 5
1.3.2 DUTIES OF THE MINERAL SPECIALIST 5
1.3.4 EVALUATION TYPES 6
1.4 THE FMV DETERMINATION PROCESS 7
1.4.1 COMPARABLE SALES MARKET APPROACH 9
1.4.2 PURCHASE PRICE AS A PERCENT OF RETAIL SALES PRICE APPROACH 9
1.4.3 INCOME APPROACH 9
CHAPTER 2: CONFIDENTIALITY 9
2.1 TRANSPARENCY 9
2.2 GENERAL REQUIREMENTS 10
2.3 THE MATERIALS ACT of 1947, AS AMENDED 11
2.4 MINERAL MATERIALS SALES CONTRACT FORMS 11
2.5 PENALTIES FOR THE UNAUTHORIZED RELEASE OF PROPRIETARY OR CONFIDENTIAL BUSINESS INFORMATION AND VIOLATION OF THE TRADE SECRETS ACT 12
2.6 FOIA AND CONFIDENTIAL PROPRIETARY INFORMATION 12
2.7 SECURITY 13
2.8 CHAIN OF CUSTODY 13
CHAPTER 3: CONTRACTING A FMV EVALUATION 17
3.1 DECIDING ON A CONTRACT 17
3.2 STATEMENT OF WORK (SOW) 17
3.3 CONTRACT RESPONSIBILITY 18
3.3.1 HIGH VOLUME SALES 18

3.4 TECHNICAL ANALYSIS FOR BIDS 18
3.5 PRE-PERFORMANCE MEETING 19
3.6 CONTRACT MODIFICATION 19
3.7 RECEIPT AND REVIEW OF COMPLETE REPORT 19
CHAPTER 4: CONDUCTING A FMV EVALUATION 20
4.1 OFFICE PREPARATION 20
4.2 LAND/MINERAL OWNERSHIP DETERMINATION 20
4.3 ACCESS 20
4.4 LAND USE PLAN 20
4.5 PHOTOGRAPHS 20
4.6 DATA CHECKLIST 21
4.7 LITERATURE REVIEW 21
4.8 COMPARABLE SALES DATA 21
4.8.1 FIELD DATA COLLECTION 21
4.8.2 COMPARABLE SALES DATA SHEET 22
4.8.3 DATA VERIFICATION 23
4.8.4 DATA PRESENTATION 23
CHAPTER 5: FIELD EXAMINATION OF THE PROPOSED MINERAL MATERIALS SITE AND COMPARABLE DISPOSAL SITES 24
5.1 ACCESS ROUTES 24
5.1.1 ROAD TYPE 24
5.1.2 RESTRICTIONS AND OBSTACLES 24
5.1.3 COMPARABILITY 24
5.2 MINERAL MATERIALS SITES 24
5.2.1 LOCATION 24
5.2.2 TOPOGRAPHY AND GEOLOGY 25
5.2.3 CLIMATE 25
5.2.4 LAND USE 25
5.2.5 MATERIAL DATA 25
5.2.6 PHOTOGRAPHS, MAPS AND SKETCHES 26
5.2.7 SAMPLING 26

5.2.8 TRANSACTION TERMS 27
5.2.9 USE OF COROLLARY EXTERNAL GEOGRAPHIC AREAS FOR COMPARABLES 27
6.1 GENERAL GUIDANCE 28
6.2.1 ANNUAL REVIEW 31
6.2.2 ADJUSTMENTS TO THE EVALUATION PRICES USING PRODUCER PRICE INDEX 32
6.3 HOW TO PERFORM AN UPDATE FOR AN AREA-WIDE MARKET STUDY 34
CHAPTER 7: EVALUATION METHODS 36
7.1 HOW TO CHOOSE THE RIGHT METHOD 36
7.2 MARKET DATA METHODS 36
7.2.1 COMPARABLE SALES APPROACH 36
7.2.2 PURCHASE PRICE AS A PERCENT OF RETAIL SALE PRICE APPROACH 38
7.3 INCOME APPROACH 39
7.3.1 COMPONENTS OF THE DCF ANALYSIS 39
7.3.2 DISCOUNT RATES 45
7.3.3 USING DCF TO ESTIMATE FMV 45
7.3.4 LIMITATIONS OF THE INCOME APPROACH 45
7.4 RECONCILITATION IF MORE THAN ONE METHOD IS USED 45
CHAPTER 8: WRITING A FMV NARRATIVE EVALUATION REPORT 47
8.1 INTRODUCTION 47
8.1.1 TITLE PAGE 47
8.1.2 TABLE OF CONTENTS 47
8.1.3 LIMITING CONDITIONS AND ASSUMPTIONS 47
8.2 SITE DATA 47
8.2.1 PURPOSE 47
8.2.2 SITE DESCRIPTION 48
8.2.3 REGIONAL GEOLOGY 48
8.2.4 GENERAL LAND USE TRENDS OF THE AREA 48
8.2.5 SITE DATA 48
8.3 DATA COLLECTION AND METHODS 48
8.3.1 CONFIDENTIALITY STATEMENT 48

8.3.2 DATA COLLECTION FOR COMPARABLE APPROACH 48
8.3.3 DATA COLLECTION FOR A PERCENT OF RETAIL SALES PRICE APPROACH 48
8.3.4 DATA COLLECTION FOR THE INCOME APPROACH 49
8.3.5 EVALUATION DATA OBSERVATIONS 49
8.4 EVALUATION AND ANALYSIS 49
8.4.1 EVALUATION METHODS 49
8.5 SUMMARY AND CONCLUSIONS 49
8.5.1 RECONCILIATION 49
8.5.2 SUMMARY AND CONCLUSIONS 49
8.6 UPDATE TO THE REPORT 50
8.6 REFERENCES 50
8.7 EXHIBITS OR ADDENDA 50
8.7.1 GENERAL LOCATION MAP 50
8.7.2 MATERIAL SITE COMPARABLE DATA MAP 50
8.7.3 SUBJECT PHOTOGRAPHS 51
8.7.4 GEOLOGIC MAP 51
8.7.5 COMPARABLE DATA 51
8.7.6 OTHER PERTINENT DATA OR EXHIBITS 51
CHAPTER 9: WRITING A SHORT FORM EVALUATION REPORT 53
9.1 TITLE PAGE 53
9.2 INTRODUCTION 53
9.2.2 PURPOSE 53
9.2.3 SITE DESCRIPTION 54
9.2.4 REGIONAL GEOLOGY 54
9.2.5 LAND USE TRENDS, REASONABLE FORESEEABLE DEVELOPMENT 54
9.2.6 SITE DATA 54
9.3 DATA COLLECTION AND METHODS 54
9.3.1 CONFIDENTIALITY STATEMENT 54
9.3.2 DATA COLLECTION FOR COMPARABLES APPROACH 54
9.3.3 DATA COLLECTION FOR A PERCENT OF RETAIL SALES PRICE APPROACH 54

9.4 EVALUATION AND ANALYSIS 55
9.4.1 EVALUATION METHODS 55
9.5 SUMMARY AND CONCLUSIONS 55
9.5.1 RECONCILIATION 55
9.5.2 SUMMARY AND CONCLUSION 55
9.6 REFERENCES 56
CHAPTER 10: REVIEW, APPROVAL AND DISTRIBUTION OF REPORTS 57
10.1 TECHNICAL REVIEW OF SHORT FORM REPORTS 57
10.2 TECHNICAL REVIEW OF NARRATIVE REPORTS 57
10.3 QUALIFICATIONS OF THE REVIEWER 57
10.4 TECHNICAL REVIEW PROCESS 58
10.5 LIMITATIONS OF THE REVIEWER 58
10.6 RESOLVING THE DIFFERENCES BETWEEN THE MINERAL SPECIALIST AND THE TECHNICAL REVIEWER 59
10.7 DME TECHNICAL REVIEW PROCESS 59
10.8 MANAGEMENT ACKNOWLEDGEMENT 59
10.9 EVALUATION REPORT DISTRIBUTION 60
REFERENCES 61
GLOSSARY 62
ILLUSTRATION 1: DERIVATION OF SALES RATIO AS A PERCENT OF RETAIL SALES PRICE METHOD. **69**
ILLUSTRATION 2A: MINERAL MATERIALS COMPARABLE SALES DATA SHEET (Blank) **70**
ILLUSTRATION 2B: MINERAL MATERIALS COMPARABLE SALES DATA SHEET (Sample) **71**
ILLUSTRATION 3A: FORM 3060-1, MINERAL REPORT (Blank) **72**
ILLUSTRATION 3B: FORM 3060-1, MINERAL REPORT (Sample) **73**
ILLUSTRATION 4A: FORM 3600-009 CONTRACT FOR THE SALE OF MINERAL MATERIALS **74**
ILLUSTRATION 4B: FORM 3600-009 CONTRACT FOR THE SALE OF MINERAL MATERIALS **75**
ILLUSTRATION 4C: FORM 3600-009 CONTRACT FOR THE SALE OF MINERAL MATERIALS **76**
ILLUSTRATION 5: Form 3603-10 MINERAL MATERIAL NONEXCLUSIVEE CASH SALE CONTRACT **77**
ILLUSTRATION 6A: FORM 3604-1a FREE USE PERMIT APPLICATION **78**

ILLUSTRATION 6B: Form 3604-1a FREE USE PERMIT **79**
ILLUSTRATION 7: MINERAL MATERIALS DISPOSALS – BASIC ELEMENTS **80**
ILLUSTRATION 8: EXAMPLE OF A COMPARISON SUMMARY CHART (Percentage Method) **81**
ILLUSTRATION 9: EXAMPLE OF A COMPARISON SUMMARY CHART (Bracketing Method) **82**
ILLUSTRATION 10: EXAMPLE OF A DISCOUNTED CASH FLOW (DCF) ANALYSIS **83**
APPENDIX 1 – STATEMENT OF WORK TEMPLATE FOR MINERAL MATERIALS EVALUATION PROCESS **84**
APPENDIX 2: CHECKLIST FOR EVALUATION DATA ACQUISITION 91

FOREWORD

The Bureau of Land Management (BLM) is responsible for managing approximately 246 million acres of public lands in addition to 57 million acres of split estate lands with Federal minerals located in 28 States.

As part of its management of mineral resources on public lands, the BLM is responsible for maintaining a mineral materials disposal program which includes: determining the Fair Market Value (FMV) of all mineral materials identified for disposal and obtaining payment in an equitable and timely manner for all materials removed from Federal lands managed by the BLM. **For the purposes of meeting BLM's mineral materials evaluation requirements, the FMV in this Handbook serves as the basis for the BLM to determine the sale/purchase price owed by a purchaser for the mineral materials that BLM is selling under a sales contract, expressed as a fixed dollar payment for each unit of material produced.**

Achieving this management goal requires an integrated system of contract authorizations, inspection of the operations, verification of production and payments reported by purchasers, enforcement of contract terms, and trespass detection and investigation to assure that existing or ongoing trespass will be found, damages recovered, and losses to the government kept to a minimum.

There are two categories of mineral materials disposals for numerous types of mineral materials commodities: authorized and unauthorized. Authorized disposals include sales contracts (competitive, noncompetitive, and nonexclusive) and free use permits. Unauthorized disposals include overproduction from authorized contract sites and removal of materials from unauthorized sites.

The mineral materials program involves disposals under various situations. Disposal amounts range in size from a single truck load of material in one day to major mining operations involving tens of millions of cubic yards of material over decades.

In order to determine the FMV for a specific commodity, different types of analyses can be performed.

Area-wide market studies are performed to evaluate FMV for multiple disposals from multiple sites within a prescribed geographic administrative area, such as a District or Field Office.

Individual analyses are performed to determine FMV for large, higher value disposals, potentially controversial activities, litigation, large competitive sales or trespass resolution. Reports of the analyses are prepared for the administration of disposing mineral materials. If a circumstance arises that is unique to a particular situation, **any variation of the procedures outlined in this Handbook must be thoroughly documented and justified.**

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CHAPTER 1: INTRODUCTION TO FAIR MARKET VALUE (FMV) EVALUATIONS

1.1. PURPOSE

The purpose of this Handbook is to provide guidance on evaluation procedures to determine the FMV of mineral materials commodities in a manner that is consistent with applicable laws and as required in 43 CFR 3602.13 ("BLM will not sell mineral materials at less than fair market value. BLM determines fair market value by appraisal"). In order to assure receipt of FMV for mineral materials contracts or permits and their associated rights and limiting conditions, the Department of the Interior (DOI) performs economic evaluations to estimate the in-place FMV. The evaluation of mineral materials provided for in this Handbook serves as the appraisal of the mineral materials fair market value referenced in the regulation.

1.2 AUTHORITY FOR MINERAL MATERIALS DISPOSAL AND COST RECOVERY FEES

1.2.1 MINERAL MATERIALS DEFINITION

Economic evaluation reporting includes the assessment of the federally administered mineral materials commodities and the evaluation of those commodities in the open market. The value estimated in a report is then used to determine the sale/purchase price.

There are many different types of mineral materials commodities and markets can vary considerably. The mineral specialist will need to use judgment in selecting the appropriate evaluation approach(es) for a given situation. Full development of the components of the economic evaluation is essential to ensure accomplishment of a successful and defensible evaluation.

Most earth and stone materials do not fall under either the location or leasing systems. Numerous court decisions have identified that some materials have never been locatable, even though they may be produced and marketed at a profit, including:

1. stalactites, stalagmites, crystalline deposits and formations valuable as natural curiosities,
2. common brick clay,
3. clay used as mud for facial cosmetics,
4. clay sold for use as an additive to cattle feed but not distinguishable from common clay,
5. "blow-sand" used for agricultural and horticultural purposes,
6. fine, flour-like earth having some of the properties of pumicite, but characterized as only "a type of dirt",
7. earth material used in a manner that practically any material could satisfy,
8. caliche,
9. materials used for fill, grade, ballast and base (including cinders and clinker),
10. common rock for "filling purposes",
11. sandstone used as fill for roads, and
12. common or inferior limestone "for building of levees or railroad embankments or filling up low places."

Certain types of ballast and base for road beds, railroads, airport runways, foundations for large buildings, bridges and other structures, where particular qualities were needed, were often treated as mineral subject to

location prior to July 23, 1955. Since enactment of P.L. 167, "specification materials" have been treated as common varieties of mineral materials. These materials subsequently came under the disposal authority of the Materials Act.

1.2.2 MINERAL MATERIALS AUTHORITY

Surface management of operations and revenue is regulated under the Federal Land Policy and Management Act of 1976 (P.L. 94-579, 43 U.S.C. 1701 et seq.).

The Department evaluates commodities subject to disposal. The Materials Act of July 31, 1947 (61 Stat. 681, 30 U.S.C. 601 et seq.) first authorized disposal of sand, stone, gravel and common clay through a sales contract or free use permit, and was subsequently amended. The Surface Resources Act of July 23, 1955 (69 Stat. 367) removed common varieties of sand, gravel, cinders, pumice, pumicite or cinders from the category of locatable minerals and placed them under the Materials Act as salable minerals. The Act of September 28, 1962 (76 Stat. 652) removed petrified wood from the category of locatable minerals and brought those materials under the salable system. 30 U.S.C. 601 states,

> *"The Secretary, under such rules and regulations as he may prescribe, may dispose of mineral materials (including but not limited to common varieties of the following: sand, stone, gravel, pumice, pumicite, cinders, and clay) … on public lands of the United States, … if the disposal of such mineral or vegetative materials (1) is not otherwise expressly authorized by law, including, but not limited to, subchapter I of chapter 8A of Title 43, and the United States mining laws, and (2) is not expressly prohibited by laws of the United States, and (3) would not be detrimental to the public interest. Such materials may be disposed of only in accordance with the provisions of this subchapter and upon the payment of adequate compensation therefor, to be determined by the Secretary: Provided, however, That, to the extent not otherwise authorized by law, the Secretary is authorized in his discretion to permit any Federal, State, or Territorial agency, unit or subdivision, including municipalities, or any association or corporation not organized for profit, to take and remove, without charge, materials and resources subject to this subchapter, for use other than for commercial or industrial purposes or resale."*

The authority provided by these laws is implemented through the 43 CFR Part 3600 regulations, which have the force and effect of law. The MS-3630 Mineral Materials Evaluation Manual interprets the regulations and BLM policy for evaluations for the wide variety of mineral materials commodities. This Handbook, H-3630-1 Mineral Materials FMV Evaluation, provides details on evaluation methods for specific situations and mineral materials commodities.

1.2.3 COST RECOVERY

Federal agencies are authorized to charge processing costs by the Independent Offices Appropriation Act of 1952 (IOAA), 31 U.S.C. 9701. The IOAA authorizes a Federal agency to charge for a service or thing of value provided by the agency.

BLM also has specific authority to charge fees for processing applications and other documents relating to public lands under Section 304 of the Federal Land Policy and Management Act of 1976 (FLPMA), 43 U.S.C. 1734(a) ("Notwithstanding any other provision of law, the Secretary may establish reasonable filing and service

fees and reasonable charges, and commissions with respect to applications and other documents relating to the public lands”).

1.3 FAIR MARKET VALUE DETERMINATION

1.3.1 DEFINITION

Fair Market Value (FMV) is defined by Merriam-Webster as, "a price at which buyers and sellers with a reasonable knowledge of pertinent facts and not acting under any compulsion are willing to do business.” The salient features of Fair Market Value are as follows:

1. FMV is characterized as, or representative of, an arms-length transaction between a knowledgeable buyer and a knowledgeable seller.
2. Neither buyer nor seller is obligated or under duress to buy or sell.
3. FMV is determined by reference to a competitive market, rather than to the personal or inherent value of the mineral materials.
4. The mineral materials are exposed to a competitive market for a reasonable time.
5. Market value is only that value transferrable from one typical owner to another. In most cases, this means private market value.
6. If income streams are included, they are part of market value.
7. In accordance with the market concept, the sale price or royalty rate paid for a similar mineral materials commodity in an arm's-length transaction is accepted as the best evidence of FMV. Lacking similar mineral materials commodity transactions, a capitalization of the contract's likely net earning power may be used to estimate the commodity’s market value.

BLM sale/purchase prices may be compared to private or state sales prices or royalty rates, depending on whether comparable mineral materials were sold by private parties or the state based on a sales price or royalty payment. Private mineral materials may be sold or leased. If leased, the purchaser may be paying royalties under leases with unlimited production quantities and lease term lengths where payments are based on a percentage of the retail value of finished products after processing and do not include quantities of materials discarded as waste.

In contrast, BLM disposals of mineral materials “in place” are made through sales contracts and free use permits that authorize removal of fixed quantities of all raw materials excavated, including quantities discarded as waste during processing. Disposal authorizations (contracts and permits) involve fixed periods of time at essentially fixed prices for the materials subject to periodic price updates.

1.3.2 DUTIES OF THE MINERAL SPECIALIST

A mineral specialist’s role requires a thorough knowledge of accepted evaluation methods and techniques as used by the Bureau. A working knowledge of the mineral materials industry is essential. The mineral specialist’s professional reputation as well as that of the agency is “on the line” on every evaluation performed. It is incumbent upon the mineral specialist to prepare a thorough professional evaluation to ensure that FMV is being received by the Government for all material sold.

The mineral specialist’s function is to apply the technical standards outlined in this Handbook to estimate

FMV. In the case of mineral materials trespass, a mineral specialist may be required to testify as an expert witness for the Government as to the value of the mineral materials evaluated.

1.3.3 DUTIES OF DIVISION OF MINERALS EVALUATION (DME)

The guiding principal of the Division of Mineral Evaluation (DME) is to provide unbiased information through mineral assessments and market analyses as it pertains to the role of minerals on and affecting federally managed and entrusted lands. This information and these methodologies stand alone or are used to support the commodity evaluation and the appraisal process to estimate Fair Market Value.

DME is responsible for independent technical reviews for area-wide market studies, controversial site-specific reports, and large site-specific (1 million cubic yards or more) reports. DME is also responsible for providing general guidance for FMV determination, applications of various valuation methodologies, quality control and quality assurance.

DME mineral specialists can be contracted out to perform area-wide market studies and other relevant FMV studies for BLM.

1.3.4 EVALUATION TYPES

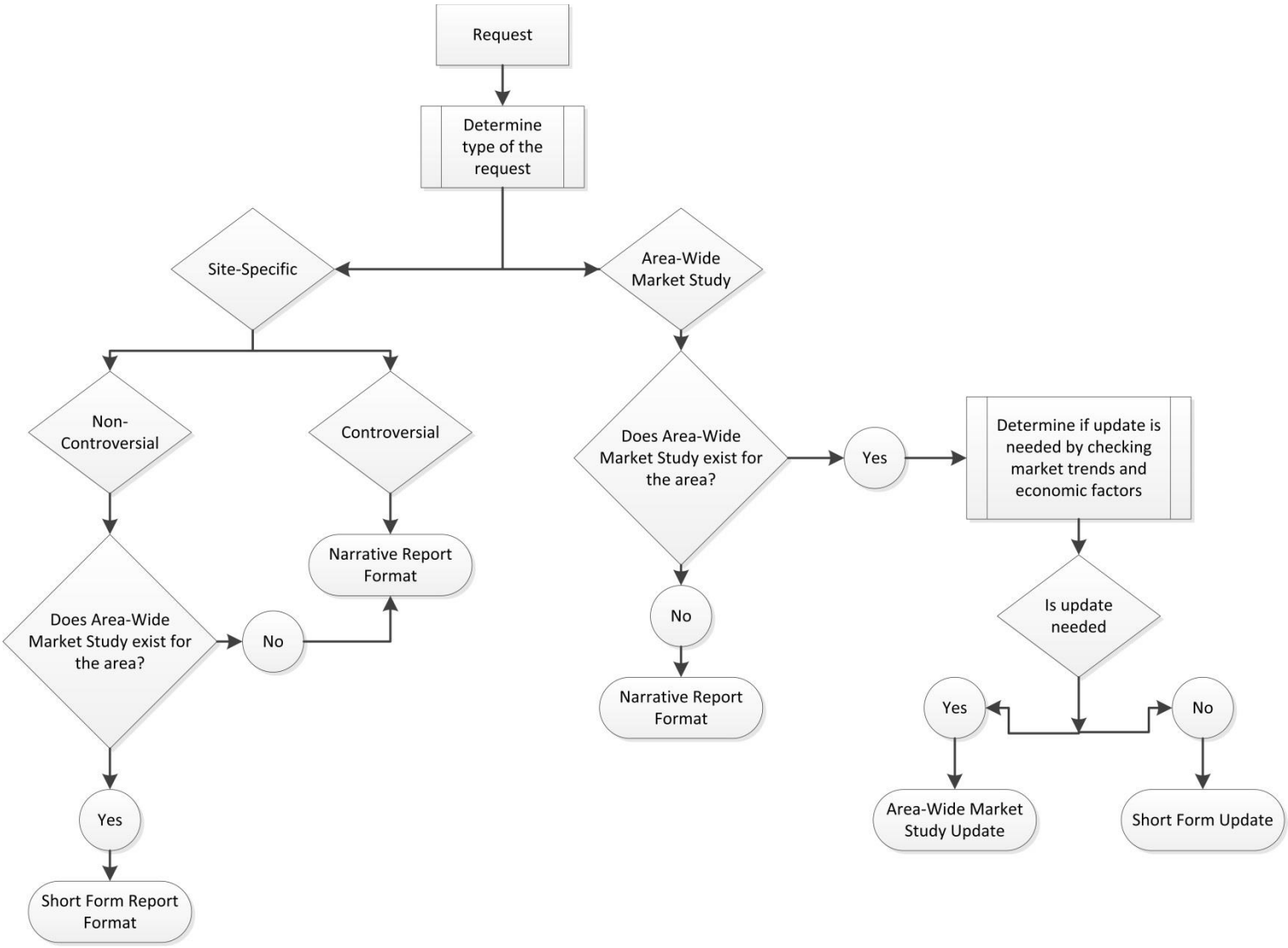
This Handbook outlines the proper procedures for mineral materials evaluations for all mineral materials disposals. The following flow chart (Figure 1A), gives a visual depiction of the type of analysis and evaluation report to prepare for different situations. It is intended as a quick reference for the mineral specialist, technical reviewer, and management.

The first thing a mineral specialist must do is to determine which type of an evaluation is necessary. There are two types of evaluations, individual site specific and area-wide market studies.

Site specific evaluations are prepared for a single disposal action (sale) from a single disposal site. A site specific evaluation can be prepared as a stand-alone document, or can be tiered off of an existing area-wide market study.

An area-wide market study preparation is outlined in Chapter 6 of this handbook.

FIGURE 1A: FLOW CHART - HOW TO DETERMINE REPORT TYPE



1.4 THE FMV DETERMINATION PROCESS

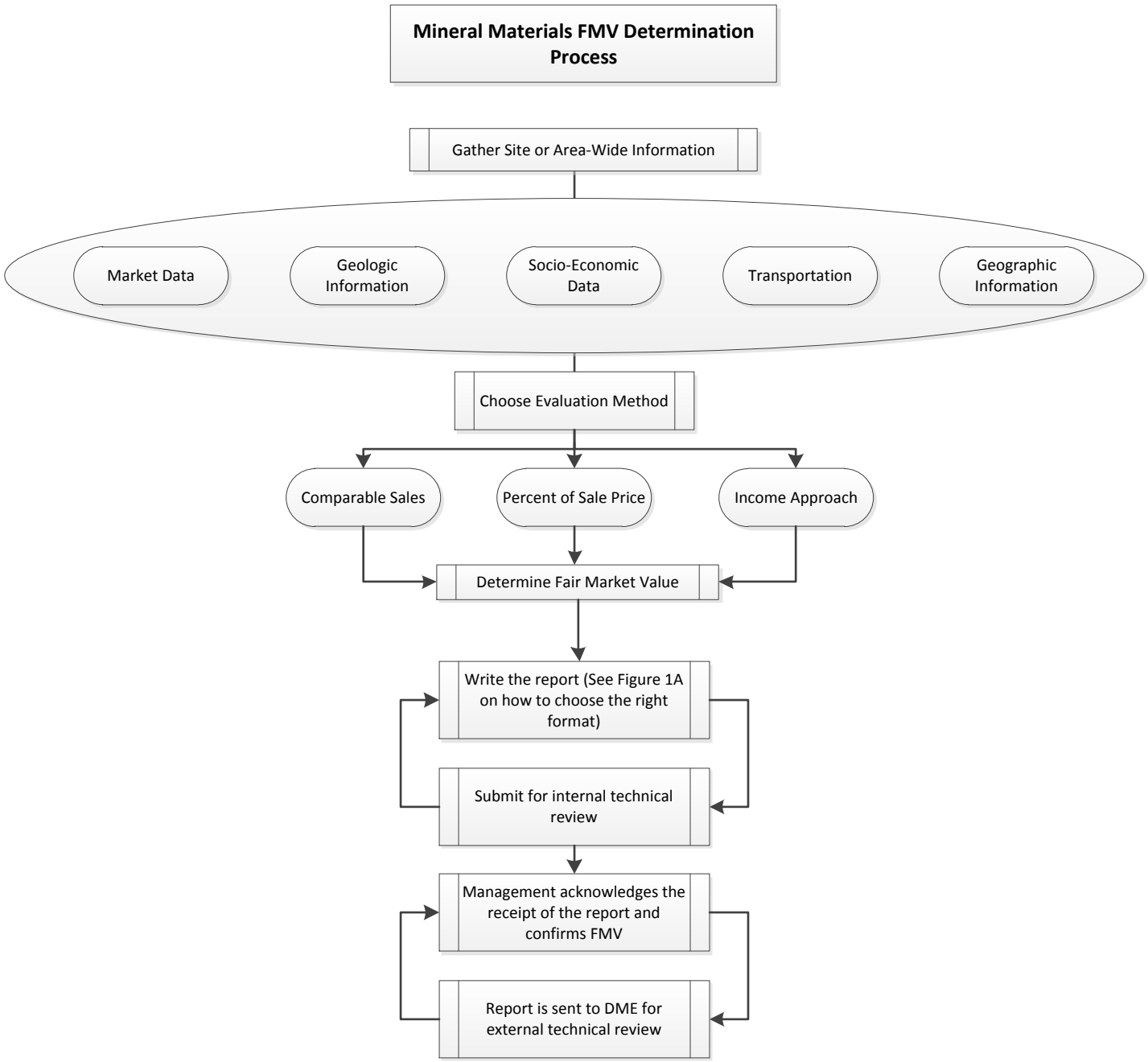
The FMV determination process embraces a range of procedures which, when applied to available data, leads to an estimation of the commodity's value under the associated contract rights and conditions.

An evaluation begins with the collection and review of data from which the estimate of FMV will be drawn. The mineral specialist (s) is (are) concerned with the type, quantity, and quality of data available. These characteristics determine the evaluation method employed and provide a basis for establishing confidence in the value obtained through the evaluation process.

After the data has been collected and examined an evaluation method must be selected. The guidelines in this

handbook discuss different evaluation methods, including three commonly accepted methods for evaluations: 1) Comparable Sales, 2) Percent of Retail Sales Price, and 3) Income Approach. Figure 1B illustrates the evaluation process.

Figure 1B: FLOW CHART - MINERAL MATERIALS FMV DETERMINATION



1.4.1 COMPARABLE SALES MARKET APPROACH

In comparable sales, similar mineral materials commodities and contract types are those characterized by similar geology, engineering and markets. These characteristics are usually heavily dependent on the age of the sale and geographic proximity. The comparable sales approach is an evaluation procedure in which the BLM sale/purchase prices and non-BLM sale/purchase prices or royalty rates paid in prior transactions of similar mineral materials disposals, are used to evaluate the commodity to be disposed of through a sales contract, a free use permit, or other means.

This approach is generally preferred to the percent of sales price and income approaches if prior sales data is available, since sale/purchase prices and royalty rates paid in prior transactions of similar mineral materials commodity disposals provide the best indication of value.

1.4.2 PURCHASE PRICE AS A PERCENT OF RETAIL SALES PRICE APPROACH

This method is a variation of the market approach used in situations where there is insufficient local market data. Lack of local market data may require substantial and difficult to support adjustments of data from different areas. If an analogous remote market can be identified, this method requires collection and analysis of transactions in similar areas (similar in value, overburden, rehabilitation costs, etc.). Where possible, both royalty and finished product retail sale price data is collected. This data is then used to derive a typical ratio of the purchase price to the selling price of the finished product f.o.b. at the desired location (i.e., the production site, retail yard, delivery point, etc.). This ratio is applied to the typical selling price of the finished product to arrive at an indication of the FMV.

This method can also be used where local private sale price and royalty rates are unavailable, but there are multiple local purchasers of BLM noncompetitive sales. The BLM noncompetitive sale/purchase price to a specific purchaser can be used in conjunction with the same purchaser's retail sale price for the finished product to derive a ratio. The ratio can then be applied to the retail sale prices for other sellers.

1.4.3 INCOME APPROACH

Disposals involving very large mineral materials quantities (over 1 million cubic yards) over very long terms (ten or more years) typically have unique contracts and detailed information is readily available. The income approach can be used to establish a FMV for these types of sales. The income approach is the alternative to the comparable sales and purchase price as a percent of retail sales approaches. It involves the estimation of annual net income from expected revenues and costs associated with the development of the mineral materials site.

CHAPTER 2: CONFIDENTIALITY

2.1 TRANSPARENCY

While much of the data and information used to develop an estimate of FMV have proprietary and confidential characteristics, it is the policy of the BLM that the Federal mineral materials sales processes are as transparent

as the law and regulations allow. To this end, consideration must be given while developing reports supporting FMV estimates to the ease with which sensitive, confidential, and proprietary data can be redacted to provide publicly available documents. It is not acceptable to redact an entire document. Further, consideration should be given to timely posting public versions of FMV related documents prominently on publicly available web sites after a successful sale, consistent with law and regulation.

2.2 GENERAL REQUIREMENTS

The BLM office staff must be aware that certain information obtained from operators, licensees, or permittees on Federal or Indian mineral materials sales, licenses, and permits may be proprietary and confidential, and, to the extent it is, appropriate security measures must be taken. The Evaluation Team (ET) and the project manager must be knowledgeable of and follow the procedures specified by regulations in 43 CFR Part 3600, BLM Manual MS-1273 Vital Records, and BLM Manual MS-1278 External Access to BLM Information. Figure 2.A provides an overview of the various authorities that pertain to obligations for the protection of proprietary and confidential information.

FIGURE 2A: AUTHORITIES FOR PROTECTION OF PROPRIETATY AND CONFIDENTIAL INFORMATION

Authority	General Description	Citation
The Materials Act of 1947, as amended (U.S.C. 601 et seq.)	Geologic data and information related to FMV before a sale.	43 C.F.R. Part 3602.13(a)
Standard Mineral Materials Sales Contract Forms	Information collected under the requirements of the sale will generally be open to inspection by the public in accordance with the FOIA, 5 U.S.C. 552 (b)(4) unless the information sought qualifies for exemption from release to the requester in accordance with the provisions of 5 U.S.C. 552(b)(4) and 43 CFR Part 2, Subpart C. If a formal request is made for such information under FOIA, the BLM would make a determination whether the information can be released.	BLM Manual 3600/Handbook H-3600-1 Manual MS3630/Handbool H-3630-1 Contract 3600-009, 3603-10 Free Use Permit 3604-001a, 001b *
The Trade Secrets Act.	Penalties for disclosure of third party proprietary and confidential information.	18 U.S.C. 1905
Indian Mineral Development Act of 1982.	All of the BLM's information is proprietary and confidential information of the Indian	25 U.S.C. 2101-2108

Authority	General Description	Citation
	mineral owner, and must be held in accordance with this Act.	
Freedom of Information Act	Provides standards for public access to public records.	5 U.S.C. 552
The Privacy Act of 1974	Establishes a code of fair information practices that governs the collection, maintenance, use, and dissemination of information about individuals. 43 CFR Part 2	5 U.S.C. 552a
Illustration 4A – 4C: Form 3600-009 Contract for the Sale of Mineral Materials Illustration 5: Form 3603-10 Mineral Material Nonexclusive Cash Sale Contract *Illustration 6A: Form 3604-1a Free Use Permit Application - Mineral Materials *Illustration 6B: Form 3604-1b Mineral Material Free Use Permit		

2.3 THE MATERIALS ACT of 1947, AS AMENDED

The Materials Act of 1947, as amended, does not include protections for information that is collected under, or required by, the Act. Protection of confidential information is provided by the Freedom of Information Act (FOIA) (5.U.S.C. 552).

- Prior to a sale, the BLM's evaluation of the materials to be sold and comments submitted to the BLM by the public; with respect to the Fair Market Value of mineral materials that are identified by the public submitter(s), as proprietary or confidential information to the extent allowed by the FOIA. However, when a competitive sale is advertised, the BLM will post a sale notice that will state "the appraised prices" in accordance with 43 CFR 3602.42(b)(5). Although the FMV is public information, any proprietary or confidential information used to determine those prices remain proprietary and confidential and will be protected in accordance with the FOIA.

2.4 MINERAL MATERIALS SALES CONTRACT FORMS

In some cases information obtained from current BLM sales could be utilized in the evaluation of a proposed mineral materials tract. The standard mineral materials sales forms BLM 3600-009 and BLM 3603-10 (see Illustrations 4A-4C and 5) and Mineral Materials Free Use Permit Forms 3604-1a & b (see Illustrations 6A-6B) cite the 43 CFR 3600 regulations which require the applicant to provide:

- Statements showing the total amounts excavated and removed, and amounts used for production purposes, discarded as processing waste or unavoidably lost;

● Access to all premises, books, accounts, maps, and records relative to operations, surveys, or investigation on or under the associated lands

Most information reported for sales contracts is not confidential or proprietary, but would need to be analyzed closely under the FOIA criteria before considering release in order to verify that it does not meet FOIA exemptions. Information obtained from access to purchaser/operator records would need to be carefully reviewed to identify any confidential or proprietary information because many purchasers/operators also use non-BLM material sources and may have co-mingled that information.

2.5 PENALTIES FOR THE UNAUTHORIZED RELEASE OF PROPRIETARY OR CONFIDENTIAL BUSINESS INFORMATION AND VIOLATION OF THE TRADE SECRETS ACT

Information and Violation of the Trade Secrets Act:

The unauthorized disclosure of information found to be proprietary or confidential information under FOIA, 5 U.S.C. 552(b)(4) is prohibited. Potentially, the release of confidential or proprietary information could also be a violation of the Trade Secrets Act (18 U.S.C. 1905)(see 43 CFR 2.36. A violation of the Trade Secrets Act could potentially subject BLM employees to criminal penalties and liability. The Trade Secrets Act states:

> *Whoever, being an officer or employee of the United States or of any department or agency thereof, any person acting on behalf of the Federal Housing Finance Agency, or agent of the Department of Justice as defined in the Antitrust Civil Process Act (15 U.S.C. 1311–1314), or being an employee of a private sector organization who is or was assigned to an agency under chapter 33 of title 5, publishes, divulges, discloses, or makes known in any manner or to any extent not authorized by law any information coming to him in the course of his employment or official duties or by reason of any examination or investigation made by, or return, report or record made to or filed with, such department or agency or officer or employee thereof, which information concerns or relates to the trade secrets, processes, operations, style of work, or apparatus, or to the identity, confidential statistical data, amount or source of any income, profits, losses, or expenditures of any person, firm, partnership, corporation, or association; or permits any income return or copy thereof or any book containing any abstract or particulars thereof to be seen or examined by any person except as provided by law; shall be fined under this title, or imprisoned not more than one year, or both; and shall be removed from office or employment.*

The BLM mineral specialist, the BLM manager, and/or the contract specialist may each be potentially personally liable if proprietary or confidential information subject to protection is found to have been released by them. Therefore, the responsible BLM office must strictly follow the procedures established by 43 CFR Part 2, Subpart F, and other applicable BLM guidance when requests for disclosure of potentially confidential or proprietary business information are submitted by the public. The BLM staff should consult with the DOI Office of the Solicitor and BLM FOIA staff in addressing requests for the disclosure of such information.

2.6 FOIA AND CONFIDENTIAL PROPRIETARY INFORMATION

The FOIA, 5 U.S.C. 552(b)(4), provides that trade secrets and commercial or financial information submitted by a person or entity outside the United States Government are potentially privileged and confidential and exempt

from release. The types of material submitted and gathered from operators on Federal mineral contracts, and permits, and from any non-Federal leases, contracts or permits may be considered to be trade secrets and commercial or financial information, and are subject to protection from disclosure as proprietary and confidential information in accordance with the above regulations and statutory citations. Note that 43 CFR Part 2 does not address all items that might be considered proprietary. Therefore, use caution at all times when handling or storing information that may be proprietary and confidential. The BLM staff and project manager are encouraged to consult with BLM's FOIA specialists and the Office of the Solicitor concerning the status of any document that may have proprietary or confidential content and, thus, subject to potential protection from disclosure to the public.

2.7 SECURITY

In addition to maintaining proper security measures to protect case files with proprietary or confidential information, BLM mineral specialists and managers must clearly notify information technology, secretarial, mailroom, and clerical personnel that all mail or correspondence concerning Federal mineral materials sales contracts and permits must be properly handled to protect prospectively proprietary or confidential information. Proper control over proprietary or confidential information and files can only be accomplished by locating the proprietary or confidential material separately from those materials and files traditionally located in "Central Files" (also known as "Contract/Permit Case File") and restricting access to the files that contain proprietary or confidential information. This applies whether the information or "file" is paper or electronic. Other applicable file and record retention guidance can be found in BLM MS-1220, Records and Information Management, and in BLM MS-1278, External Access to BLM Information.

These "best management processes" will help assure continued data security and must be used:

- Meetings or conversations where sensitive evaluation data are discussed must be held or carried out in a secure area and in such a manner that personnel without a "need to know" are prohibited from hearing such discussion or having access to such data; and

- All sensitive and proprietary data must be locked in an approved secure filing cabinet or vault when the data are not actually required for analysis and discussion purposes.

2.8 CHAIN OF CUSTODY

All proprietary data used in the supporting analysis must be properly safeguarded by anyone with access to this information. Therefore, complete records must be maintained of all individuals who have access to any of the information used or developed for completion of a presale estimate of FMV, including all supporting data, reports, and conclusions.

Only those BLM and DME employees with a "need to know" will be granted access to the sensitive, confidential, or proprietary data. The BLM manager in each office with delegated authority for mineral materials actions (see Manual 1203 Delegation of Authority) determines who has access to this information. Records must be maintained within the project case file or record that document:

- Who has had access to the sensitive, confidential, or proprietary data;

- For what term or duration they had access, include perpetual access; and

- The rationale for each person's access.

Access to sensitive, confidential, or proprietary data by BLM contractors and non-BLM federal government personnel may be granted in special circumstances. Every case must be evaluated on its merits and there is no assurance or presumption that access will be granted. In all cases records must be maintained in the official case file that document:

- Who was granted access;
- Why each person was granted access;
- What information and data the person can access;
- That BLM contractors and non-BLM federal government personnel obtaining access are informed of the restrictions to the data and information provided; and
- BLM contractors and non-BLM federal government personnel sign, date, and return an Information Security Agreement, BLM Form 1233-2a, to acknowledge that they understand the restrictions on the information provided and that they will comply with BLM confidentiality requirements.

An example letter offering access to BLM's sensitive, confidential, or proprietary data to a BLM contractor or non-BLM federal government employee or agency is provided in Figure 2B. The requestor of confidential and proprietary information must return a completed Information Security Agreement (BLM Form 1233-2a) to the BLM before the requested information can be provided. All completed forms must be retained in the official case file.

FIGURE 2B: SAMPLE LETTER FOR INTERNAL TRANSMITTAL OF PROPRIETARY AND CONFIDENTIAL EVALUATION INFORMATION TO A BLM CONTRACTOR OR WITHIN THE FEDERAL GOVERNMENT

Date *mm dd yyyy*

Memorandum

To: *Name*
Title

From *Name*
Deputy State Director, Mineral and Lands, *local* State Office

Subject Transmittal of Proprietary and Confidential Evaluation Information

This is in response to your request dated *mm-dd-yyyy* for information concerning the evaluation completed for tract *XYZ*. Your request is necessary for you *to complete a special analysis that is described here*.

The documents that we will provide contain confidential and proprietary information. The information in these documents is protected from disclosure and any release would cause harm to both the submitter of the information and the Government. The geology and engineering reports were prepared using confidential and proprietary business information submitted by the applicant to the BLM. The economic analysis and pre-sale evaluation were prepared by the BLM using confidential third party business information and with confidential business information provided by the applicant. Public disclosure would place private submitters at a competitive disadvantage. In addition, public disclosure of the economic and evaluation data would cause substantial harm to the Government by creating an unfair bidding process, possibly altering what would otherwise be competitive good faith independent bids for pending mineral materials sales contracts as well as bids at future sales.

The BLM will require your acknowledgement of the confidential and proprietary character of the information that will be provided and your agreement to protect this information from any release before we forward this information to you. We have enclosed BLM Form 1273-2a, Information Security Agreement, for you to complete and return to our office. Upon receipt of your correctly completed BLM Form 1273-2a, we will forward the documents identified on your completed Form 1273-2a.

Contact information

Thank you
Signature

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CHAPTER 3: CONTRACTING A FMV EVALUATION

3.1 DECIDING ON A CONTRACT

After BLM determines the appropriate type of evaluation report needed, the next step is to decide how the evaluation will be prepared. Factors to consider with in-house or contracted preparation are based on: the timeframe required and date the report is needed, conflicting workloads, available funding, and availability of qualified BLM staff. Options for completing evaluations include using the DME, or commercial vendors through the contracting process.

BLM contracting procedures are described in BLM Handbook H-1510-6 – Contracting for Studies, Analyses, Inventories, and Surveys. State and Field Offices should work with their local Contracting Officer(s) to identify the need for the proposed contract, and the workload involved. If contracting is appropriate, prepare a Statement of Work (SOW) (see Chapter 3.2).

Prior to issuing a solicitation, the BLM office must determine that there are sufficient funds available for the projected cost of the contract.

Funds for area-wide market studies for community pit (CP) and common use area (CUA) disposals are included as part of each office's annual L13300000 funding allocation. Cost recovery fees must be collected from applicants requesting BLM's mineral materials sales for disposal sites located outside of CPs and CUAs, and deposited into the appropriate L51100000 account. Fees collected for use of an existing area-wide evaluation report will be used for preparing the next update of the area-wide report.

If FMV from an existing area-wide market evaluation for CP and CUA disposals are used for a sale located outside of a CP or CUA, a cost recovery fee must be collected from the applicant. For community pits and common use area disposals are used for a sale located outside of a community pit or common use area, a cost recovery fee must be collected from the applicant. For example, if the cost of the area-wide evaluation was $20,000 and the report covers average annual CP/CUA disposals of 500,000 cubic yards, the fee for applying the report prices to sales outside the CP/CUAs would be $0.04 per cubic yard. If the cost recovery application requires an individual evaluation, the applicant fee must cover the entire cost of the report and technical review.

3.2 STATEMENT OF WORK (SOW)

For most area-wide market studies and site specific evaluations the solicitations must adhere to the standardized SOW template in Appendix 1, filling the key variables. At a minimum, modifications must include the following items:

1. key characteristics of the geographic and administrative area involved (District or Field Office),
2. type of report,
3. identify commodity(ies) to be evaluated,
4. due dates for deliverables.

Reporting Requirements identified in the Statement of Work (for site specific or area-wide market evaluation reports) must adhere to the standardized SOW template in Appendix 1, filling the key variables:

1. compile map(s), which displays all existing BLM disposal sites in the geographic administrative area that will be covered by the evaluation (include a list of sites in the report and refer to the map),
2. identify each site name (if any),
3. legal description(s of all existing sites),
4. commodities identified for disposal, and
5. and information on recent sales.

The supplemental information will be included in the solicitation as an attachment or exhibit. Site specific information and operational history is provided for reported evaluations for individual disposal sites.

The reason for using standardized SOW components is to ensure agency-wide consistency, facilitate the bidding process nationwide and to encourage competitive bidding. Although, the mineral materials program involves a wide range of commodities, operation types and sizes, and different combinations of commodities at each office, the BLM regulations and procedures are the same nationwide, and the operations for a given commodity tend to be quite similar.

3.3 CONTRACT RESPONSIBILITY

The BLM contracting office is responsible for issuing the solicitation. If modifications to the SOW are needed, the BLM office must coordinate with the BLM contracting office to ensure that modifications are enforceable, and that changes are appropriate and relevant to the success of the evaluation.

After assembly of a complete package, the solicitation is advertised. Include a requirement for a “detailed breakdown” within the cost and delivery proposal in the SOW. For area-wide market evaluations, provide options for selecting portions of a bid proposal (e.g., excluding specific commodities or areas where proposals include multiple commodities and/or sites) instead of an all-or-nothing total price if there is a possibility that bids may exceed BLM’s available funding for the proposed evaluation contract.

3.3.1 HIGH VOLUME SALES

Independent reviews by DME are required for commodity evaluations for individual and area-wide sales totaling 1 million cubic yards or more. The BLM Contracting Officer may request OVS assistance, as needed, with identifying potential vendors, qualifications and availability prior to initiating a solicitation. The BLM mineral specialist prepares a SOW and pertinent attachments and exhibits (i.e. maps, title, legal description, specialist reports, etc.), Deliverable/Task Schedule and Contact Information Document.

3.4 TECHNICAL ANALYSIS FOR BIDS

Upon receiving bid proposals on the evaluation project, the BLM Contracting Office will notify the BLM mineral specialist for review of the vendor’s project proposals and mineral specialist qualifications, and OVS may be consulted as needed. After review, the BLM will prepare a technical ranking analysis of the proposals and the bidder qualifications for the Contracting Officer. The BLM Contracting Officer accepts the bid, awards the contract based on Technical Analysis Criteria, notifies the winning bidder of the requirement for a pre-work meeting, and provides copies to all parties.

3.5 PRE-PERFORMANCE MEETING

A Pre-Performance Meeting (i.e. pre-work meeting which occurs post contract award) is scheduled with the BLM Contracting Officer, the BLM Program Lead and/or mineral specialist, the OVS or DME specialist (if needed), and the awarded contract mineral specialist. The contracting process requires completion of a Pre-Performance Meeting document by the BLM Program Lead and/or mineral specialist which identifies the need for a Pre-Performance Meeting for the Contracting Officer. A Pre-Performance Meeting document template is available on the BLM SharePoint Site within the Contracting Branch folder. The pre-performance meeting is the chance to make sure everyone has the same understanding of the terms of the contract and the required deliverables. It is also a chance to share information with the contractor that will help them complete the contract to BLM standards and provide the best product.

Following the pre-performance meeting, the mineral evaluation process continues with the Contract mineral evaluation expert. The BLM Program Lead and/or mineral specialist keeps the BLM Contracting Office informed in regards to contact relevant to contracting process.

3.6 CONTRACT MODIFICATION

If significant changes occur causing need for a contract modification, the BLM Program Lead and/or mineral specialist and BLM Contracting Officer will jointly address the changes with a revised SOW or Memo to the SOW. Subsequently, BLM Contracting will prepare a modification to contract based on the changes/revisions and coordinate with BLM's Budget Division regarding additional funding requirements.

3.7 RECEIPT AND REVIEW OF COMPLETE REPORT

The BLM Program Lead and/or mineral specialist, and the DME (for specific reports) will receive a copy of the Mineral Evaluation Report from the Contractor. The BLM Program Lead and/or mineral specialist (in coordination with DME specialist on required reports) conducts a review of the Mineral Evaluation Report, provides written review edits/comments to the contracted mineral specialist (as necessary).

Once the report is considered approvable, the reviewer notifies the contracted mineral specialist that the Mineral Evaluation Report is satisfactory, completes a Mineral Evaluation Review and prepares a written technical Mineral Evaluation Review Report document (note: route for 2nd Level Review by DME specialist, as necessary and appropriate). After Review process is complete, the BLM Program Lead and/or mineral specialist notify the BLM Contracting Officer that the report is acceptable. The appropriate number of signed and approved (edit protected) copies of the report, as specified in the SOW, will be provided to the BLM Program Lead and/or mineral specialist and the DME specialist (when appropriate).

CHAPTER 4: CONDUCTING A FMV EVALUATION

4.1 OFFICE PREPARATION

The mineral materials disposal case file should be carefully examined, making certain that it contains all available pertinent case histories. The Master Title Plat should be in the case file and reviewed to ascertain the land status or any classification actions which could affect the value of the mineral material(s).

As part of preparing an SOW for contracting or performing in-house mineral materials evaluation work, the mining claim recordation index MUST be checked to identify any mining claims that could conflict with the disposal of mineral material(s), because mining claim conflicts could affect the availability of the site for mineral materials disposals and/or the value of the materials.

4.2 LAND/MINERAL OWNERSHIP DETERMINATION

If the land is fee private surface with minerals reserved to the Federal Government, it will be necessary to ascertain the name and address of the landowner as part of preparing an SOW for contracting or performing in-house mineral materials evaluation work. Ownership information and land records can be verified through the county courthouse. If the mineral ownership is unclear, a title search will be required to identify the details of the mineral estate reservation. The Office of the Solicitor must be consulted to verify that the Federal ownership includes a reservation of mineral materials.

4.3 ACCESS

All access routes to and from the mineral materials site and the land status of the lands they cross should be noted prior to the field examination. Bureau records should be checked to determine if any rights-of-way or easements were reserved to the Federal Government, and if not, it will be the responsibility of the applicant to obtain access rights to the Federal disposal site.

If access to the mineral materials site must cross fee private land, the name and address of the landowner must be obtained with permission to cross the property. On split estate tracts (i.e. private surface/Federal minerals), Federal mineral reservations may include the right of access to those reserved minerals lying under private ownership. Reservations do not typically include a right of access to cross one split estate tract to reach a mineral materials disposal site on a different split estate tract created under a different patent.

4.4 LAND USE PLAN

The current land use plan must be checked to see if any conflicts would affect the evaluation (i.e., zoning, resource conflicts, stipulations, etc.).

4.5 PHOTOGRAPHS

Photographs of all significant features of the evaluation site should be taken. These pictures will become a part of the mineral materials evaluation report.

4.6 DATA CHECKLIST

The use of a checklist before and during the field examination is mandatory and helps to minimize the possibility of overlooking pertinent data that should be recorded while in the field. Not all of the information listed will be needed for each evaluation. Use of the data from this checklist should be commensurate with the complexity of mineral materials evaluation. Notes taken in the field should be recorded in sequence as the evaluation progresses. See Appendix 2.

4.7 LITERATURE REVIEW

Relevant literature and data concerning the geology and economics of the mineral commodities being evaluated should be reviewed. The best available sources of information are State and County Highway or Road Departments, the U.S. Geological Survey, National Mineral Testing Lab (BLM), State Geological Surveys, State Agencies, private testing laboratories, industry associations, local colleges, and universities.

The evaluation must focus on the mineral materials identified in the proposed disposal, and not on all mineral materials occurring or that could potentially be present. Determine whether the market for the mineral materials being evaluated is a local market or a regional market. For example: common sand and gravel would probably have a local market; whereas a less common specialty building stone may have a much larger regional market. See Section 7.2 Market Data Methods.

4.8 COMPARABLE SALES DATA

Review bureau records for sales of the same or similar material in the general area of the proposed mineral materials site. Sales from the same market area are preferred. All sales used as comparables should reflect current market conditions and terms comparable to BLM disposals (See Illustration 7).

Private operators and State and local governments should be checked for sales of similar material in the evaluation area. Caution must be exercised when using comparable sales of government agencies and State or county highway departments to ensure that these are arms-length transactions of unrelated, knowledgeable individuals. BLM non-competitive sales should not be used; however, the basis for the value of these sales could be used if properly documented. BLM competitive sales data is preferred where available. Other acceptable sources of information can be found in the following manner:

- Call or visit the State or County Highway or Road Departments.
- Call or visit the State Geological Survey or Mining Department.
- Search county property records
- Call or visit companies in the construction, sand and gravel, stone, building supply, landscaping, or similar industries.

4.8.1 FIELD DATA COLLECTION

Thoroughly inspect by field examination the data of each comparable sale so that an accurate comparison may be made with the mineral materials being evaluated. Since these are usually non-BLM sites that involve private land and access may not be granted to the mineral specialist, it may be necessary to use remote means to obtain some information (aerial/ortho photos, Google Earth, etc.) Contacts with third parties may be needed to obtain some data (e.g., purchasers from the sites).

During field visits to companies, obtain information on their sale processes to assist in determining how comparable those sites are to BLM disposals, such as:

a. material quality and types of uses
b. waste factors
c. average amount of overburden
d. mine plan requirements (does the company produce the material, or do they allow purchasers to produce the material.)
e. allowable uses of the surface at the purchase price (e.g., stockpiles, processing areas, office, mobile equipment storage, asphalt plant), and whether any additional fees are charged (e.g., land rents)
f. reclamation requirements for the site and whether the work is performed by the purchaser or the seller)
g. who pays for the cost of processing the sale (is it included in the material price)
h. are there NEPA or State equivalent and permitting requirements for sales, and if so, are costs paid by the seller or purchaser.
i. site and contract administration requirements of the seller
j. site restrictions (e.g., daily or seasonal operating periods, limitations on operating area expansion)
k. is access provided from the site to public roads, or are separate access agreements required?
l. identify the type of contract requirements, such as:
    1) length of terms,
    2) volume limits,
    3) production diligence and reporting requirements,
    4) bonds,
    5) payment options (in advance or installments, minimum amounts), and
    6) contract renewals

4.8.2 COMPARABLE SALES DATA SHEET

Complete all items shown on the Comparable Sales Data Sheet during verification so that information concerning the comparable is fully descriptive and accurate, facilitating subsequent analysis (see Illustrations 2A and 2B).

Remember to clearly stamp or label “Confidential” on every data sheet containing such information. Attach copies of the data sheets used in an evaluation as an appendix to the narrative or short form report. Identify the actual transaction date. This is the date terms and considerations were agreed upon, and may differ from the document date.

Explain the details concerning any data- involving a transaction with a government agency if any. If used, this data must be thoroughly verified with the private party. It must be shown that the private party was a willing, but not obligated, buyer or seller and consideration was not influenced by the fact that the other

party was a government agency. Examples would include purchases involving competitive sales with BLM, Forest Service, or a State land management agency.

4.8.3 DATA VERIFICATION

Verification of data used for direct comparison is mandatory and must be documented. Outline the steps followed and any unusual circumstances encountered in verifying data. See Chapter 2 for Confidentiality issues – Privacy Act.

Personally contact persons knowledgeable about the transaction. Telephone and email verification is acceptable if the party contacted provides detailed information.

Ensure that the individual providing transaction data has been directly involved or is personally familiar with the parties, their motivation, and the intensity of negotiations. He might be the buyer or seller or their agent for the in place materials, or the buyer of the processed materials.

Identify the individual on the data sheet by name and title such as buyer, seller, or agent. Keep track of all contacts regardless of the information provided. Also, include the date, and name of the person who obtained the information.

4.8.4 DATA PRESENTATION

Present the data documentation so that the reader will know exactly where to search the records and the entity to contact that has direct knowledge of the data. Documentation of the data used for direct comparison must be included in the narrative comparison and the comparison summary chart. See Illustrations 8 and 9.

CHAPTER 5: FIELD EXAMINATION OF THE PROPOSED MINERAL MATERIALS SITE AND COMPARABLE DISPOSAL SITES

To the extent possible, the same procedures should apply to both the BLM disposal sites being evaluated and, to a lesser scale, to the non-BLM comparables. Private owners will not generally allow detailed examination of their sites. Where possible, similar information should be collected while minimizing interference with operations on non-BLM sites. During the field examination, collect equivalent information on the sites that are considered for the evaluation. The information includes physical, administrative, legal, and operational features that influence the cost, usability and value of the materials. Field examinations are typically the primary opportunity to meet with non-BLM site owners and operators. When examining non-BLM sites, the Mineral specialist should gather as much information as possible during the inspection to avoid inconvenience to the landowners and producers from repeat visits.

5.1 ACCESS ROUTES

5.1.1 ROAD TYPE

Describe the type of road (i.e., paved, gravel, dirt, etc.) and the ownership (public or private). Are there existing right of ways present, and if so, are there any restrictions on use? What is the maintenance status of the existing road and who is responsible for performing the maintenance? What are the dimensions of the existing road, such as length and width of disturbance? Include photos and GPS coordinates of existing road access.

5.1.2 RESTRICTIONS AND OBSTACLES

Discuss any legal or physical barriers, such as current litigation, mining claims located over the area where the mineral materials are found, private landowner opposition, restricted access, feuds, etc. Indicate if there are any environmental limitations (i.e. a need to complete environmental analysis in compliance with NEPA) to increasing the disturbance footprint or the time or season of use? Is water readily available or will it be brought in from an outside source? Is the site in a non-attainment zone for air/water quality standards?

5.1.3 COMPARABILITY

Compare the access to areas with similar types of material and similar market distance. Identify alternate routes if necessary.

5.2 MINERAL MATERIALS SITES

Verify the physical boundaries of the mineral materials site. Describe the following aspects of the mineral materials site:

5.2.1 LOCATION

Give the general location of the mineral materials site in reference to the nearest town (via road access) or community. Include Township, Range, Section and Quarter section or; lots, tracts, or metes and bounds, as appropriate. GPS points may be required or needed to establish and/or present a mineral materials site location.

5.2.2 TOPOGRAPHY AND GEOLOGY

Describe physical characteristics such as size and shape of the mineral materials site, soil type, topography and drainage, vegetative cover, and geology of the site. Identify watershed boundaries from existing information. Define resources such as wildlife, air quality, water quality, etc.

5.2.3 CLIMATE

Describe the climate and how weather conditions affect the market, the mining operation, and access of the mineral materials site. Are there seasonal restrictions for material use or is there a year-round availability for the material? Do the same conditions apply to all sites considered as comparables?

5.2.4 LAND USE

Describe the past and present uses of the mineral materials site and identify any conflicts which may occur due to the proposed use. Review and cite the most recent Land Use Plan and legal land status. If applicable, cite the land use status of any areas adjacent to the mineral materials sites that might be affected by the operation and the proposed secondary end use of the site following reclamation. Field work should document presence or absence of critical environmental factors.

5.2.5 MATERIAL DATA

Describe the material being evaluated and the effects of the following factors on its marketability:

- Describe the quality of the material being evaluated and what uses it can be suitable for. Identify any hazardous materials, particularly asbestiform materials or erionite. LR2000 query will assist in locating other similar deposits on Federal mineral estate, but the database does not contain information on private sites.

- Give the quantity of material requested by the applicant and the range of units anticipated if different mineral materials commodities will be sold from the same location. For the purpose of preparing the evaluation, the mineral specialist will use the aerial extent, estimated depth, and geologic inference on the continuity of the materials. BLM regulations allow a purchaser to apply for early cancellation of a sale if the site is subsequently determined to contain an insufficient quantity of materials of adequate quality.

- Describe the approximate range of thickness and composition of all overburden to be stripped and the placement of the stripped material. Give the stripping ratio. Describe how and where overburden and/or topsoil will be stockpiled.

- Describe the process by which the material will be removed and the equipment necessary to carry out the operation. Indicate the size and location of the equipment parking/maintenance area.

- Describe how the material will be mined, processed, and/or stockpiled. Cite any special problems which may exist. Anticipate unmarketable process waste rock, such as minus ¼ inch crusher fines and oversized boulders. Loader stacking? Scraper stacking? Belt stacking?

- Give distances to market for the materials being evaluated and the types of transportation used. Are there other markets closer or further away? Document critical 10 to 40 mile haul distance to point of use for pricing determination of transport-distance dependent key commodities, such as sand and gravel and crushed stone. Identify markets that are distance dependent versus regional (interstate in some cases). Identify if the market is limited to a specific project (e.g., construction and maintenance of a highway, pipeline, or railroad ballast) or for multiple purposes and projects (e.g., construction and maintenance of commercial and residential buildings and roads in an urban area).

- Give details of what kind of reclamation measures the purchaser will be required to perform and who will require them (i.e., State, Federal Government, private landowner, etc.). Refer to approved plans of operation submitted to Federal agencies (if applicable) and corresponding NEPA or state equivalent environmental requirements. Some state agencies may have reclamation requirements in addition to Federal requirements.

5.2.6 PHOTOGRAPHS, MAPS AND SKETCHES

Take photographs of the mineral materials being evaluated, the site, and any buildings or equipment being used to mine or process the material on existing Federal and non-Federal sites. Make appropriate maps and sketches to assist in the evaluation of the material. Incorporate electronic data such as GIS data, and other sources into field work data gathering.

5.2.7 SAMPLING

Trenching, drilling, or other means of bulk sampling should be completed by the operator. Testing of the mineral materials, if required (particularly for potentially hazardous substances), should be done by the BLM mineral specialist or by a qualified testing facility. In some known areas, due to public safety issues, testing for asbestiform and erionite minerals may be conducted by BLM to determine if the material is suitable for disposal due to public safety issues. The purchaser or permittee is responsible for performing any testing needed to determine if the material meets the standards for the proposed use(s). If applicants received an exploration permit for sampling and testing, they are required to provide those results to the BLM.

For the purpose of the sale evaluation, BLM will presume that the material present will at least be of sufficient quality and quantity to fulfill the contract. If information is available (e.g., from previous sales) that indicates that the in-place common variety material is suitable for higher quality common variety uses than those proposed by the applicant (e.g., aggregate instead of fill), the common variety material will be valued at the higher quality price.

The BLM mineral specialist should identify if drilling or trenching will be required to establish quantity and quality of deposit. In some specialized cases involving common variety determinations for operations on mining claims and evaluations of trespass, the BLM may perform the sampling and testing work. Depending on the sample size, it may require using an aggregate operator as an outside analytical source.

Water well drill logs can be used to determine the types of gravels present and depth and character of bedrock. In the case where there is no well log data, other means may need to be incorporated to find the resource volume.

5.2.8 TRANSACTION TERMS

Give the details on allowable uses of the surface (e.g., stockpiles, processing areas, office, mobile equipment storage, asphalt plant) for Federal and non-Federal sites and identify site restrictions (e.g., operating hours or seasons, access, dust control), access availability and type, and the requirements for access construction and maintenance.

Identify contract requirements, such as length of terms, volume limits, production diligence and reporting requirements, payment options (full payment in advance or installments, minimum amounts), bonds, contract renewals for the BLM and non-BLM sites.

5.2.9 USE OF COROLLARY EXTERNAL GEOGRAPHIC AREAS FOR COMPARABLES

For remote areas where there are few or no sale sites that can be used for comparables, the mineral specialist may need to conduct field examinations of sites in a different geographic area that is similar to the geographic area where the proposed disposal site is located. The mineral specialist must provide justification based on geographical, market, and geological factors in support of the decision.

In such situations, the field inspection is not limited to sale sites; the mineral specialist must collect and document data to identify the extent to which the external geographic area is comparable to the geographic area where the proposed mineral materials sale site is located. For instance, document the degree of remoteness, population, Federal and private land/mineral ownership, land use plan restrictions, zoning (if applicable), urban use conflicts, demand, market trends, and the amount of market data available or used. Then, the comparability of the specific remote site to the subject site is evaluated.

CHAPTER 6: AREA-WIDE MARKET STUDIES OF VARIOUS MINERAL MATERIALS COMMODITIES

6.1 GENERAL GUIDANCE

Area-wide market studies include all or most mineral materials disposal sites within a specific geographic administrative area, such as a field office or district office, and can involve one or more mineral materials commodities. Because these evaluations typically involve the majority of disposals in any geographic vicinity, they are of utmost importance for most offices. Area-wide refers to the location of the material disposal site sources being evaluated.

Disposal sites contain mineral materials commodities that involve a market area. Market area refers to the locations where the raw materials or products will be purchased and used. Commodities that have a relatively low unit value, such as fill or sand and gravel for aggregates, typically have a local market area controlled by haul cost. Other commodities with higher unit values, such as dimension stone, building stone and decorative boulders, may have greater regional demand that is not constrained by haul costs.

It is important to understand that an area-wide market study for a specific commodity may extend beyond the geographic limits of an area-wide evaluation into an adjoining administrative area or even well beyond that boundary into a larger region that may include several states or extend across international boundaries. Market area boundaries are based on the specific commodity markets they reach.

An area-wide market study involves three major components:

1. Evaluation of the mineral materials occurrences (geologic deposits, existing mining operations, etc.). This evaluation involves extensive search of published information regarding the geologic history, geologic maps, mining permits, etc. The existing mineral materials companies and construction companies should be examined to determine the typical characteristics and requirements of the deposits and the processing if necessary to make them appropriate for use.

2. Delineation of the demand areas (population centers, major construction projects, etc.). A mineral specialist should gather all available information regarding the urban centers, construction industry, energy industry, and other relevant market factors that might help in delineating areas of increased demand for comparable mineral materials.

3. Transportation networks include roads, railroads, and water transport (ships and barges; mainly coastal states and Alaska). Roads, highways, and railroads are the primary transport systems for most BLM offices and play dual role in the market studies: 1. they require regular maintenance and therefore indicate areas of higher demand, 2. they connect deposits to the demand areas, and also dictate the transportation costs. Network road modeling software can be utilized to estimate the costs of transportation of minerals materials over existing road systems (Figures 6A and 6B). Modeling software can take into account road types and road speeds and when combined with other parameters such as truck capacities and costs per ton-mile (or costs per hour), network modeling software generates maps that show costs per ton for transportation along all roads emanating from a user-specified point. Parameters can be modified by the user to reflect local conditions or can be input from national trucking

statistics from the American Transportation Research Institute. Competitive analysis can be modeled by selecting several geographic points and evaluating zones of overlap from the network model maps.

Based on the three components mentioned above, market areas are delineated and each one is evaluated separately using the most appropriate evaluation method (See Chapter 7 for guidance).

FIGURE 6A - NETWORK MODELING EXAMPLE (Service Areas, Example Only)

Service Areas from Grand Junction, Colorado

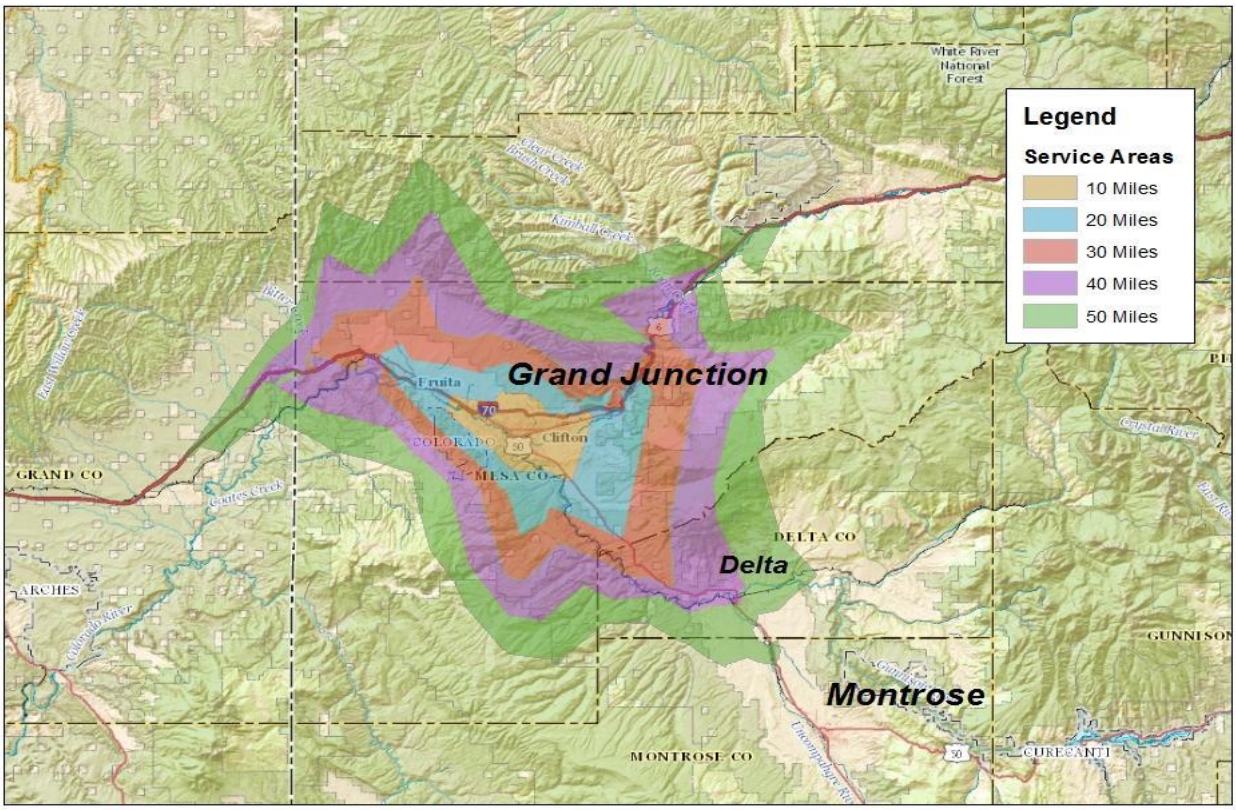
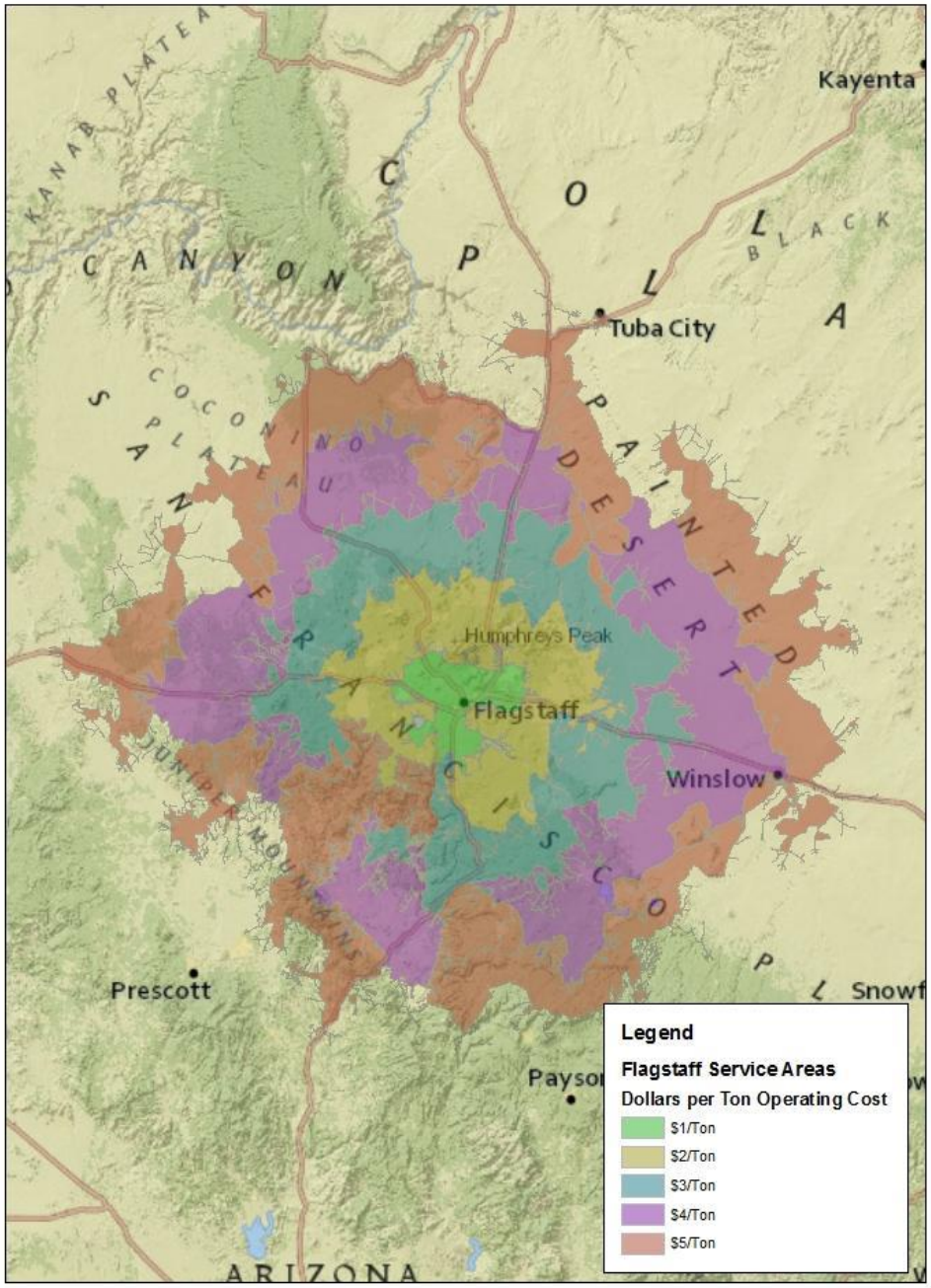


FIGURE 6B - NETWORK MODELLING EXAMPLE (Transportation Costs, Example Only)



6.2 AREA-WIDE MARKET STUDY UPDATES: WHEN IS AN UPDATE NEEDED

Evaluations can be updated as frequently as needed for new contracts and permits. A brief market review should be performed at least every year (See flowchart, Figure 6C for more guidance) unless a commodity market changes significantly to require urgent adjustment of the FMV. Drastic market changes that will require immediate attention and adjustments of the local FMV can be caused by major players entering or exiting the market, unforeseen regulations and policies put in place, sudden change in demand due to environmental disasters, oil and gas prices, population changes, or other causes. A mineral specialist should have a good understanding of the commodity market and anticipate circumstances under which the market can change.

If an annual survey does not identify any significant or drastic changes in market factors, no update of an area-wide or individual evaluation will be needed but some small adjustments may be appropriate to account for gradual escalation or de-escalation of prices. The reason for updating or not updating a price must be explained and documented.

6.2.1 ANNUAL REVIEW

The purpose of the annual review is to identify any significant changes in market conditions. The annual review should involve collecting wholesale/retail prices for the mineral materials products sold by private or other non-BLM operations within the markets covered by the area-wide market study. The mineral specialist should establish the most significant market factors that will affect the FMV, and analyze their behavior to establish long-term trends or patterns. When these trends and patterns are established, the mineral specialist should come up with a defensible numerical threshold expressed in factor units or percentage change. Examples of quantifiable market factors are as follows:

- Population changes – U.S. Census Bureau, state business and economics bureaus , growth pattern
- Commodity price changes – energy information agency (EIA), trade organizations - (permits and distance to the markets)
- Transportation cost
- Miles of new roads constructed – FHWA, state transportation agencies
- Large construction projects, such as housing developments, major transportation or other projects
- Increased demand due to aesthetic requirements/standards changes (such as with decorative boulders, flagstones, landscaping materials)
- If a major supplier goes out of business, exhausts a deposit, or ceases production
- Local prices diverge substantially over time or suddenly from the regional or national price trends indicated by the PPI

Depending on the geographical area, commodity type, and market fluctuations the mineral specialist should identify the most important factors for that area and market that influence the FMV. The purpose of thresholds is to help the mineral specialist to decide whether or not an update should be performed. When and if the mineral specialist identifies the major change in one or more market conditions, the mineral specialist should perform a statistical analysis to show that the change is statistically significant and may potentially affect the FMV.

For example, when considering the population, the mineral specialist should construct the population growth chart showing population fluctuations over a decade, or other significant period of time long enough to show long term trend in population changes (e.g., a decade). Once the trend is established, if a significant change occurs indicating an influx or outflow of people from the particular geographic area, it will appear as an apparent deviation from the established trend. Similar types of analysis should be performed for all other market factors that might have long term trends – like highway construction and maintenance.

There are some market factors that cannot be analyzed to establish long term behavior and derive a threshold. These include changes in regulations on Federal or state level that affect the availability of materials or cost of operations, a major supply company entering or leaving the market, new large construction projects were just approved, etc. The mineral specialist should justify why one or more of these market factors will have a significant impact on the FMV and use their professional judgment to decide on whether or not to proceed with the update.

6.2.2 ADJUSTMENTS TO THE EVALUATION PRICES USING PRODUCER PRICE INDEX (PPI)

In some cases an appropriate Producer Price Index (PPI) can be applied to adjust the FMV for a particular commodity. The term "Producer Price Index" refers to a family of indices compiled and calculated by the Bureau of Labor Statistics (BLS). The PPI is widely recognized among business people, economists, statisticians and accountants as useful in making just these sorts of price adjustments. The PPI measures average change in prices received by domestic producers for their output and provides a simple, standardized, reproducible approach to account for gradual price changes both in general, and for particular products.

The BLM uses the PPI as the method to adjust prices in mineral materials contracts. A price index (plural: “price indices” or “price indexes”) is a normalized average (typically a weighted average) of prices for a given class of goods or services in a given region, during a given interval of time. It is a statistic designed to help compare how these prices, taken as a whole, differ between time periods or geographic locations. The applicability of the PPI depends on the commodity. The two index categories most relevant to most BLM offices are crushed stone and sand and gravel. The crushed stone indices involve national averages and are less useful for local price adjustments. The sand and gravel indices are based on regional prices and may be more closely related to local prices. Indices for other commodities may or may not be available, or trends may need to be extrapolated from a related commodity.

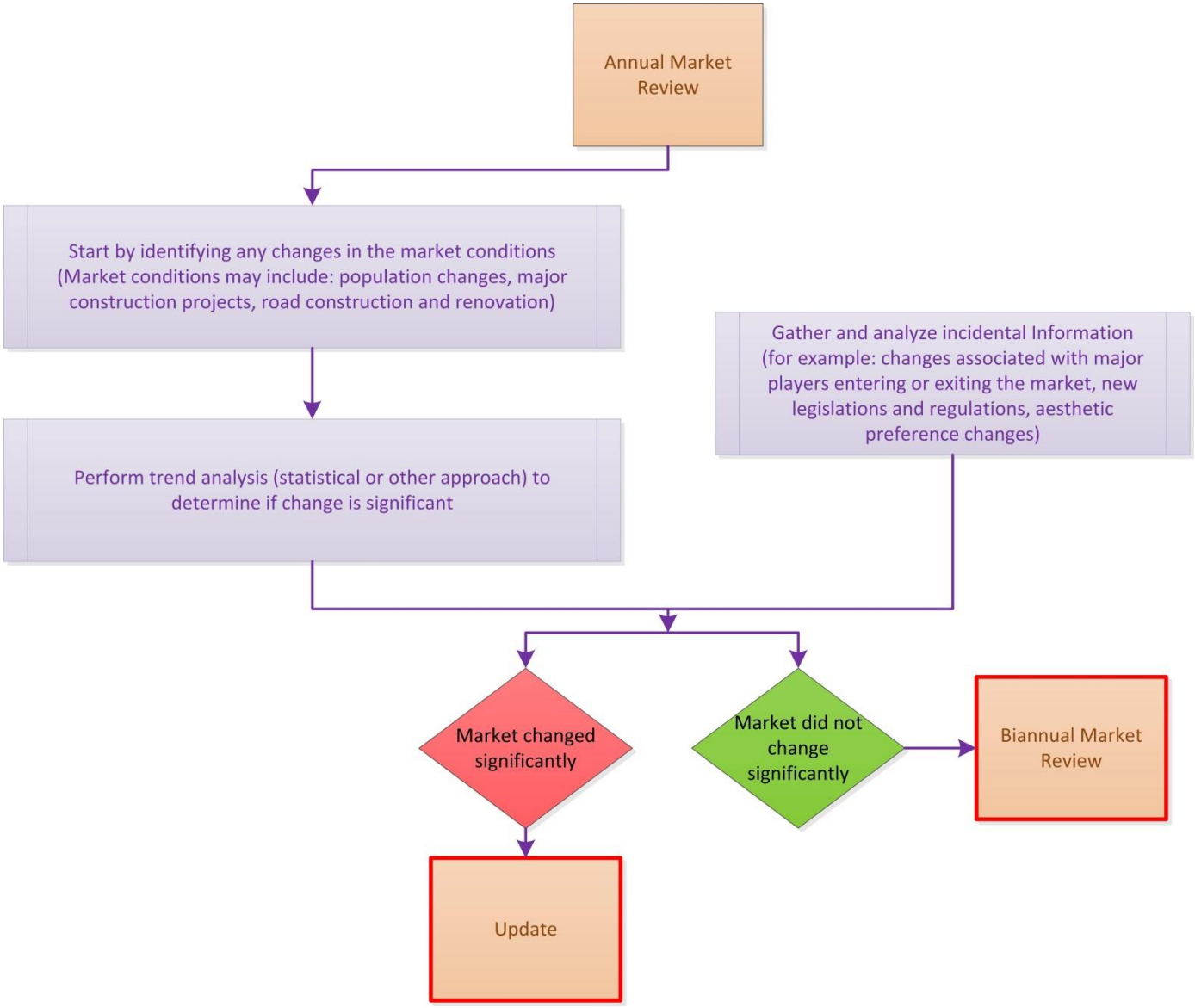
To identify local producer price trends, mineral specialists should obtain retail price sheets annually from local private producers servicing the same market areas as the BLM sites within the area-wide administrative boundary or individual evaluation. This information is generally readily available to the public, and should be reviewed annually to identify trends. Be aware that general price sheets will not reflect actual pricing on all sales.

It is important to realize that PPI may or may not apply to material sales in local areas. Most mineral materials prices are local, not regional, so the local trend may be different than the regional trend. It can be declining, stable, or increasing at a different rate. The local trend must be compared to the PPI to see if the PPI fits.

PPI should only be used if defensible supporting information corroborates that local conditions are consistent with the PPI trends. Supporting documentation must include data on retail price trends from the local producers

from sites that are used for comparable sales, and an analysis that market changes from the factors identified in Chapter 6.2.1 are not significant enough to warrant a new area-wide evaluation. PPI can be applied annually to update area-wide evaluation report prices for new sales contracts, but typically should not be used to extend an area-wide evaluation report for more than 6 years beyond the original report approval date. Note that PPI updated prices can only be applied to existing sales contracts every two years.

FIGURE 6C - FLOW CHART ANNUAL MARKET REVIEW



6.3 HOW TO PERFORM AN UPDATE FOR AN AREA-WIDE MARKET STUDY

When the mineral specialist has identified that one or more market factors have changed significantly to indicate the change in FMV, the following process should be adhered to:

- Evaluate the boundaries of already established market areas. Are there any indications that these boundaries need to be altered or evaluated? If the boundaries need to be reestablished, a new market study should be completed following the steps outlined in the beginning of this chapter.

- If market area boundaries do not need to be altered, then the mineral specialist should examine each individual market area to assess whether or not the particular area needs to be evaluated. Market factors outlined previously, with supported rates of change, should be considered when making this decision. The mineral specialist should show, support, and document their reasoning behind the decision to evaluate or not the established market area.

- Identify the evaluation methods (see Chapter 7 for details) that are the most appropriate to use for the areas identified above and mineral materials commodities.

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CHAPTER 7: EVALUATION METHODS

The mineral materials evaluation process is a systematic approach. It consists of defining data requirements (Chapters 4 and 5), assembling the best available data (Chapter 6), and applying an appropriate evaluation method.

7.1 HOW TO CHOOSE THE RIGHT METHOD

There are three commonly used evaluation methods including comparable sales (adjusted and unadjusted), a percent of sale price, and income approach. The mineral specialist should closely examine gathered information, market conditions, and other relevant factors before selecting an appropriate evaluation method. The selection criteria for each of the evaluation methods will be outlined in this chapter.

It is necessary to point out that in some, rare cases, a combination of several methods or a modified version of the evaluation method might be used. In such cases, a mineral specialist must defend and document the reasoning behind choosing the specific evaluation method.

7.2 MARKET DATA METHODS

Market data methods include comparables sales (adjusted or unadjusted) and purchase price as a percent of retail sales price.

7.2.1 COMPARABLE SALES APPROACH

In the comparable sales approach, the FMV is estimated from prior sales and/or leases of reasonably comparable mineral materials sites. The use of the unadjusted comparable sales method is justified when a sale/lease occurred recently and site parameters and commodity properties, such as physical characteristics of the deposit, location, and proximity to the markets are sufficiently similar.

7.2.1.1 CHOOSING THE COMPARABLE SALES

The mineral specialist must perform an extensive search within the market area for eligible transactions. Evidence of the search must be documented including details about where property records were obtained or examined, and how supporting information was obtained. Potential sources of information include Federal and State and County sales and leases, Indian sales and leases, and private sales and leases.

The mineral specialist should identify potential prior transactions, and verify the accuracy and completeness of available information. This includes geology, material characteristics, market position, transportation, workforce, and others. The most important factors to consider when evaluating the comparables are:

- Transaction Terms. All the terms and sale/purchase prices or royalty rates of the transaction(s) must be verified with the buyer and seller and documented.
- Not-Obligated Buyer and Seller. The transaction should be examined to ensure that there is no indication of undue stimulus to buy or sell. If possible and willing, both the buyer and the seller should be contacted to verify motivation and nature of the transaction.

- Knowledgeable Buyer and Seller. Evidence should be presented demonstrating that the transaction involved a knowledgeable and competent buyer and a knowledgeable and competent seller and that the transaction was intended to result in the most financially favorable situation for each.

7.2.1.2 RANKING COMPARABLE SALES

A ranking process might be useful to select comparable sales that are most similar to the offered mineral materials property. During the ranking process, the mineral specialist identifies the most significant factors that affect FMV. There are many criteria to consider when ranking a prior transaction for comparability. The primary criteria are:

- Timing of Sale and/or Lease and Market Conditions. Market conditions may still have changed significantly between the transaction date and the evaluation date.
- Terms of Sale or Lease. Value is normally stated in terms of cash, or its equivalent, payable at the time of sale. The terms of sale of the mineral materials commodity being evaluated can differ from the terms of the eligible transaction. The differences must be evaluated. For example, some non-Federal royalty rates might include reclamation fees, which would need to be reconciled before adjustment. BLM sales typically include a cost recovery fee for the costs of processing a sale application.
- Engineering and Geologic Characteristics. For example, deposit continuity, waste factors, processing requirements, overburden, mining factors, and engineering properties (quality) of the deposit, etc., can each influence the value and marketability of a property, and differences with the comparable transactions must be evaluated.
- Access to Property and Transportation. Access to the property and proximity to transportation and markets must be evaluated.
- Other Factors. Other factors that may cause value differences between the comparable tracts and the property being evaluated must be identified, described, and evaluated. Examples include NEPA, permitting, and contract administration costs.

7.2.1.3 ADJUSTMENTS TO COMPARABLE SALES

Review the mineral materials site attributes and mineral materials commodity characteristics for similarity to the site and commodity being evaluated to determine if the data can be used without adjustment or if an adjustment to the sale/purchase price is required because the sale is not entirely comparable to the BLM disposal (See Illustration 7). If an adjustment is required, determine whether sufficient information is available to adjust for differences in site attributes and commodity characteristics. Site attributes and commodity characteristics that affect value include, but are not limited to transportation, material quality, mining costs, and location.

Any adjustment must be justified and referenced fully in the report. The adjustment work should be either shown or explained within the text of the report. The mineral specialist must describe the overall analysis, proceeding from general to specific comments concerning the data and provide an indication of the trends affecting the material evaluated, such as changes in local pricing and demand, changed economic conditions locally or nationally, or increases or reductions in construction project activity.

7.2.1.4 LIMITATIONS OF THE COMPARABLE SALES APPROACH

In rural areas where supply and demand are generally low, comparable sales might be hard to find. In the event that comparable sales data cannot be adjusted to yield a representative and defensible FMV for the mineral materials commodity, the mineral specialist must document why the comparable sales method could not be used. If the comparable sales approach cannot be used directly, the mineral specialist must consider whether there is an analogous remote market area that is similar to the subject area and the similarities can be documented. Alternately use the purchase price percent as a percent of sales price approach or the income approach if those approaches are more accurate.

A primary limitation of collecting comparable sales is the mineral specialist's ability to obtain accurate data on non-BLM sites. In private industry, often sales or royalty rate data are considered confidential and proprietary, and the private producer may consider BLM to be a competitor. When attempting to gather proprietary data, care must be taken to reassure the company that the information will remain confidential (43 CFR 3601.8), and if that cannot be done, the mineral specialist must explain any limitations that may apply. For guidance on dealing with confidential data please see Chapter 2. The backup files and correspondence must be maintained in a backup confidential file and not published within the main mineral report.

7.2.2 PURCHASE PRICE AS A PERCENT OF RETAIL SALE PRICE APPROACH

This method is a variation of the comparable sales approach used in situations where there is insufficient market data. Lack of market data may require substantial effort to support adjustments of data from different areas.

This method requires collection and analysis of transactions in similar areas (similar in commodity type and quality, overburden, contract types and constraints, fees, rehabilitation and environmental compliance, etc.) where data on comparable materials can be obtained on BLM sale/purchase prices and/or private/non-BLM royalty rates or sale/purchase prices and correlated with retail or wholesale prices for materials produced from the same sites.

This data is then used to derive a typical ratio of the royalty rates or sale/purchase prices from the primary seller (e.g., private landowner or BLM) to the selling price of the finished product. An example would be to use the FMV and the private seller's retail price for the BLM material from that same sale. See Illustration 1

This ratio is applied to the typical retail price of the finished product of producers who will not provide private royalty rates or sale/purchase prices to arrive at an indication of the FMV for comparable materials. In the most direct version, the ratio used for the commodity is from a market area that is similar to the subject market and geographically close. In a less direct comparison, the approach can use a ratio for the same commodity from markets that are more geographically remote if the ratio can be demonstrated to be consistent across multiple markets (e.g., X percent for multiple markets in several states).

7.2.2.1 CHOOSING THE DATA AND ANALYSIS

The mineral specialist should gather as much information as possible from private sources. The information should include the in-place purchase price or royalty rate, cost information if available, the retail sales prices, and the degree of processing for those products. Depending on availability and number of the data sources, the mineral specialist might want to perform the analysis to develop relationships between the retail sale price for a product, and the FMV.

The Mineral specialist should document all the steps and assumptions involved into the deriving the equations to calculate the FMV.

7.2.2.2 LIMITATIONS OF THE PURCHASE PRICE AS A PERCENT OF RETAIL SALE PRICE APPROACH

The main limitations are:

- Lack of data for the analysis
- Limited understanding of what factors affect the purchase price

7.3 INCOME APPROACH

In the absence of similar comparable sales data or the inability to reconcile previous transactions, the income approach is a viable alternative to a market approach. It measures the value of a property's earning potential. The process of converting future benefits to present value is called discounting. By converting future monetary benefits to present value at a specified discount rate, the income approach breaks down the total net lifetime amount of these benefits into a single indication of value. The income approach estimates Net Present Value (NPV) of a mineral materials deposit by discounting projected annual cash flows to the present. The projected annual cash flow is determined from projected annual revenue, capital and operating costs, taxes, and other expenses.

The general procedure for applying the income approach to FMV calculations is as follows:

1. Assemble Data. Geologic, engineering, and economic information is the foundation for this approach. The mineral specialist must seek out and acquire the most accurate technical information available. Sources and assumptions must be fully documented, explained, and justified.
2. Develop Mine Plan. The mineral specialist is required to assemble a mine plan that should represent the standard industry operating practices for production of the mineral materials resource on the tract. The mineral specialist should explain the plan assumptions and process.
3. Develop Data. Capital and operating costs, production rate, development schedule, and projected prices (domestic and export) and revenues are developed. The mineral specialist must be able to defend the selection of data.
4. Integrate Data. Economic and cost data are integrated to develop estimates of annual cash flow.
5. Discounted Cash Flow (DCF) Analysis. The NPV of future benefits is determined by the DCF method using a discount rate.
6. Vary Royalty Rates or Sale/Purchase Prices to arrive at NPV of $0 or slightly positive. Increase or decrease royalty rates or sale/purchase price using increments of $0.1 to get NPV as close as possible to $0.

Please refer to previous chapter on the guidance for assembling and processing the data. This section focuses on the DCF analysis, its components, and its use for FMV determination.

7.3.1 COMPONENTS OF THE DCF ANALYSIS

DCF analysis is outlined on Illustration 10. The DCF starts with determining mine plan, reserves, and commodity market. The next step dictated mostly by reserves and market analysis is to determine a forecast period which can range anywhere from 2 years up to 10 years. It is not recommended to go beyond 10 years as uncertainty in market conditions increases significantly and introduces errors.

DCF could be subdivided into two main parts – Revenues and Costs. The following discussion will address each component in details.

7.3.1.1 DETERMINING REVENUES

The production schedule developed from the mine plan should be combined with estimated or known mineral materials price information, from the market evaluation, to determine the expected revenue range associated with the mine operation.

7.3.1.2 DETERMINING MINING COST

The mining costs developed for the property mine plan include capital, operating, taxes, and corporate overhead expenditures associated with the mine operation. Capital costs and operating expenses are estimated for individual cost elements.

Capital Cost Elements
Capital cost elements include expenditures for services, construction, and equipment associated with pre-production activity, mine development, and capital replacements for the proposed tract. Capital costs for the purposes of the income approach do not include costs associated with activities prior to the issuance of the contract/modification, but do include cost recovery expenditures and exploration for data adequacy.

The following capital cost elements should be considered by the mineral specialist:

- Pre-mining Studies. After the contract is issued, any expenditures associated with exploration, environmental, and engineering studies that are known to be needed to develop the property should be included in the analysis. Exploration cost includes all field activity required to define the resource sufficiently for final mine design. Engineering cost is the cost of engineering design activities, including contractor fees for engineering design and contractor management.

- Site Preparation and Surface Facilities. Site preparation cost includes expenditures to clear and grub the area in preparation for mining and facility siting. Also, included are costs to provide access to the mine site and to upgrade existing roads. Surface facilities cost includes costs associated with the construction and supply of surface facilities required to support the mining operation. This includes construction costs (for new mines/operations) for general offices, engineering offices, change-house, maintenance shops, warehouses, and load-out facilities, as well as fixtures and equipment required to support the facilities. Also included are expenditures for the purchase and installation of wells, pumps, treatment facility, piping distribution system, and other items required to supply potable water to the mine site for the development of the tract. The surface facility cost element also includes the cost of a mine drainage system and facilities to store explosives, fuel, and water. Data for estimating these costs are provided in industry cost

manuals, vendors, and mine cost studies (see Figure 7A). Care should be taken in handling the cost of access roads that will be reimbursed by the State or County through the tax system or by prior royalty sharing. In some cases, unreimbursed road construction and maintenance may be required by the State, county or local jurisdiction as a condition of authorizing the operation.

- Mine Equipment. Mine equipment cost includes purchase and erection cost of all equipment delivered to the site and spare parts inventory required to sustain production rates specified by the mine plan. Cost includes major equipment items, and auxiliary items such as fire protection vehicles, small trucks, and other similar items used directly in the mining operation. Replacement costs to existing equipment with limited life-cycles must also be considered. Equipment costs and life expectancy can be based on vendor quotes or services subscribed to by BLM.

- Preproduction Development. Preproduction development cost includes the cost of all activities required to bring the mine to full production. For surface mining, these activities include, in part, the drilling, blasting, loading, hauling, and stockpiling of topsoil and overburden prior to mineral materials production. For underground mining, the activities include the development of entries prior to production.

- Indirect, Administrative, Contingency, and Working Capital. Indirect cost accounts for miscellaneous costs not directly attributable to a specific work item. Administrative costs are the general overhead and administrative costs associated with non-production activity for the offered tract. Contingency is an allowance to provide for unpredictable costs not known at the time of the estimate. Working capital is the capital required to meet payroll expenses and other billings for material inventory, to carry accounts billings for material inventory, and to carry accounts receivable until revenue is generated.

FIGURE 7A – SOURCES OF COST ESTIMATION GUIDES

Publisher	Title
Dataquest	Cost Reference Guide
https://www.equipmentwatch.com	AED Green Book
https://www.equipmentwatch.com	Rental Rate Blue Book
Western Mine Engineering, Inc.	Mining Cost Service
Richardson Engineering Services, Inc.	Process Plant Construction Estimating Standards
R. S. Means Company Inc.	Means Site Work & Landscape Cost Data
R. S. Means Company Inc.	Means Square Foot Costs
R. S. Means Company Inc.	Means Heavy Construction Cost Data
Caterpillar Inc.	Caterpillar Performance Handbook
Cost Mine	Mine Costing Service / Mineral materials Cost Guide

Operating Cost Elements

Operating costs are expenditures for labor, material, maintenance, utilities, indirect, variable, and fixed costs incurred during mining activities. Operating cost elements are as follows:

- Labor. Labor cost includes wages and benefits for hourly and salaried personnel. Salaried and hourly personnel requirements are determined from production and equipment requirements specified for the mine plan. Hourly labor manpower requirements should be based on regional operating schedules and labor practices. Wage rates should be based on rates prevailing in the region. A percentage is added to the labor rates to account for benefits such as vacation, sick leave, and health care benefits. This payroll overhead should be estimated based on local experience.

- Materials and Supplies. Equipment supply cost includes expenditures for fuel, lubrication, and other supplies for mining equipment, as well as the cost of scheduled and unscheduled repairs. Equipment operating, maintenance, and supply costs may be estimated from vendor information or the services BLM subscribes to.

- Utility. Utility cost is the cost for purchased electric power. Electric power requirements can be determined from estimates of electric power requirements of equipment and surface facilities. Utility cost should be based on prevailing industrial rate schedules obtained from the utility serving the region.

- Overhead, Contingency, Indirect and Other Cost. Corporate overhead represents the cost of onsite and offsite overhead operating expenditures such as engineering; it must be included in the evaluation process and varies greatly. Contingency is estimated for unexpected facilities operating cost and is also uncertain. Indirect cost accounts for miscellaneous operating expenses not directly attributable to a specific work element. Other similar costs include expenditures for the cost of insuring mine property and equipment against loss, and the cost of insuring against personal injury and property damage liability.

7.3.1.3 DISCOUNTED CASH FLOW ANALYSIS AND TAXES

Federal mineral materials contract value is estimated as the NPV of the projected annual after-tax cash flow of the mine operation. Annual after-tax cash flow is determined from the annual cash income:

[annual revenue - annual costs and taxes] = annual cash income

Both the severance and income taxes must be deducted. It is important to distinguish and apply different calculations to a project vs. corporate operation.

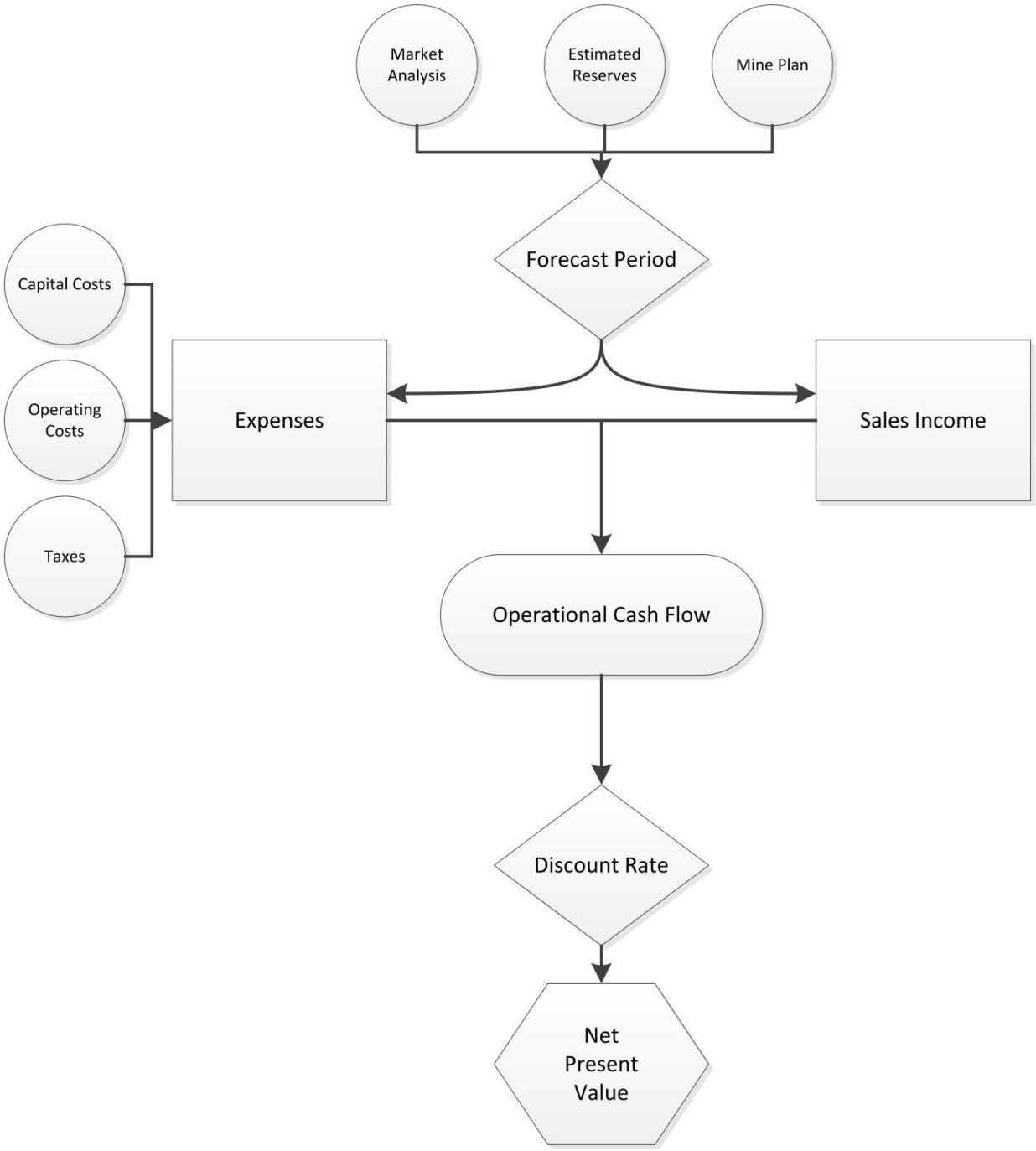
The NPV is the sum of the annual after-tax cash flows discounted to the present at a specific discount rate. Although conceptually simple, the application of the DCF method to mineral property evaluation can be complex.

One difficulty is that a successful estimation of NPV requires that the income tax consequence of capital investment be handled properly. Consequently, decisions concerning the handling of deductions to determine taxable income for the tax calculation become important considerations to the estimation process. Allowable tax deductions are subtracted from gross income to determine taxable income. Deductions include severance taxes,

royalties, operating and other expensed items, depreciation, and depletion. Income taxes are calculated as a percentage of this taxable income. To derive annual cash flow, annual gross revenues in each year are reduced by cash cost outlays including cash tax payments.

Tax calculations, such as proper use of depreciation, depletion, and amortization, for a DCF are fully explained in Stermole and Stermole, 2012, *Economic Evaluation and Investment Decision Methods*. The application of the income approach using the DCF analysis to estimate value of a mineral materials deposit is illustrated in Figure 7B.

FIGURE 7B - DISCOUNTED CASH FLOW DIAGRAM



In addition, it is important to fully analyze the additional capital and capital replacement costs that would be incurred by adding incremental mineral materials reserves to an already operating mine. In most cases the capital equipment and replacement budget is explicitly linked to the total amount of mineral materials reserves

that will be extracted by that capital equipment. And, increasing mineral materials mine reserves will almost always result in at least a small amount of additional capital costs.

Annual capital and operating costs are based on equipment requirements, manpower requirements, and development schedules derived from the engineering mine plan. These data, combined with projected mineral materials price and other economic data, represent the input to the DCF analysis.

7.3.2 DISCOUNT RATES

The DOI currently uses a 10 percent real (adjusted for inflation), post-tax rate of return as the discount rate for mineral materials property evaluation. This rate is based on the 10 percent real, after-tax rate that is required by the Financial Accounting Standards Board for valuing oil and gas reserves for the SEC (F.A.S.B., Topic 932, No. 2010-03, January, 2010). This value should be checked against actual economic conditions and for consistency with actual industry values prior to every analysis. BLM may use a different value from another source; however this must be fully justified with well-reasoned documentation in the analysis.

7.3.3 USING DCF TO ESTIMATE FMV

Because the purpose of the evaluation is to estimate the FMV, DCF is performed with a set NPV – around $0. The mineral specialist then assigns different incremental FMV to approach $0 NPV. We recommend using FMV increments of $0.01. See the example of DCF in Illustration 10.

7.3.4 LIMITATIONS OF THE INCOME APPROACH

The difficulty with using the income approach is its reliance on reasonably accurate estimates of potential markets and mining costs, and the number of factors that must be estimated. Uncertainty in potential markets affects the likelihood of selling the mineral materials at a specific volume and price. Consequently, the NPV of the income stream obtained by this method depends critically on the quality of the research and the effort given to developing the input parameters.

The income approach will most likely be used for preparing minimum bid estimates and FMV updates for very large operations (e.g., over 1 million cubic yards) that will operate for at least ten years (e.g. competitive non-renewable contracts with ten year terms and renewable competitive contracts with terms of at least ten years).

7.4 RECONCILITATION IF MORE THAN ONE METHOD IS USED

In special cases, when more than one evaluation method must be used, the mineral specialist must analyze, document all the steps, and decide which one of the methods is the most accurate. The mineral specialist should avoid using an average of the values obtained by different valuation methodologies.

An example would be a very large sale (e.g., over 1 million cubic yards) where there are a few local comparables and there is sufficient information to also perform a DCF analysis. The FMV obtained by comparables and income approaches must be compared and any differences between them should be explained. The mineral specialist must perform analysis to show which method resulted in a more accurate FMV estimate.

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CHAPTER 8: WRITING A FMV NARRATIVE EVALUATION REPORT

Narrative evaluation reports will follow the general format and contain the information presented in this chapter. They will also follow the review and distribution process outlined at the end of this chapter.

8.1 INTRODUCTION

8.1.1 TITLE PAGE

Form 3060-1, Mineral Report (see Illustrations 3A and 3B). Includes the following:

a. Title
b. Legal description
c. Type of case – serial number
d. Effective date of evaluation
e. Signature of preparer (mineral specialist)
f. Signature of technical reviewer
g. Signature of DME technical reviewer
h. Signature of management acknowledgement

8.1.2 TABLE OF CONTENTS

8.1.3 LIMITING CONDITIONS AND ASSUMPTIONS

This section is comprised of assumptions, expectations, and beliefs considered in applying factual data and judgments which are believed to be appropriate and plausible. This section informs the reader of the mineral specialist's assumptions. Examples of critical assumptions are as follows:

a. Data, opinions, estimates, statistics, etc., obtained from outside sources during the course of gathering information are assumed to be reliable and accurate.

b. The specialist renders no opinions of a legal nature, such as ownership of the property or conditions of title.

c. The evaluation report should not be used for purposes other than that for which it is written.

d. The estimated value given in the evaluation report is for the date indicated. Please refer to Chapter 6 for update procedures.

e. The mineral materials will be disposed of under current BLM regulations and procedures.

8.2 SITE DATA

8.2.1 PURPOSE

State the type of material being valued and the reason for the evaluation.

8.2.2 SITE DESCRIPTION

Include a complete and precise legal description. Describe the legal ownership of tract, i.e. all Federal or split estate lands. Describe the terms of the mineral materials disposal contract, including limitations or exceptions that affect extraction, processing, stockpiling, transporting, etc. of the material on the mineral materials site.

8.2.3 REGIONAL GEOLOGY

Discuss the regional geology and provide applicable information of regional factors that have an influence on the value of the mineral materials being evaluated, i.e. the material being requested is building stone and no other similar deposit is located within 50 miles.

8.2.4 GENERAL LAND USE TRENDS OF THE AREA

Discuss the land use trends that have an influence on the value of the mineral materials being evaluated, i.e. the deposit is located in an urban area and would be suitable for use in housing construction.

8.2.5 SITE DATA

Describe the physical aspects of the mineral materials site being evaluated, the lithologic characteristics of the material to be disposed of, and include information on the mining plan, if applicable. Indicate how the site was reviewed, either through a site visit or other options if necessary. Include maps, photos, other images, and the date of inspection in this section.

8.3 DATA COLLECTION AND METHODS

8.3.1 CONFIDENTIALITY STATEMENT

If any confidential or proprietary data are collected and used in the report, explain how those data will be identified in the report. For example, “Operators will be listed as Company A, Company B, etc. to protect their identity and exact locations of the operations will not be shown.” or “Due to the low number of operators producing moss rock in the area, BLM sale/purchase prices and private royalty rates or sales/purchase prices will be grouped by county and given as a range of values.” This statement is meant to inform the reader that confidential data is being used and to help them understand how it is being presented to them.

8.3.2 DATA COLLECTION FOR COMPARABLE APPROACH

Describe attempts to collect data for the comparables approach. The description should include a summary of the data that was found and of all attempts made to collect comparables data. This section should also outline any issues or complications in finding data due to issues like lack of cooperation from private companies, lack of comparable sites, etc. A description of the comparables effort should be documented, even if the comparables method is not used.

8.3.3 DATA COLLECTION FOR A PERCENT OF RETAIL SALES PRICE APPROACH

If the comparables approach was not used, describe attempts to collect data for this approach. The description should include a summary of the data that was found and of all attempts made to collect the data. This section should also outline any issues or complications in finding data. Refer to Chapter 7 for details on this method.

8.3.4 DATA COLLECTION FOR THE INCOME APPROACH

If the comparables and the percent of retail sales price approach were not used, present the data used in the income approach in the manner described in this Handbook.

8.3.5 EVALUATION DATA OBSERVATIONS

May include the following:

a. Quantity of data obtained
b. Quality and sources of the data (ensure confidentiality of proprietary data is maintained)
c. Evaluate trends which will aid in analyzing specific data
d. Type of data which is the most pertinent

8.4 EVALUATION AND ANALYSIS

8.4.1 EVALUATION METHODS

Include a brief discussion of the approach(es) selected (comparables, a percent of sales price, or income approach). The particular evaluation problem and the type of data applicable to it determine which of the recognized approach(es) to perform an evaluation would be best supported.

In this section, justify the reason for selecting the approach(es) used based on the discussion of the available data in the above section. Also, in this section show the work required to come to a value based on the analysis methods described previously. This section should include the following types of information:

a. Maps
b. Tables and figures
c. Explanations of how adjustments were made
d. Calculations of values
e. Any other information required to document and justify the analysis

8.5 SUMMARY AND CONCLUSIONS

8.5.1 RECONCILIATION

If more than one approach was attempted, explain each approach. Justify the final approach used. Be clear, concise and neutral in tone. Deal with any questions concerning the relative strength and reliability of the data in each approach and with the applicability of the approach to determining the value of the mineral materials being evaluated.

8.5.2 SUMMARY AND CONCLUSIONS

The summary and conclusion must resolve any remaining questions and lead logically to the final value estimate. The value estimate should be clearly and carefully written. Normally, it is compiled as follows:

a. Restate the final approach(es) used to determine the value.
b. State the final conclusion as a result of assembling all the facts, analyses, reasoning, experience, and judgment that may be concentrated within the framework of the Fair Market Value definition.
c. End with a clear, definite statement of the estimated value.

8.6 UPDATE TO THE REPORT

Outline timeline and procedure for an update.

Describe market variables and trends that might affect FMV. Provide general guidance of what changes in regulations, market players, supply and demand, or other potential characteristics should be looked at on a regular basis.

Describe potential scenarios of market changes and how they can affect FMV.

8.6 REFERENCES

References should be included for any sources cited in the report. If there is not an office standard in place, use a technical citation/reference style, such as that of the U.S. Geological Survey or the Geological Society of America. Choose one style and try to be consistent. The references section should also include the glossary, list of acronyms, etc.

8.7 EXHIBITS OR ADDENDA

Illustrate pertinent points by including foldable maps, plats, photographs, data sheets and other exhibits which are needed in the evaluation process in addition to those used in the body of the report. Place in this section any detailed data and information pertaining to the mineral materials or other important factors in the evaluation which are too long for the body of the report, or which may distract from a smooth presentation. The need to document specific facts or to illustrate particular features of the mineral materials or comparable data determines what is placed here. The minimum information required is provided below.

8.7.1 GENERAL LOCATION MAP

This map may be included in the site data section or in the addenda. It must be a clear copy with the general location of the site noted, scale, north arrow, and a legend (if necessary). The map must cover a sufficiently broad geographic area so that a reader, unfamiliar with the location, can relate it to well-known landmarks. Use as many maps as necessary to adequately describe the site.

8.7.2 MATERIAL SITE COMPARABLE DATA MAP

This map shows the location of the mineral materials site being evaluated and comparable data locations distinctly identified. Include a title, legend, north arrow, scale, and notation of any proprietary data. The scale

should permit location of all comparable sales sites on a report-sized sheet which may be folded out for easy reference. This map serves two general purposes:

a. Identification of the mineral materials site illustrating the narrative description.
b. Relative location of the mineral materials site to the comparable sales sites. Number the comparables to coincide with the reference numbers in the narrative so their relative locations can be readily identified. Be careful not to reveal any proprietary/confidential information on the map. It may be necessary to have a map with only the BLM-managed Federal sites in the publicly available portion of the report, and a separate map showing all sites, including comparable sites, in the confidential section of the report. Otherwise, placing the map with comparable sites in the public portion of the report will reveal the identity of those comparable sites even if the site names are not labeled.

8.7.3 SUBJECT PHOTOGRAPHS

Include sufficient photographs to show the mineral materials being evaluated, the site at which it's located, and the mineral materials and locations of the comparable sales. Photographs must show pertinent data. Describe the purpose of the photo in a caption along with view direction and date taken. Mark the subject boundaries on the photos in a manner that reproduces clearly for duplicate copies.

8.7.4 GEOLOGIC MAP

Include a map showing the general geology of the mineral materials site as it pertains to the mineral materials being evaluated. A legend or stratigraphic column showing the age and composition of each rock unit may be included. The geologic map needs to be scaled to coincide with what was described in the report and show the formation that is the subject of the mineral materials disposal.

8.7.5 COMPARABLE DATA

Include documentation of the details of each transaction which was selected for direct comparison to the mineral materials being evaluated in a format that illustrates all of the relevant data. Make sure any proprietary or confidential information is clearly marked as such and stored according to BLM standards.

Data used for general purposes such as for developing adjustment factors, illustrating trends, etc., may be included in tabular form. The transaction detail must be retained in the mineral specialist’s working file, and the table must sufficiently identify the data to permit retrieval. Mineral specialists must maintain data files upon which their approaches are based. This serves two purposes:

a. It provides the information necessary in case the evaluation is disputed.
b. It forms a data bank which can be drawn upon for future evaluations.

8.7.6 OTHER PERTINENT DATA OR EXHIBITS

These should be restricted to information which is directly pertinent to the evaluation and must be specifically referred to in the body of the evaluation report. This might be backup data to the document or illustrate a fact about which a critical reader would require more information, and include:

a. Statistical data upon which the mineral specialist has relied in developing major points such as comparative adjustment factors. The date, source, and collection method must be shown for such data.
b. Detailed physical data concerning important surface or subsurface features of the mineral materials site, or comparables, may be included here. Such information might include: soil analyses, core sample logs, water table data, assay records, American Society for Testing and Materials (ASTM) tests, American Association of State Highway and Transportation Officials (AASHTO) tests, etc.
c. Glossary, list of acronyms, etc.

CHAPTER 9: WRITING A SHORT FORM EVALUATION REPORT

The Short Form Evaluation Report is a brief summary to be used ONLY when there is an uncomplicated/non-controversial evaluation (noncompetitive sales of materials from an existing or new site that do not involve trespass or resource conflicts); or when an existing and approved narrative evaluation report is available, such as an area-wide evaluation. A short form report can also be used to add a new disposal site to an area-wide evaluation report for an administrative area.

If the mineral specialist opts to perform an analysis without an existing approved narrative report, the short form analysis must accompany the data and information obtained for determining the final value. This information must be provided to the reviewer.

Use of the short form requires all the same guidelines as a narrative evaluation and should be created from a completed narrative report. The short form may be used to update the existing narrative report and must refer to such report, including all other relevant information obtained to derive a defensible market value determination.

The Short Form Report must represent the narrative analysis as brief **statements or descriptions** rather than **narrative explanations** that would be provided in a narrative report. This includes the review and distribution process as well.

The Short Form report itself should include the following:

9.1 TITLE PAGE

Form 3060-1, Mineral Report (see Illustrations 3A and 3B). Includes the following:
a. Title
b. Legal description
c. Type of case – serial number
d. Effective date of evaluation
e. Signature of preparer (mineral specialist)
f. Signature of technical reviewer (including DME when appropriate)
g. Management acknowledgement

9.2 INTRODUCTION

9.2.1 LIMITING CONDITIONS AND ASSUMPTIONS

This section is comprised of assumptions, expectations, and beliefs considered in applying factual data and judgments which are believed to be appropriate and plausible.

9.2.2 PURPOSE

State the type of material being evaluated and the reason for the evaluation (i.e. update).

9.2.3 SITE DESCRIPTION

Briefly describe the legal ownership of the tract, i.e. all fee Federal or split estate lands. Briefly state the terms of the mineral materials disposal contract, including limitations or exceptions that affect extraction, processing, stockpiling, transporting, etc. of the material on the mineral materials site.

9.2.4 REGIONAL GEOLOGY

Briefly state the regional geology and provide new information of regional factors that have influence on the value of the type of mineral materials being evaluated.

9.2.5 LAND USE TRENDS, REASONABLE FORESEEABLE DEVELOPMENT

Briefly state the land use trends having influence on the value of the mineral materials being evaluated.

9.2.6 SITE DATA

Briefly state the physical aspects of the mineral materials site being evaluated, the lithologic characteristics of the material to be disposed and include information on the mining plan, or refer to the mining plan document, if applicable. Indicate how the site was reviewed, either through a site visit or other options if necessary. Include relevant maps, photos, other images, and the date of inspection in this section.

9.3 DATA COLLECTION AND METHODS

9.3.1 CONFIDENTIALITY STATEMENT

If any confidential or proprietary data are collected and used in the report, explain how the data will be identified in the report. For example, “Operators will be listed as Company A, Company B, etc., to protect their identity and exact locations of the operations will not be shown,” or “Due to the low number of operators producing moss rock in the area, BLM sale/purchase prices and private royalty rates or sales/purchase prices will be grouped by county and given as a range of values.” This statement is meant to put the reader on notice that confidential data is being used and to help them understand how it is being presented to them.

9.3.2 DATA COLLECTION FOR COMPARABLES APPROACH

Describe attempts to collect data for the comparables approach. The description should include a summary of the data that was found and of all attempts made to collect comparables data. This section should also outline any issues or complications in finding data due to issues like lack of cooperation from private companies, lack of comparable sites, etc. A description of the comparables effort should be documented, even if the comparables method is not used. See Chapters 4 and 5.

9.3.3 DATA COLLECTION FOR A PERCENT OF RETAIL SALES PRICE APPROACH

If the comparables approach was not used, describe attempts to collect data for this approach. The description should include a summary of the data that was found and of all attempts made to collect the data. This section should also outline any issues or complications in finding data.

9.4 EVALUATION AND ANALYSIS

May include the following:

- Quantity of data obtained.
- Quality and sources of the data (ensure confidentiality of proprietary data is maintained).
- Evaluate trends which will aid in analyzing specific data.
- Type of data which is the most pertinent.

9.4.1 EVALUATION METHODS

Include a brief discussion of the method(s) selected (comparables, percentage of sales price, or income approach). Justify the reason for selecting the approach(es) and reasoning for use of the short form.

Briefly explain how the data resulted in the final value conclusion. This may be in the form of bracketing on a grid, or in brief written summary. Ensure the information and explanation is sufficient to develop a defensible result. This section should include the following types of information:

- Maps
- Tables and figures
- Explanations of how adjustments were made
- Calculations of values
- Any other information required to document and justify the analysis

9.5 SUMMARY AND CONCLUSIONS

9.5.1 RECONCILIATION

Be clear, concise and neutral in tone. Briefly state the relative strength and liability of the data in each approach and with the applicability of the approach to the evaluation of the mineral materials being evaluated. Identify the reason for selecting the approach that is considered to be most applicable. The value estimate should be clearly and carefully written.

9.5.2 SUMMARY AND CONCLUSION

The summary and conclusion must resolve any remaining questions and lead logically to the final value estimate.

- Restate the final approach(es) used to determine the value.
- State the final conclusion as a result of assembling all the facts, analyses, reasoning, experience, and judgment that may be concentrated within the framework of the Fair Market Value definition.

- State the final conclusion of value.

9.6 REFERENCES

References should be included for any sources cited in the report. If there is not an office standard in place, use a technical citation/reference style such as that of the U.S. Geological Survey or the Geological Society of America. Choose one style and try to be consistent. The references section should also include the glossary, list of acronyms, etc.

CHAPTER 10: REVIEW, APPROVAL AND DISTRIBUTION OF REPORTS

Upon completion of the report, the mineral specialist performing the evaluation must submit the report to a technical reviewer. The technical reviewer must review the report for technical errors, ensure the report is defensible, and that the mineral specialist followed the Handbook. If the mineral specialist had reasonable explanations for deviating from the Handbook, these deviations must be documented thoroughly and approved by the technical reviewer.

Upon completion of the technical review, the mineral specialist and the technical reviewer should discuss any revisions suggested by the technical reviewer. Once the technical reviewer is satisfied with the report, it is submitted to the mineral specialist's supervisor/manager to receive the management acknowledgement signature. The report cannot be considered complete until signatures have been obtained by the mineral specialist, technical reviewer, and where applicable, by DME (DME- for independent and final review, see Section 1.3.3 for description of DME duties), and management (for acknowledgement).

10.1 TECHNICAL REVIEW OF SHORT FORM REPORTS

Upon completion of the report, the mineral specialist performing the evaluation with the short form must submit the report to a technical reviewer. Short form reports are normally reviewed only by a BLM technical reviewer. The technical reviewer must approve, require changes to, or disapprove the short form report after sufficient review to determine if:

1. Analysis and supporting data is defensible;
2. Data and technical information are accurate and;
3. Information is consistent with the guidelines of the Handbook.

Upon completion of the BLM's technical review, the mineral specialist and the technical reviewer should discuss any revisions recommended by the technical reviewer. Once the technical reviewer is satisfied with the report, it is submitted to the mineral specialist's supervisor/manager to receive the management acknowledgement signature. The report cannot be considered complete until signatures have been obtained by the mineral specialist, technical reviewer, and management.

Evaluations only requiring a short form report should normally be performed by in-house BLM mineral specialists. In-house and contracted out site-specific evaluations should be reviewed and approved in-house by a mineral specialist or qualified technical reviewer.

10.2 TECHNICAL REVIEW OF NARRATIVE REPORTS

All Narrative Reports must be reviewed by a qualified BLM technical reviewer. After the BLM performs its technical review, area-wide market studies, controversial site-specific reports (e.g., trespass evaluations) and large site-specific (1 million cubic yards or more) reports will be reviewed by the DME.

10.3 QUALIFICATIONS OF THE REVIEWER

A technical reviewer should have an expertise necessary to understand the data involved in the analysis, evaluation methodologies, and overall knowledge of mineral materials industry, commodity markets, and geology. The technical reviewer should have at least one year of technical review experience related to mineral materials industry.

10.4 TECHNICAL REVIEW PROCESS

The technical reviewer will first become familiar with the assignment and the market area by studying the data searched and/or presented and by checking mineral descriptions, size and/or specified area of analysis, estates (as appropriate for the assignment), deeds, options, maps, and development plans.

The reviewer analyzes the information, data, and analyses presented for adequacy of quantity and quality. Then reviewer ascertains if the report conforms to law, regulations, and agency standards and requirements. The reviewer will maintain a record of all documentation provided to the analyst, and before approving the report, the reviewer will:

1. Verify that the correct property and mineral materials are identified and identical to the mineral materials associated with the site and property rights the Government is to dispose for mineral management purposes (as cited in the contract, permit, or disposal program).
2. Determine if the facts cited are correct, if the assumptions are valid, if the analysis and approaches are properly processed, and if the mineral specialist completed a thorough analysis.
3. Analyze and correlate all facts and information available (within the report or obtained otherwise) to help evaluate the acceptability of reports and value estimates.
4. Ascertain if the value estimation is reasonable and supported by the data, information and analysis
5. Approve or recommend for approval, the report(s) in accordance with delegated authority.

10.5 LIMITATIONS OF THE REVIEWER

1. The technical reviewer may not change a report, except for minor mathematical or typographical errors, and must call those minor changes to the analyst's attention. No one, except the original mineral specialist, is permitted to edit or otherwise revise the original report unless that assignment is formally transferred to another analyst.
2. The technical reviewer may not substitute personal judgment for that of the mineral specialist, nor dismiss careful judgment solely because it cannot be supported by conclusive market data. However, the reviewer may question the analyst's judgment when it is illogical, unreasonable, not supported by data cited, or is inconsistent with other data.
3. The technical reviewer must not allow agency goals or adversarial pressure to influence the reviewer's opinion of a report's value estimate. Nor can the technical reviewer's personal opinion regarding the proposed action influence the review process.
4. The technical reviewer must not attempt to influence the mineral specialist's judgment or direct the analyst toward a value opinion. The only effort should be to obtain a properly supported value opinion based on factual evidence and valid analysis of all facts available through use of approved evaluation approaches and techniques.

5. When assisting or training mineral specialist, the technical reviewer will avoid becoming so involved in an analysis that it reflects the reviewer's analysis, judgments, and opinions, rather than the mineral specialist 's. To do so would preclude subsequent objective review by the reviewer.

10.6 RESOLVING THE DIFFERENCES BETWEEN THE MINERAL SPECIALIST AND THE TECHNICAL REVIEWER

To resolve divergences, the technical reviewer identifies the potential sources and causes, verifies the factual differences, and clarifies the mineral specialist's interpretation.

If the technical reviewer finds divergence due to the mineral specialist's interpretations of data, the reviewer should request further details or supporting data. The reviewer may ask the mineral specialist to reevaluate the report problem, considering (1) any additional information available or overlooked, (2) which data are really the most relevant, and (3) the different analyses and interpretations of the data and what they indicate. The reviewer may ask for reconsideration of conceptual aspects of the report. **Ultimately, the assigned reviewer determines when the report is ready to be sent out.**

10.7 DME TECHNICAL REVIEW PROCESS

For area-wide market studies, controversial and large volume (1 million cubic yards or more) site-specific reports, DME will be conducting a third-party technical review. DME will assign a qualified individual that meets requirements outlined in Chapter 10.3 to review the report and all supporting documentation. The DME reviewer will follow the process outlined in Chapter 10.4.

If the DME reviewer finds discrepancies and errors, the BLM mineral specialist and the BLM technical reviewer will be directly contacted and all effort will be focused on resolving the differences based on factual evidence and supporting documentation. In cases, when no resolution can be peacefully achieved, a special committee consisting of DME's Chief, and a BLM's district office representative will be formed to review the case and make a decision on the adequacy of the report.

10.8 MANAGEMENT ACKNOWLEDGEMENT

An evaluation report is produced by the collection and analysis of mineral materials geologic, technical and economic data. The conclusion drawn from this analysis is the professional opinion of the mineral specialist who gathered the information and prepared the report. After review and approval by the BLM, and where applicable, DME technical reviewers, the report's technical conclusions are not subject to revision by management.

The manager's signing of the acknowledgement block on the mineral report cover sheet indicates that he/she has read and understands that the report has undergone technical review and is aware of the conclusions of the evaluation of the commodity.

A manager, if qualified, can serve as a technical reviewer, but the same manager should not serve as both functions for the same report; instead, another manager should sign the management acknowledgement.

10.9 EVALUATION REPORT DISTRIBUTION

When a mineral materials evaluation report has been completed, a copy of the report will be maintained by the State Office and a copy will be sent to the District Office to be included in the mineral materials disposal case file.

REFERENCES

- BLM Handbook H-1264-1- Information Technology Security Handbook (I)
- BLM Handbook H-1270-1 - Electronic Records Administration
- BLM Handbook H-1510-6 - Contracting for Studies, Analyses, Inventories, and Surveys
- BLM Handbook H-1790-1 - National Environmental Policy Act (NEPA)
- BLM Handbook H-3600-1 – Mineral Materials Disposal Handbook
- BLM Handbook H-3809-1 - Surface Management Handbook
- BLM Handbook H-3890-3 - Validity Mineral Reports
- BLM Handbook H-9235-1 - Mineral Material Trespass Prevention and Abatement
- BLM Instruction Memorandum No. 2012-054- Safeguarding Privacy Info
- BLM Manual 1264-1 - IT Security
- BLM Manual 1270 - Records Administration
- BLM Manual 1273 - Vital Records
- BLM Manual 1278a,- External Access to BLM Information (Public)
- CFTC, 1987 – FOIA, Executive Order 12600 of June 23, 1987 (as published in the Federal Register, 52 FR 23781 (June 25, 1987))

GLOSSARY

A

- Acceptable Source - types of transactions that are normally considered acceptable evidence of Fair Market Value, such as arms-length transactions and competitive sales. Some transactions are not acceptable and must not be used in evaluations, while others may be used, provided no better evidence exists. If any "questionable" types of transactions are used, the mineral specialist must explain the basis for the rates paid and discuss rationally why the transaction represents the best available indicator of Fair Market Value.

- Adjustments - most mineral materials sales from other sites are not completely comparable to the site being evaluated. In the comparison process, small incremental additions or subtractions for each factor (adjustments of either dollar amounts or percentages) are made to the royalty rates or sale/purchase prices at a site for each factor evaluated (e.g., haul distance) to identify the extent to which the site is comparable to the site being evaluated.

- Area-wide Market Study - an evaluation made to cover all the disposals of one or more mineral materials commodities from all the sites within a specific jurisdiction or geographic area.

- Arms-Length Transaction - a transaction between unrelated parties, under no duress, who are acting in his or her own best interest.

- Assumption - a statement or condition that is presumed or assumed to be true and from which a conclusion can be drawn, such as that the sale will be made under the current regulations and procedures, or that data, opinions, estimates, statistics, etc., obtained from outside sources during the course of gathering information are assumed to be reliable and accurate.

B

- Bracketing - a process in which the mineral specialist determines a probable range of values for a mineral materials site by applying qualitative techniques of comparative analysis to a group of comparable sales. The array of comparable sales may be divided into two groups – those superior to the subject and those inferior to the subject. The adjusted royalty rates or sale/purchase prices reflected by these two groups limit the probable range of values for the subject and identify a bracket in which the final value opinion will fall.

C

- Cash Flow - the actual or prospective revenue from a mineral materials site, less operating and capital costs and taxes over the investment period.
- Community Pit - formally designated areas for all types of BLM mineral materials disposals that involve intensive surface disturbance. They are established based on an indicated need for multiple disposals of a particular type of commodity in a given area. There is no limitation on the size of community pits, although they usually confine the disturbance to a relatively small, defined area. Community pits operate under a BLM designed management plan for mining, operations, and reclamation.

- Common Use Area - A formally designated area for BLM disposals that require negligible surface disturbance, such as collection of boulders or flagstone from the surface. CUAs generally cover broad

geographic areas. The use is disbursed throughout the area. After removal of the minerals, collection areas require little or no reclamation, and mining plans are typically not required.

- Comparables - reasonably recent sales from private, state or Federal sites that involve mineral materials commodities of similar quality, quantity, composition and physical features under terms and conditions that are comparable to the Federal regulations, procedures and costs for the site being evaluated.

- Comparison Summary Chart - a chart that presents the data and essential facts of the comparable sales to document quantitative or qualitative differences between those sites and the mineral materials being evaluated, and the adjustments needed to the comparable sales prices to identify the value for the subject site.

- Complicated/Controversial Mineral Materials Sales - sales can be complicated when the geology of the deposit is complicated or when access is difficult requiring multi agency or landowner approval, or when a trespass is involved. Controversial sales often occur as a result of public opposition for a host of reasons, including but not limited to, perceived mineral materials value and/or impacts to the human and natural environment.

- Condemnation - (also called eminent domain) a legal process that involves a state, municipality, or private person taking private property for public use following payment of just compensation to the owner of the property. In condemnation evaluations, mineral specialist often cannot consider the best comparable sales (if they were purchased by the condemning authority) and comparable sales impacted by condemnation. In addition, to the condemnation evaluation, the values of the “part taken” and “damages to the remainder” must both be calculated.

D

- Defensible -well documented with all commodity evaluation calculations being transparent, based on the latest and accurate relevant data, using accepted methods and practices as identified in the H-3630-1 Handbook. The operator(s) providing information may be invited to review the BLM summary page for their own comparable site and asked to concur that BLM’s summary is accurate before the data is used in the evaluation

- Deleterious Materials - a broad range of materials that are dangerous to health (e.g., asbestiform minerals, mercury), environmentally damaging, or contains physical or chemical properties that will cause failures when used in construction materials (e.g., alkali-silica reactions, salt, soft particles, clay lumps, dust, and vegetation).

- Discount Rate - an annual percentage rate of return on invested capital used to determine present worth factors in discounting future cash flows. The reasonableness of a rate may be tested by comparison with rates in the present market place. The discount rate can include a percentage for a real rate of return, risk, and inflation.

- Discounted Cash Flow (DCF) - a method used to estimate the value of an operation today, based on projections of how much money it is projected to make over the term of the operation. DCF analysis says that an operation is worth all of the cash that it could make available to investors in the future. It is described as "discounted" cash flow because cash in the future is worth less than cash today due to risk

and inflation of costs over time. DCF analysis uses projections of cash flow in the future and discounts them to arrive at an estimate of present value, which is used to evaluate the potential for investment. If the value arrived at through DCF analysis is higher than the current cost of the investment, the opportunity may be a good one.

E

- Effective Date (of Evaluation) -the date that the evaluation report signed by the mineral specialist is approved.

- Effective Sale/Purchase Price orRoyalty - a sales/purchase price or royalty that is impacted by other costs or considerations such as: surface rental or royalty, access fees, unusual bonding, minimum payment requirements, etc.

- Evaluation- an analytical judgment of the value or condition of something in a careful and thoughtful way. "Evaluation of mineral materials", within the broad, generic meaning of the term "appraisal", means a determination of adequate compensation.

F

- Fair Market Value (FMV) - a price at which buyers and sellers with a reasonable knowledge of pertinent facts and not acting under any compulsion are willing to do business (Merriam-Webster). The price a buyer will pay. All parties are willing and aware of the property (mineral materials commodity) and its value (Black's Law Dictionary).

- Formal Evaluation Training - documented training courses in mineral economics, comparable sales, and DCF analysis offered by the BLM, colleges, universities, and private educational institutes.

- Free On Board (F.O.B) - Refers to point of sale cost without charge for delivery to, and placing on board, a carrier at a specified point.

H

- Highest Value Use (as related to a commodity) - the highest value of the in-place mineral materials for a common variety use after extraction and processing. The intended use by an identified prospective purchaser may or may not be the highest and best use. For example, if limestone is being bought and sold for use as aggregates while the prospective purchaser proposes to use the material as common fill, the evaluation should consider its value as aggregates and not as lower value common fill. Locatable chemical or metallurgical grade limestone has a higher value, but the material is not salable if it will be used for purposes consistent with its distinct and special value. However, if the actual limestone use is for concrete aggregate (a common variety use), the evaluation would price the material as aggregate instead of the higher locatable use price.

I

- Income Approach - A commodity evaluation method that allows investors to estimate the value of the mineral materials based on the income produced. The income approach is computed by taking the net operating income of the site and dividing it by the capitalization rate (the investor's rate of return). It is

most typically used for income producing properties and the formula is: Market Value = Net Operating Income. Also called the "income capitalization approach."

- Index – a typical number or price for some good or service, calculated from an array of prices and quantities. It uses various factors such as trend analysis of population, construction, transportation, which will provide the necessary information to determine if prices need to be indexed or not. The Producer Price Index measures the average change over time in prices received by domestic producers for their output, andit is used to calculate updates of recently valued materials to reflect the current Fair Market Value.

- In-place Evaluation - the price of the "in place" in the ground (if unmined) or "in place" in its current configuration (stockpiles of abandoned excavated unprocessed loose material, or of processed material in its current stage of processing, such as washed or crushed to size). Similar to a royalty. In-place evaluation is derived from (1) legal theories of trespass as they relate to state law; and (2) distinctions between good faith trespassers and willful or bad faith trespassers.

L

- Limiting Conditions -criteria that limit the use of the evaluation for particular purposes, and constrain or define the scope or work and investigation in performing the evaluation.

- Local Market - a market that involves short haul distances from the point of sale due to haul costs, such as sand and gravel hauled 10 to 40 road miles from a pit for use in the vicinity of a road project, or urban developments in a town or county.

M

- Management Review – An evaluation report is produced by the collection and analysis of mineral materials geologic, technical and economic data. The conclusion drawn from this analysis is the professional opinion of the mineral specialist who gathered the information and prepared the report. The Manager's signing of the acknowledgement block on the mineral report cover sheet will indicate they have read and understand that the report has undergone technical review and that they are aware of the conclusions of the evaluation of the commodity. Once reviewed and approved by the BLM, and where applicable, DME Technical Reviewers, the report's technical conclusions are not subject to revision by management. A Manager,if qualified, can serve as a Technical Reviewer, but the same manager should not serve as both functions; instead, another manager should sign the management acknowledgement.

- Market Area - The geographic region where a specific mineral materials commodity is purchased or offered for sale. The market area may or may not be in the area where the material is offered for sale. A market can be local, regional, national or international.

- Market Trends - changes in the demand, price and quantity of mineral materials commodities sold within a geographic area, the types of use for commodities and substitutions of alternative commodities, and the associations with changes in the sources of the demand, such as population changes, urban development, and construction activity.

- Market Data -current and historical price and trade-related data on dates, types, quality and quantity of materials bought and sold, the production costs, the uses the materials, and other associated information.

- Market Data Approach - evaluating transactions which involve comparable rights to the mineral materials, rights of access and surface use, and comparable liability for surface damages.

- Material - refers to a raw mineral materials commodity such as sand and gravel or in place rock prior to excavation, washing, crushing, screening and other processing.

- Mineral Materials - earth and stone materials that include, but are not limited to, petrified wood, clay, and common varieties of sand, stone, gravel, pumice, pumicite, cinders, clinker, and caliche. The term "common varieties" is defined as deposits which, although they may have value for use in trade, manufacture, the sciences, or in the mechanical or ornamental arts, do not possess a distinct, special economic value for such use over and above the normal uses of the general run of such deposits.

- Mineral Materials Evaluation - a written estimate of the Fair Market Value, expressed as a sale/purchase price (royalty rate), of an accurately described mineral materials commodity as of a specific date and supported by the presentation and analysis of factual and relevant data.

- Mineral Specialist - typically a geologist, mining engineer, mineral economist, contractor, or adjudicator with formal education, training and experience in identifying mineral materials and the processes for their development, extraction, processing and use, and the associated laws, regulations, and administrative policy and procedures for mineral materials disposals and operations. The specialist who prepares an evaluation also requires knowledge of accepted evaluation methods and techniques as used by the Bureau, and a working knowledge of the mineral materials industry and economics.

N

- Narrative Evaluation - a detailed evaluation report prepared for trespass cases or complicated evaluation issues, such as individual sales with large volumes and longer terms, and area-wide market studies covering multiple locations. The narrative evaluation provides details and explanations of the sources of the information used, the analysis of the data, and the conclusions of value.

- Net Operating Income - Net operating income equals all revenue from the site minus all reasonably necessary operating expenses.

- Net Present Value (NPV) or Net Present Worth - the sum of the present values of future years cash flows over the economic life of a mineral site, after being discounted at a specified discount rate. The present value takes into account the earning power of money over time. It is an indicator of the worth of a mineral site for its projected life.

P

- Producer Price Index - The term "Producer Price Index", or PPI, refers to a family of indices compiled and calculated by the Bureau of Labor Statistics (BLS). The PPI measures average changes in prices received by domestic producers for their output.

- Price Schedule - a summary of sale/purchase prices to be used for commodity sales over a general area that does not identify or make adjustments for the characteristics of the individual disposal sites.

- Product - Product refers to material that has been processed and sized to meet the specifications for marketing for its intended use.

R

- Regional Market - a market for one or more mineral materials commodities that extends over a large portion of a state or several states.

- Royalty – Any share of production or payment based on the value or volume of production of mineral materials that is paid to the property owner in exchange for the privilege of extracting and selling the mineral materials. Private and state royalties for mineral materials may involve leases with unlimited production quantities and indefinite lease term lengths. Royalty payments may be based on a percentage of the retail value of finished products removed from the site and/or sold after processing and do not include quantities of materials discarded as waste.

S

- Sale/Purchase Price – for BLM disposals, this is the price of in-place raw mineral materials prior to extraction and processing, including quantities discarded as waste during processing. Instead of being tied to the subsequent retail price of the actual material, a BLM disposal is an outright sale (or permit) of 100 percent of the specified quantity of in-place material at a fixed price, usually based on the market value of comparable materials. Disposal authorizations (contracts and permits) involve fixed periods of time at essentially fixed prices for the materials, subject to periodic updates of those prices. From the perspective of the seller (BLM), they are called sale prices; from the perspective of the buyer, they are called purchase prices on contracts.

- Salvage Value - the amount that can be realized from the sale of an asset after useful life has ended.

- Short Form Evaluation - an abbreviated evaluation report prepared for uncomplicated, non-controversial situations such as disposals of noncompetitive and nonexclusive sales of gravel, flagstone or boulders, or for periodic updates of narrative evaluation prices using the PPI. A short form uses very basic information and does not go into the detail of a narrative evaluation report.

- Split Estate Disposals -sales or permit authorizations from land where the titles to the surface estate and the mineral estate are owned by different entities.

- Suitability (of material) - the ability of the mineral materials to meet the criteria, properties, or specifications for use for a particular purpose, with or without processing or augmentation.

T

- Technical Review - A technical review of each mineral evaluation must be performed by a qualified Technical Reviewer upon completion of the report before it can be approved. The technical review will ensure that the mineral specialist followed the Handbook and has fully documented their methods.

- Technical Reviewer - equivalent qualifications as a mineral specialist or higher. Must be someone other than the mineral specialist that performed the evaluation. A Manager, if qualified, can also serve as a technical reviewer.

- Trespass - The unauthorized use or removal of mineral materials under varying situations, such as overproduction from a contract, removal of material after the expiration date of a contract, or removal of mineral materials from an unauthorized location.

U

- Uncomplicated/Uncontroversial Mineral Materials Sale - sales of small quantities (noncompetitive sales limit) of materials from an existing or new site that does not involve trespass or resource conflict issues.

V

- Value - As used in this handbook, the monetary worth of mineral materials, expressed as a sale/purchase price of something.

ILLUSTRATION 1: DERIVATION OF SALES RATIO AS A PERCENT OF RETAIL SALES PRICE METHOD Can use either the private royalty and the retail sale price for the same material, or the BLM sale/purchase price and the private retail sale price of the purchased materials to develop the ratio.

Derivation of Sales Ratio as a Percentage of the Comparable Sales Retail Price Method

Derivation of Royalty-Retail Sales Ratio

Operation No.		Royalty Per ton		Retail Sales Price Per Ton 1/		Ratio 2/	Royalty Percentage
1		$1.13		$10.50		0.108	10.76%
2		$0.97		$8.83		0.110	10.99%
3		$1.05		$14.00		0.075	7.50%
4		$1.02		$15.50		0.066	6.58%
5		$0.85		$7.75		0.110	10.97%
				All sales:	average	0.094	
					median	0.108	

Operations 3 and 4 are most comparable in haul, overburden and quality.
Select .10 as proper ratio to use.
Example:
Evaluation indicates that the subject material should sell at $14/ton fob pit.
Applying the .10 factor (.010 x $14 = $1.40) indicates a royalty value of $1.40 per ton in place.
The selection is not based on a mathematical process.
It is based on judgement and comparability on the various transactions.

ILLUSTRATION 2A: MINERAL MATERIALS COMPARABLE SALES DATA SHEET (Blank)

MINERAL MATERIALS COMPARABLE SALES DATA SHEET									
Operator						Contact Date			
Address						Contact/Title			
Phone		Alt Phone		Fax		Contact Phone			
Website						Email			
SITE INFORMATION									
Legal						Lat		Long	
Site Name		Acres		Access					
Utilities	Power		Water		Processing Equipment on Site?		Type		
Overburden		Interburden		Hazardous/deleterious materials involved?					
Amount		Amount		Describe					
Type		Type							
Other Remarks									
MATERIAL INFORMATION									
Type		Source				Mining Method			
Deposit Characteristics									
Commodity 1		Royalty($)		FOB($)		Other fees ($) total		Effective Royalty($)	
Commodity 2		Royalty($)		FOB($)		Other fees ($) total		Effective Royalty($)	
Commodity 3		Royalty($)		FOB($)		Other fees ($) total		Effective Royalty($)	
Market Areas/Market Range									
Transportation Information									
Other Remarks									
CONTRACT INFORMATION									
Leased/Owned		Begin Date		End Date		Quantity			
Lessor/Owner				Phone		Alt Contact/Phone/Email			
Address				Email					
Is this an arms-length transaction?		Describe							
Type of Sale	Competitive or Noncompetitive?			Public or Private?					
Conditions of Sale									
Is there a royalty rate update schedule?		Describe							
Fees (permitting, rent, etc.)									
Reclamation Requirements									
Other Remarks									

VERIFICATION INFORMATION				
Date	Verified by:	Verified with *(lessee, lessor, purchaser, other name)*	Verification method *(in person, telephone, email, letter, other)*	Documentation *(yes/no – see attachments)*

ATTACHMENTS	YES/NO	COMMENTS
Email/Written Verification		
Price Sheet		
Other		

Note: To use, copy and save as a pdf, fillable form. Note - can record either royalty or sale/purchase price

ILLUSTRATION 2B: MINERAL MATERIALS COMPARABLE SALES DATA SHEET (Sample)

MINERAL MATERIALS COMPARABLE SALES DATA SHEET

Operator	Acme Construction Company					**Contact Date**	10/12/2015
Address	329 Gunnison Blvd., Phoenix Arizona 85089					**Contact/Title**	John Smith/Supervisor
Phone	602-418-9000	**Alt Phone**	602-662-2222	**Fax**	602-418-9997	**Contact Phone**	602-418-9999
Website	www.acmeconstruction.com					**Email**	JSmith@acmeconstruction.com

SITE INFORMATION

Legal	NWNW Sec.32, T.5N.,R.3E. Gila and Salt River Principal Meridian			**Lat**	33°44'22.43"	**Long**	112°04'48.18"
Site Name	Sonoran Pit	**Acres**	35	**Access**	Maricopa County Road 4		
Utilities	**Power** APS	**Water** Phx	**Processing Equipment on Site?** Yes	**Type**	Crusher, Screens, Wash plant, Conveyer/stacker		
Overburden	Yes	**Interburden**	No	**Hazardous/deleterious materials involved?**	Occasional explosives		
Amount	10 feet	**Amount**	N/A	**Describe**	Explosives temporarily on site after bench drilling is completed		
Type	caliche	**Type**	N/A				
Other Remarks	An asphalt mix plant may be permitted in the future. Blasting is contracted out and explosives are located off site. Site facilities include office, sample displays, mine, areas for processing equipment, product and waste stockpiles, parking for multiple loaders, dozers, trucks.						

MATERIAL INFORMATION

Type	Granite	**Source**	Precambrian basement rock	**Mining Method**	Drill and blast, high wall surface mine		
Deposit Characteristics	Weathered granite basement rock with some color variation from pink to dark red, depending on alteration.						
Commodity 1	Crushed stone	**Royalty($)** 1.30/ton	**FOB($)** 13.00/ton	**Other fees ($) total** 0.1009/ton	**Effective Royalty($)** 1.4009/ton		
Commodity 2	Rip-Rap	**Royalty($)** 3.00/ton	**FOB($)** 30.00/ton	**Other fees ($) total** 0.1009/ton	**Effective Royalty($)** 3.1009/ton		
Commodity 3	Fill	**Royalty($)** 0.30/ton	**FOB($)** 3.00/ton	**Other fees ($) total** 0.1009/ton	**Effective Royalty($)** 0.4009/ton		
Market Areas/Market Range	North Phoenix - typical haul distance is 5 miles to 25 miles, may go up to 40 miles north of Phoenix						
Transportation Information	Trucks take material to construction sites and cement and asphalt plants.						
Other Remarks	Most of the material is sold for decorative rock and road base. Most fine waste from processing is sold for landscaping surfaces; any remaining waste and oversize is used for reclamation.						

CONTRACT INFORMATION

Leased/Owned	Leased	**Begin Date**	2009	**End Date**	2019	**Quantity**	4 million tons
Lessor/Owner	Big Sky Ranches Inc.			**Phone**	602-664-7777	**Alt Contact/Phone/Email** Joseph Jones (Attorney) 480-222-6988/JoeJ2000@gmail.com	
Address	333 Dove Valley Rd. Phoenix AZ 85002			**Email**	bigskyranches@gmail.com		
Is this an arms-length transaction?	Yes	**Describe**	No relation between Big Sky Ranches and Acme Construction				
Type of Sale	**Competitive or Noncompetitive?**	Noncompetitive	**Public or Private?**	Private			
Conditions of Sale	10 year lease						
Is there a royalty rate update schedule?	Yes	**Describe**	Every 5 years the royalty is renegotiated.				
Fees (permitting, rent, etc.)	Surface rent $5/acre/year; Access haul fee $0.10/ton; County permit fee $200/year						
Reclamation Requirements	High walls will be reduced to 3 to 1 slope; $1 million Bond in place						
Other Remarks							

VERIFICATION INFORMATION

Date	**Verified by:**	**Verified with** *(lessee, lessor, purchaser, other name)*	**Verification method** *(in person, telephone, email, letter, other)*	**Documentation** *(yes/no – see attachments)*
10/12/2015	Geological Consulting Inc.	John Smith, Acme Construction (lessee)	In Person	Yes – this data sheet
10/15/2015	Geological Consulting Inc.	Linda Jones, Big Sky Ranches (lessor)	Telephone	Yes - notes
10/16/2015	Geological Consulting Inc.	Melinda Green, Planned Unit Developers (purchaser)	Email	Yes - email

ATTACHMENTS	**YES/NO**	**COMMENTS**
Email/Written Verification	Yes	
Price Sheet	Yes	Public price sheet obtained from operator website
Other	Yes	Notes from telephone conversation with Linda Jones, Big Sky Ranches (lessor)

SAMPLE

Note - can record either royalty or sale/purchase price where applicable

ILLUSTRATION 3A: FORM 3060-1, MINERAL REPORT (Blank)

Form 3060-1
(July 1984)
(formerly 3980-1)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Serial Number

MINERAL REPORT

LANDS INVOLVED

Prepared By:

(Signature)

(Name)

(Title)

(Date)

Technical Approval:

(Signature)

(Name)

(Title)

(Date)

Management Acknowledgement:

(Signature)

(Name)

(Title)

(Date)

ILLUSTRATION 3B: FORM 3060-1, MINERAL REPORT (Sample)

Form 3060-1
(July 1984)
(formerly 3980-1)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Serial Number
MM-1234

MINERAL REPORT

Mineral Material Evaluation
of
Sand and Gravel
for
John Roxx Material Site

LANDS INVOLVED

Mount Diablo Meridian
T. 21 N., R. 38 E.,
Sec. 2, SE1/4 SW1/4; Sec. 3, SW1/4 SE1/4
Totaling Approximately 80 acres
Churchill County, Nevada

Prepared By:

(Signature)

John Smith
(Name)

Geologist
(Title)

August 5, 2015
(Date)

Technical Approval:

(Signature)

Jessica Barnes
(Name)

Senior Geologist
(Title)

August 6, 2015
(Date)

Management Acknowledgement:

(Signature)

Michael Jones
(Name)

Assistant District Manager for Minerals
(Title)

August 10, 2015
(Date)

SAMPLE

ILLUSTRATION 4A: FORM 3600-009 CONTRACT FOR THE SALE OF MINERAL MATERIALS (Page 1)

Save Print Clear

Form 3600-9
(October 2017)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0103
Expires: October 31, 2017

Office

Contract Serial Number

CONTRACT FOR THE SALE OF MINERAL MATERIALS

The UNITED STATES OF AMERICA acting through the Bureau of Land Management (BLM), and _____ _____ you, the purchaser, make this AGREEMENT, under the authority of the Act of July 31, 1947 (61 Stat. 681), as amended at 30 U.S.C. 601 through 604, and the regulations at 43 CFR Group 3600.

We agree:

Sec 1. *Contract area* – Under the terms and conditions of this contract, the United States sells to you and you buy the mineral materials listed in Section 2 and contained in the following lands as shown on the map and mining plan attached to this contract:

COUNTY	STATE	TOWNSHIP	RANGE	SECTION	ALIQUOT PARTS	MERIDIAN	ACREAGE

Pit Name (if any):

☐ **BLM will check this box if this contract is in a Community Pit. Community Pit Serial Number:**

Sec. 2. *Amount and price of materials* – The United States determines the total purchase price by multiplying the total quantity of mineral material designated by the unit price given below, or as changed through reappraisal.

KIND OF MATERIAL *You may list only one material commodity per contract*	QUANTITY *(Unit of Measure must be specified in next column)*	UNIT OF MEASURE ☐ **Cubic Yards OR** ☐ **Tons** *(Choose only 1)*	PRICE PER UNIT	TOTAL PRICE
Select a material type				$0.00
Reclamation Fee, if in a Community Pit:				$0.00
TOTAL PURCHASE PRICE				$0.00
PERFORMANCE BOND				

BLM's determination of the amount of materials that you have taken under the contract is binding on you. You may appeal this determination as provided in Section 19.

You are liable for the total purchase price, even if the quantity of materials you ultimately extract is less than the amount shown above. You may not mine more than the quantity of materials shown in the contract.

☐ **If you pay in full in advance, BLM will check this box, and Subsections 3(a) through 3(c) do not apply to your contract.**
You must pay in full for all sales of $2,000 or less.

Sec. 3. *Payments, title, and reappraisals* – You may not extract the materials until you have paid in advance for them in full $_____, or paid the first installment of $_____.

(a) If you pay in installments, you must pay the first installment before BLM approves the contract.

(b) Once you start removing material, you must pay each subsequent installment payment monthly in an amount equal to the value of materials removed in the previous month. Payment must be made by the 15th day following the end of the month for which you are reporting. **You must pay the total purchase price not later than 60 days before the contract expires.**

(Continued on page 2)

ILLUSTRATION 4B: FORM 3600-009 CONTRACT FOR THE SALE OF MINERAL MATERIALS (Page 2)

(c) The United States will retain the first installment as security for your full and faithful performance and will apply it to the last installment required to make the total payment equal to the total price given in Section 2.

If you are late making an installment payment, you must not remove any more material until you have paid. Removing material you have not paid for is trespass, and for trespass you must pay at triple the appraised unit price, or at triple the reappraised unit price if BLM has made a reappraisal. To resume removal operations after you were late making payments, you must obtain BLM's written approval.

(d) You must annually produce an amount sufficient to pay to the United States a sum of money equal to the first installment identified in this section. In lieu of such production, you may make an annual payment in the amount of the first installment. If in any contract year you make production payments that are less than the first installment, you must pay the difference between the production payments and the amount of the first installment. These annual payments are due on or before each anniversary date of the contract.

(e) You receive title to the mineral materials only after you have paid for them and extracted them.

Sec. 4. *Bonds* - **(a) You must furnish BLM with a performance bond in the amount of $_____ as a condition of issuing this contract.**

(b) If you do not perform all terms of the contract, BLM will deduct an amount equal to the damages from the face amount of the bond. If the damages exceed the amount of the bond, you are liable for the excess. BLM will cancel the bond or return the cash or U.S. bonds you supplied when you have completed performance under this contract.

(c) BLM will require a new bond when it finds any bond you furnish under this contract to be unsatisfactory.

Sec. 5. *Risk of loss* - You assume complete risk of loss for all materials to which you have title. If material covered by this contract is damaged or destroyed before title passes, you are liable for all loss suffered if you or your agents are directly or indirectly responsible for the damages. If you are not responsible for the damage or destruction, you are liable only to the extent that the loss was caused by your failure to remove the material under the terms of this contract. You are still liable for breach of contract or any wrongful or negligent act.

Sec. 6. *Liability for damage to materials not sold to you* - You are liable for loss or damage to materials not sold to you if you or your agents are directly or indirectly responsible for the damage or loss. You are also liable if you fail to perform under the contract according to BLM's instructions and the United States incurs costs resulting from your breach of any contract term or your failure to use proper conservation practices. If the damage resulted from willful or gross negligence, you are liable for triple the appraised value of the damaged or destroyed materials. If the damage or destruction did not result from willful or gross negligence, you are liable for lesser charges, but not less than the appraised value of the materials.

Sec. 7. *Stipulations and reserved terms* - Your rights are subject to the regulations at 43 CFR Group 3600 now or hereafter in force and to any stipulations and the mining plan attached to this contract.

☐ **BLM will check this box if there are stipulations attached to this contract.**

Sec. 8. *Notice of operations* - You must notify BLM immediately when you begin and end operations under this contract. If BLM has specified a time frame for notification, you must comply with that time frame.

Sec. 9. *Assignments* - You may not assign this contract without BLM's written approval.

Sec. 10. *Modification of the Approved Mining or Reclamation Plan* - You or BLM may initiate modification of these plans to adjust for changed conditions, or to correct any oversight. The conditions for BLM requiring you to modify these plans, or approving your request for modification are found in the regulations at 43 CFR 3601.44.

Sec. 11. *Expiration of contract* - **This contract will expire _____ years, _____ months, _____ days from its approval date, unless BLM extends the term or renews the contract.**

Sec. 12. *Extensions of time* - BLM may grant you an extension of time in which to comply with contract provisions under the regulations at 43 CFR 3602.27. For contracts with terms over 90 days, you must apply in writing no less than 30 or more than 90 days before your contract expires. For contracts with terms of 90 days or less you must apply no later than 15 days before your contract expires.

☐ **BLM will check this box if this contract is a renewable competitive contract.**

Sec. 13. *Renewal of renewable competitive contract* - BLM will renew your renewable competitive contract if you apply in writing no less than 90 days before your contract expires and you meet the conditions in the regulations at 43 CFR 3602.47.

Sec. 14. *Time for removing personal property* - **You have _____ days (not to exceed 90) from the date this contract expires to remove your equipment, improvements, and other personal property from United States lands or rights-of-way.** You may leave in place improvements such as roads, culverts, and bridges if BLM consents. Any property remaining after this period ends, including extracted materials, becomes the property of the United States. You will remain liable for any costs of removing and disposing of the property and restoring the site.

Sec. 15. *Violations and cancellations* - (a) If you violate any terms or provisions of this contract, BLM may cancel your contract following the regulations at 43 CFR 3601.60 et seq., and recover all damages suffered by the United States, including applying any advance payments you made under this contract toward the payment of the damages.

(b) If you extract any mineral materials sold under this contract during a suspension period, or after the contract has expired or been canceled, you have committed, and may be charged with, willful trespass.

Sec. 16. *Responsibility for damages suffered or costs incurred by the United States* - If you, your contractors, subcontractors or employees breach this contract or commit any wrongful or negligent act, you are liable for any resulting damages suffered or costs incurred by the United States. You must pay the United States within 30 days after receiving a written demand from BLM.

Sec. 17. *Equal opportunity clause* - The actions you take in hiring must comply with the provisions of Executive Order No. 11246 of Sept. 24, 1965, as amended, which describe the non-discrimination clauses. You may get a copy of this order from BLM.

(Continued on page 3)

ILLUSTRATION 4C: FORM 3600-009 CONTRACT FOR THE SALE OF MINERAL MATERIALS (Page 3)

Sec. 18. *Effective date* - This contract becomes effective as indicated below.

☐ **If this contract becomes effective on the date BLM signs the contract, BLM will check this box.**

☐ **If this contract becomes effective only after certain conditions are met, BLM will check this box, list the conditions below, and indicate the effective date.**

Sec. 19. *Appeal* - You may appeal any decision that BLM makes in regard to this contract under Parts 4 and 1840 of Title 43 of the Code of Federal Regulations.

The following parties have executed this contract as of:

PURCHASER	THE UNITED STATES OF AMERICA
_____ (Individual or Firm Name)	By _____ (Print Name of BLM Official)
_____ (Address)	_____ (Signature of BLM Official)
_____ (Phone Number – include area code)	_____ (Title)
_____ (Signature)	_____ (Date)
_____ (Signature)	

If you are a corporation, affix corporate seal here:

Title 18 U.S.C. 1001, makes it a crime for any person knowingly or willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction, subject to a fine of up to $10,000 and imprisonment up to 5 years.

NOTICES

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 601 et seq.; 43 CFR Group 3600
PRINCIPAL PURPOSE: BLM uses this information to identify the parties entering into contracts for disposing of mineral materials.
ROUTINE USES: BLM will transfer information from the record or the record itself to appropriate Federal, State, local, or foreign agencies, when relevant to criminal, civil, or regulatory investigations or prosecutions.
EFFECT OF NOT PROVIDING INFORMATION: If you do not provide this information to BLM, we will not be able to process your application for a contract.

The Paperwork Reduction Act requires us to inform you that:
The BLM is collecting this information to process your application and effect a binding contract.
The BLM will use this information to identify and communicate with applicants.
You must respond to this request to get a benefit.
You do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average about 1 hour per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. You may submit comments regarding the burden estimate or any other aspect of this form to: U.S. Department of the Interior, Bureau of Land Management (1004-0103), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Room 2134LM, Washington, D.C. 20240.

(Form 3600-9, page 3)

ILLUSTRATION 5: Form 3603-10 MINERAL MATERIAL NONEXCLUSIVEE CASH SALE CONTRACT

Number

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

MINERAL MATERIAL
NONEXCLUSIVE CASH SALE CONTRACT
($2,000 or less for mineral material)

State:	**Date of Sale:**
Field Office/District:	
Community Pit/Common Use Area Serial Number:	
Site Name (if any):	
Name of Purchaser (First, Middle, Last)	
Address (include zip code):	

KIND OF MATERIAL	UNITS (CY or TN)	QUANTITY	PRICE PER UNIT ($)	TOTAL PRICE ($)
ROAD MAINTENANCE FEE				
RECLAMATION FEE				
	TOTAL PURCHASE PRICE			$

Purchaser is liable in advance for total price shown above. There will be no refunds. Additional materials will require an additional contract and payment before materials can be removed. This contract is made under the terms of Sec. 1 and the stipulations indicated in Sec. 2 and 3.

Contract Expires 11:59 P.M. – DATE (not to exceed 90 days):	**ALL MATERIAL MUST BE REMOVED FROM THE CONTRACT AREA BY MIDNIGHT OF THIS DATE**

Location of Sale (Contract Area):

RECEIVED AS PAYMENT IN FULL

ACCOUNT	COUNTY	AMOUNT ($)
P.D. (5881)		
O & C (5882)		
CBWR (5897)		
Road Maintenance Fee (9110)		
Road Maintenance Fee (9120)		
Reclamation Fee (5330)		

Purchaser certifies that he/she is not considered a minor under the laws of the State in which the lands covered by this contract are located. Purchaser acknowledges that he/she has read and understands the terms and conditions of this contract and any attached provisions.

Signature of Purchaser

Signature of Authorized Officer

SEC. 1 CONTRACT TERMS

(a) All material in contract area in excess of the authorized quantity is reserved by the United States.
(b) The quantity of material for removal is a predetermined amount.
(c) A new contract and payment in advance is required prior to Excavation, Processing and/or Removal of additional units which exceed the authorized quantity.
(d) Excavation, Processing and/or Removal in excess of the authorized quantity will subject the Purchaser to trespass action.

SEC. 2 GENERAL STIPULATIONS

Removal of all material must be in strict accordance with instructions of the Authorized Officer and the following conditions and requirements:

(a) No material may be excavated, processed or removed unless it is located within areas designated by the Authorized Officer. Title to material sold under this contract will remain in the United States and will not pass to Purchaser until such material has been removed from the contract area.
(b) Any property remaining on site after this contract expires, including extracted material, becomes the property of the United States.
(c) Nothing herein may be construed to relieve the Purchaser from liability for any breach of contract or any wrongful or negligent act or for any violation of any applicable regulation of the Department of the Interior.
(d) The Purchaser must take such measures for prevention and suppression of fire on the contract area and other United States lands as are required by applicable laws and regulations.
(e) The Purchaser must dispose of refuse in accordance with instructions of the Authorized Officer.
(f) If the Purchaser violates any of the provisions of this contract, the Authorized Officer may, by written notice, suspend any further operations of the Purchaser, except such operations as may be necessary to remedy any violations.
(g) If the Purchaser fails to remedy all violations within thirty (30) days after receipt of the suspension notice, the Authorized Officer may, by written notice, cancel this contract, and take appropriate action to recover all damages suffered by Government by reason of such violation.

SEC. 3 SPECIAL STIPULATIONS
(check appropriate block)
Attached
☐ Special Provisions(e.g., from mining/reclamation plan)
☐ Map(s)
☐ Other:
are made a part of this contract and must be complied with.

Form 3603-10 (May 2014)

Original - Retain by BLM

ILLUSTRATION 6A: FORM 3604-1a FREE USE PERMIT APPLICATION

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Form 3604-1a
(August 2013)

UNITED STATES
DEPARTMENT OF THE INTERIOR

FREE USE PERMIT APPLICATION
MINERAL MATERIAL

FORM APPROVED
OMB NO. 1004-0001
Expires August 31, 2016

BUREAU OF LAND MANAGEMENT
FIELD OFFICE

APPLICATION			BLM CASE SERIAL NUMBER:		
Name of applicant			Telephone	Email	
Mailing Address			Street Address (if different from Mailing Address)		
City	State	Zip code	City	State	Zip code
Kind of material	Quantity requested ☐cu.yds. or ☐tons		Requested permit term		

Materials are to be used for:

Give legal land description for proposed source area:

Meridian	Township	Range	Section	Subdivision	Acres

Select one
☐ Existing Mine Site
☐ New Mine Site

I HEREBY AGREE TO COMPLY WITH the regulations at 43 CFR Part 3600 and the stipulations and special conditions as set forth in the permit. I CERTIFY that the: (a) materials to be removed will be used for the purpose noted above; (b) none of the materials removed will be sold or bartered; (c) removal of materials will begin only upon receipt of an approved copy of this permit and will cease upon the expiration date or removal of the authorized quantity, whichever comes first; and, (d) the Bureau of Land Management (BLM) will be notified upon completion of removal.

I CERTIFY that I am of the age of majority in the State in which I reside, and that this entity isqualified to apply for a free use permit to extract and use mineral materials under 43 CFR 3604.12 as a
(Select one) ☐ Federal, ☐ State, or ☐ territorial agency, unit, or subdivision (including municipalities), or ☐ non-profit organization.

I FURTHER CERTIFY That the statements made by me in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith.

_____(Signature of Applicant) _____ (Date)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations.

If you are a non-profit organization or quasi-governmental agency, attach organization charter and other proof of status.

NOTICES
The Privacy Act of 1974 and the regulations in 43 CFR 2.48(d) provide that you be furnished with the following information required by this application:
AUTHORITY: 30 U.S.C. 601; and 43 CFR Part 3600
PRINCIPAL PURPOSE: BLM uses the information to maintain an inventory of mineral information, to adjudicate your rights to mineral resources, and to identify the parties applying for and/or granted permits for disposing of mineral materials.
ROUTINE USES: BLM will disclose the information on this form pursuant to the regulations in 43 CFR 2.56.
EFFECT OF NOT PROVIDING THIS INFORMATION: If you do not furnish all the information required by this form, your application may be rejected.
The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to evaluate the amount and condition of mineral materials on public lands and it will be used to maintain depletion records.
The BLM is collecting this information to process your application and effect a binding permit.
The BLM will use this information to identify and communicate with applicants.
Response to this request is required to obtain a benefit.
The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 2 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0000), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

ILLUSTRATION 6B: Form 3604-1a FREE USE PERMIT

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Form 3604-1b
(August 2013)

UNITED STATES
DEPARTMENT OF THE INTERIOR

MINERAL MATERIAL
FREE USE PERMIT

FORM APPROVED
OMB NO. 1004-0001
Expires August 31, 2016

BUREAU OF LAND MANAGEMENT
FIELD OFFICE

Permit (Case) Serial Number	Expiration Date

Permittee Name and Address:

Legal land description of authorized permit area:

Meridian	Township	Range	Section	Subdivision	Acres

This permit is issued under the Act of July 31, 1947, as amended, and 43 U.S.C. 2 and 1201. Free use permits are issued subject to the requirements of 43 CFT Part 3600 now or hereafter in force.

This permit is hereby issued for the materials applied for but may be canceled if it appears that this this permit was issued erroneously or the terms or conditions contained herein are not observed.

The permit is subject to the following standard stipulations:

Any use of the surface of the lands involved in this permit must not interfere with any mining claim subject to the provisions of Section 4 of the Act of July 23, 2955 (30 U.S.C. 612);

The permittee must allow BLM access for inspections as required by 43 CFT 3601.51

The permittee must clean up all work areas and must remove or dispose of all refuse resulting from the permittee's operations, and equipment, personal property, and improvements must be removed within ninety (90) days after the permit expiration date as required by 43 CFR 3601.52

An annual report indicating the amount (cubic yards or tons) of material removed must be filed with the BLM Field Office on the anniversary date of the permit, and within thirty (30) days after permit expiration.

The permit is also subject to the following SPECIAL CONDITIONS:

Authorized purpose:

Authorized term

_____years _____months _____days

Authorized quantity, *in-place*

_____cubic yards or _____tons

Check all that apply:

- ☐ Permittee Mining and Reclamation plan is required per 43 CFT 3601.40-44
- ☐ Permittee is responsible for reclamation of permit area
- ☐ Financial Guarantee is required per 43 CFR 3602.14
- ☐ Removal area is within Community Pit – Common Use Area - Serial No.
- ☐ Permittee will perform reclamation in Community Pit – Common Use Area in lieu of reclamation fee
- ☐ Permittee must follow/comply with BLM mining and reclamation plan
- ☐ Permittee will pay a reclamation fee for Community Pit – Common Use Area as identified below:

Type of Material	**Quantity (select applicable *in-place* units)**		**Reclamation Fee (select applicable *in-place* units)**		**TOTAL Reclamation Fee ($)**
	☐ **cu. yds.**	☐ **tons**	**$ per cu. yds.**	**$ per ton**	

☐ **BLM will check this box if there are additional stipulations attached to this permit.** Calculate

(Continued on page 2)

(Form 3604-1b, page 1)

ILLUSTRATION 7: MINERAL MATERIALS DISPOSALS – BASIC ELEMENTS

Mineral Materials Disposals – Basic Elements											
Type of Disposal		**Term**	**Quantity**	**Extension**	**Fees**	**Performance Bond**	**Payment Required:**		**Price**	**Surface Use Rights**	**Diligence Requirements**
Nonexclusive Sale	Nonrenewable	1-90 days	Small sales	1 for up to 1 yr	Reclamation fee	No	In full, In Advance	All materials	FMV, Fixed	*	
Noncompetitive Sale	Nonrenewable	1 day to 5 years	200,000 cy/sale, 300,000 cy per 12 mos. cumulative total per state	1 for up to 1 yr	Cost Recovery Fee for Processing Application	Yes	In full, Or Monthly Installments	Pay for entire quantity contracted, removed or not	FMV, Fixed, updated every 2 yrs. of contract	**	Minimum annual production = one installment payment
Competitive Sale	Nonrenewable	1 day to 10 years	No limit. Must remove during term	1 for up to 1 yr	Cost Recovery Fee for Processing Application	Yes	In full, Or Monthly Installments	Pay for entire quantity contracted, removed or not	FMV, Fixed, updated every 2 yrs. of contract	**	Minimum annual production = one installment payment
Competitive Sale	Renewable	1 day to 10 years, Up to 30 years cumulative total	No limit. Must remove during each term.	1 for up to 1 yr	Cost Recovery Fee for Processing Application	Yes	In full, Or Monthly Installments	Pay for entire quantity contracted, removed or not	FMV, Fixed, updated every 2 yrs. of contract	**	Minimum annual production = one installment payment
Free Use Permit	Nonrenewable	1 day to 10 years	No limit.	1 for up to 1 yr	Cost Recovery Fee for Processing Application	Yes Or Self-reclaim	None	N/A	N/A	**	N/A
*Operating area is specified in BLM's mining and reclamation plan for the Community Pit											
**Includes right of access across BLM mineral estate. Within approved mining plan area, land for the materials processing facilities, stockpiles of processed materials, topsoil, and overburden, mobile equipment, and office/watchman facilities, and if approved, asphalt processing facilities.											

ILLUSTRATION 8: EXAMPLE OF A COMPARISON SUMMARY CHART (Percentage Method)

Example of a Comparison Summary Chart
(Percentage Method)

Comparison Chart (Percentage Method)											
SALES DATA			COMPARISON OF COMPARABLES TO SUBJECT SALE								
Pending sale	Jul-16	125K									
SALE NO. DATE	DATE	TONS	SALE PRICE PER TON	ADJ. FOR TIME	HAUL	QUALITY	PROCESSING	VOLUME	STIPULATIONS and OTHER COSTS	COMPOSITE FACTOR	INDICATED VALUE PER TON
1	Jul-16	7.5 K	1.25	0.0	85%	100%	100%	6%	120%	80%	1.00
2	Apr-13	10 K	0.94	+0.03	100%	100%	90%	8%	100%	86%	0.84
3	Sep-14	75 K	0.85	+0.02	125%	110%	85%	60%	85%	135%	1.18
4	Apr-15	100 K	1.1	+0.01	100%	100%	105%	80%	100%	95%	1.06
5	Apr-14	200 K	1.1	+0.02	90%	90%	110%	160%	110%	98%	1.13
6	Mar-12	200 K	1.15	+0.04	85%	80%	120%	160%	100%	90%	1.07

Time (x.x) adjusts for comparable age versus subject (0.0 = same year, +0.01 = 1 yr, +0.03 = 2 yrs, +0.03 yrs, +0.04 = 4 yrs)
Haul (100%) means comparable has similar characteristics, (<100%) longer/slower/more expensive route, or (>100%) shorter, faster, flatter, paved route
Quality (100%) = same adequacy as subject, (<100%) = inferior to subject, (>100%) = superior to subject
Processing [Inverse effect on value] (100%) = same as subject, (<100%) = requires less processing than subject, (>100%) = requires more processing than subject
Volume (100%) = same magnitude of quantity, (<100%) = less than subject,
Stipulations [Inverse effect on value]: (100%) = same terms, conditions & costs, (<100%) = less than, or (>100%) = more than subject
Composite Factor adjustment to comparable sale
See individual data sheets for details

ILLUSTRATION 9: EXAMPLE OF A COMPARISON SUMMARY CHART (Bracketing Method)

Comparison Chart (Bracketing Method)											
Pending sale	Jul-16	125K		COMPARISON OF COMPARABLES TO SUBJECT SALE							
SALE NO. DATE	DATE	TONS	SALE PRICE PER TON	ADJ. FOR TIME	HAUL	QUALITY	PROCESSING	VOLUME	STIPULATIONS and OTHER COSTS	OVERALL COMPARISON	INDICATED VALUE
1	Jul-16	7.5 K	1.25	+0.0	-	0	0	-	+	-	1.00
2	Apr-13	10 K	0.94	+0.03	0	0	-	-	0	-	0.84
3	Sep-14	75 K	0.85	+0.02	+	+	-	-	-	+	1.18
4	Apr-15	100 K	1.1	+0.01	0	0	+	-	0	-	1.06
5	Apr-14	200 K	1.1	+0.02	-	-	+	+	+	0	1.13
6	Mar-12	200 K	1.15	+0.04	-	-	+	+	0	-	1.07

Time (x.x) adjusts for comparable age versus subject (0 increase = same year, +0.01 = 1 yr, +0.02 = 2 yrs, +0.03 = 3 yrs, +0.04 = 4 yrs)
Haul (0) means comparable has similar characteristics, (-) longer/slower/more expensive route, or (+) shorter, faster, flatter, paved route
Quality (0) = same as subject, (-) = inferior to subject, (+) = superior to subject
Processing [Inverse effect on value]: (0) = same as subject, (-) requires more processing than subject, (+) requires less processing than subject
Volume (100%) = same magnitude of quantity, (<100%) = less than subject
Stipulations [Inverse effect on value]: (0) = same, (-) = more, or (+) = fewer terms, conditions and other costs less than subject
Overall Comparison - adjustment to comparable sale price for indication of subject sale value
See individual data sheets for details

ILLUSTRATION 10: EXAMPLE OF A DISCOUNTED CASH FLOW (DCF) ANALYSIS
(all numbers and prices are fictional).

year	production, tons	price per ton, $	sales income	Royalty or sale price $4.16 per ton	gross revenue	operating expenses	depreciation	depletion	pre tax income	state tax	federal tax	after tax cash flow	discounted cash flow
1	1200	10	12000	4992	7008	7000	1000	500	-1492	0	0	8	$7.27
2	1200	10	12000	4992	7008	7000	1000	500	-1492	0	0	8	$6.61
3	1200	10	12000	4992	7008	7000	1000	500	-1492	0	0	8	$6.01
4	1200	10	12000	4992	7008	7000	1000	500	-1492	0	0	8	$5.46
5	1200	10	12000	4992	7008	7000	1000	500	-1492	0	0	8	$4.97
													$30.33

APPENDIX 1 – STATEMENT OF WORK TEMPLATE FOR MINERAL MATERIALS EVALUATION PROCESS

SECTION A – INTRODUCTION

The contractor will prepare a Fair Market Value (FMV) mineral commodity evaluation report for the Bureau of Land Management (BLM), [***INSERT OFFICE ISSUING THE SOLICITATION, e.g., Nevada State Office, Reno, Nevada***]. The purpose of the report is to determine the FMV of Federal mineral materials commodities and the associated authorizations granted by contracts for removal of those materials from Federal lands managed by the [***INSERT GEOGRAPHIC ADMINISTRATIVE OFICE TO BE EVALUATED, e.g., Southern Nevada District Office (SNDO)***], BLM

Federal regulations require the sale of mineral materials to be at FMV. For purposes of this Statement of Work, the determination of FMV will be made through an evaluation conducted by a qualified contractor.

The mineral materials commodities subject to this report are specifically: [***INSERT THE COMMODITIES TO BE ADDRESSED IN THE EVALUATION REPORT – e.g.,***
in place sand and gravel; stockpiled sand; in place rock suitable for use as aggregate base; in place limestone and dolomite; in place common barrow regardless of composition; and in place sand and topsoil/silt]. A separate FMV will be generated for each type of mineral materials commodity listed for each site. Each market area in the [***INSERT GEOGRAPHIC ADMINISTRATIVE AREA – e.g., SNDO***] will require its own FMV determination for each sale or disposal site.

Responsibilities
The contractor will be responsible for identifying the current FMV commodity prices for existing competitive mineral materials sales contracts, as well as methods for a 2-year contract update scenario.

The Division of Minerals Evaluation (DME) is responsible for review and concurrence of evaluation and update methods for this report to ensure adequacy and defensibility. If evaluation and update procedures/methods cannot be justified or defended, a new market evaluation will be necessary.

Under Federal law and regulation and the [***INSERT LOCAL RMP NAME – e.g., Las Vegas Resource Management plan (MN-1-k through MN-1-n)***], the BLM determined that disposal of mineral materials will be appropriate on lands [***DESCRIBE AREAS AVAILABLE IN RMP – e.g., outside the areas listed in Table 2-12 and outside Areas of Critical Environmental Concern (See Tables 2-2 through 2-6 and shown on Map 2-7)***].

Scope of Work
The purpose of the evaluation is to determine the FMV for Federal mineral materials commodities under the terms and conditions for the disposal authorizations. The intent is to determine the pricing for every existing contract and permit site in [***INSERT OFFICE – e.g., SNDO***], consistent with the regulations at 43 CFR 3600 that identify the terms and conditions of BLM disposals and for the associated comparable sales used for each site. The FMV will be applied to existing and future sales of Federal mineral materials issued under the regulations at 43 CFR 3600. List of terms and conditions is provided in Attachment A and Attachment C.

The contractor will identify and define the individual market areas in the [***INSERT OFFICE – e.g., SNDO***] and prepare a separate mineral commodity FMV report describing each market area and each type of mineral materials commodity such as; in place sand and gravel, stockpiled sand, rock used as aggregate base, in place limestone and dolomite, common barrow regardless of composition, sand, and topsoil/silt.

To determine FMV, the contractor must review private mineral materials sale sites, competitive sale mineral materials sites on public BLM administrated lands, competitive sales by State or local government agencies, and any other mineral materials sales that may be comparable to BLM disposals from Federal lands. The contractor must also research individual market competitors including, accessibility and how they would interact in the specific markets. The reports must identify the specific background information on every site, as well as ensure supportable and defensible data.

A separate FMV must be generated for each type of mineral materials commodity listed. The contractor must use professional judgment, with supportable data, to differentiate values by composition or quality within any category if those factors affect value (e.g., suitability for concrete or bituminous aggregate versus lesser quality).

The contractor will identify the appropriate methodology(s) for using the data on *existing* sites, to evaluate the FMV for *new* disposal sites in the same geographic and market area. The method should identify the typical range of similar mineral materials characteristics, site and contract conditions, as well as distances to the markets, in developing the FMV for existing sites.

SECTION B - SUPPLIES OR SERVICES

The contractor will provide all necessary labor, supervision, equipment, materials, and supplies to produce the FMV report, in accordance with the specifications, terms and conditions contained herein.

SECTION C - BLM FMV REPORT SPECIFICATIONS

General

The FMV report must follow commodity evaluation guidance and the format found in BLM H-3630-1 Mineral Materials Evaluation Handbook, where applicable, with supportable language to defend findings. After technical review, DME will perform a 3rd party independent review and concur with the report in consideration of determining whether the contractor achieved all necessary processes, methods and procedures that achieve justifiable and defensible results. After approval of the final report, the contracting office can issue final payment.

The initial inspection and collection of data regarding [***INSERT OFFICE – e.g., SNDO***] mineral materials will be compiled into a draft mineral evaluation report. This draft report will contain progress to date, foundational information collected, and a projected schedule for technical analysis. A complete and itemized bill of cost should be included with the draft report. Completed copies of the final report as described within this section will be delivered, along with an itemized bill of cost to BLM. Deliverables and Dates may be found in Section G.

Report Contents

The format of the report will be of a professional quality in a manner acceptable to the BLM. The report must contain the following information:

Part I - Introduction

A. Title Page

B. Table of Contents

C. Summary of Facts and Conclusions - The contractor will report the major facts and conclusions that led to the final estimate(s) of value for each type of mineral materials commodity, including:

1. Date of Evaluation;
2. Property Ownership (e.g., fee Federal Estate, Split Estate with Federal Mineral Estate and Non-Federal Surface Estate, other);
3. General description of the geographic areas delineated (i.e. market areas);
4. Map illustrating the boundaries of the market areas;
5. Brief property description of each site within the market area;
6. Highest Value Use of Mineral Material;
7. Unusual features of subject property; and
8. Summary of conclusions and final estimate of FMVs.

D. Statement of Assumption and Limiting Conditions - All assumptions and limiting conditions that apply to the evaluation of each type of mineral materials commodity in the mineral materials commodity FMV report will be listed.

E. Scope of the Evaluation - The contractor will describe the scope of investigation and analysis that was undertaken in preparing the mineral materials commodity FMV report. Describe the visits, with dates, to the subject and comparable sites. Include the geographical area and time span searched for the market data. Also include a description of the type of market data researched, market accessibility and how the data was confirmed. State the references and data sources relied upon in making the evaluation. Show this information within the applicable approaches to value. Discuss the applicability of all standard approaches to value, and explain and discuss the exclusion of any approach (i.e. comparables, purchase price as a percent of retail sale price, and income methods).

F. The Purpose of the Evaluation - This will include the reason for the evaluation, and the definition of all evaluation methods.

G. Summary of Evaluation Problems - The purpose of this section is to describe the specific evaluation problems encountered by the contractor that will be discussed in detail in the body of the FMV report. However, explanation must be to the extent of obtaining reasonable and justifiable results and include supportable and defensible information.

Part II - Data Analysis and Conclusions

A. Definition of Market Value – The price given to mineral materials in-place and as is, subject to evidence of prospective buyers and sellers; who are reasonably knowledgeable about the commodity; who act in their own best interests; are free from undue pressure for completing the transaction; and a reasonable time period is given for the transaction to be completed.

B. Highest Value Use of the Mineral Materials Commodity - The analysis pertains to the suitability of the mineral materials for the use that commands the highest value, such as use for cement aggregate versus common fill. Specifically define, describe, and support the basis for the determination that the mineral materials meet the criteria for suitability for the highest value use. This analysis is based on factual data presented. The intended use by an identified prospective purchaser may or may not be the highest value use, but actual uses of mineral materials from previous disposals may be considered when determining the highest value use.

C. Analysis of Market Boundaries – The contractor will present the theory and procedures involved in the identification of distinct market areas within the SNDO. The contractor's methods and approaches in delineating distinct markets must be supported by factual data. The contractor should consult minerals staff from the SNDO in its efforts to delineate market areas. Viable hauling distances and availability of commodities to identified markets should be used in delineating market boundaries.

D. Other Definitions - Other terms of a technical or specialized nature are to be clearly defined. These may be included in the Addenda if the list is lengthy.

E. Discussion of Evaluation Process - Three approaches for determining FMV will be considered - comparable sales approach, percent of retail sales price approach, and the income approach. This section will present the theory and procedures involved in using the three approaches to determine FMV, as well as a description of the steps involved in a value assignment and why a particular approach was considered to be most applicable. Base the opinion on an objective and fully described market analysis of the subject material's suitability and the probable use which would be contemplated by typical buyers and sellers rather than an abstract remote possibility. Rationale for using or not using a particular evaluation process must be provided and the contractor should indicate the advantages of one methodology over another.

1. Comparable Sales Approach – In determining FMV of the subject property, the comparable sales approach is the preferred method. This approach should be used unless no comparable sales are available or the comparable sales are determined to be unacceptable. Sales from private, and Federal, state and local government sites must be described in sufficient detail to identify if they are comparable to the BLM sites, and the extent to which they are or are not comparable. Comparisons should focus on recent sales that have occurred within two years. Older sales may be used in the evaluation if the contractor shows correlation with the present market trend and if the contractor makes appropriate adjustments for market changes over time.

The following information should be identified for the comparable sales used in this report:

Date of sale:
Distance to market:
Type of deposit:
Type of products sold or that can be sold:
Production rates:

Sale price:
Rent paid to owner:
Other charges or sale costs, if any (e.g., fees, environmental analysis):
Site operation authorizations:
Operating costs (mining, processing fees, and other costs):
Contingencies/conditions of sale, i.e., mining, reclamation, duration, and bonding requirements:
Ownership (private sector, governmental agency, split estate):

Include the most appropriate descriptive graphical information on each sale comparable including ground and or aerial photographs, plat maps and topographic maps each clearly labeled.

2. A Percent of Retail Sales Price Approach – This method is a variation of the market approach used in situations where there is insufficient local market data. Lack of local market data may require substantial and difficult to support adjustments of data from different areas. If an analogous remote market can be identified, this method requires collection and analysis of transactions in similar areas (similar in value, overburden, rehabilitation costs, etc.). Where possible, both royalty and finished product retail sale price data is collected for the same site. This data is then used to derive a typical ratio of the purchase price to the selling price of the finished product f.o.b. at the desired location (i.e., the production site, retail yard, delivery point, etc.). This ratio is applied to the typical selling price of the finished product from producers where retail sale prices are available to arrive at an indication of the value of the in-place mineral materials.

3. Income Approach – This approach converts income into an estimate of value. Cash flow and discounted cash flow (DCF) are examples of this approach. The contractor will, as needed, perform cash flow analyses using well-established industry models and standards, as well as defend and support all data points.

G. Reconciliation - It is necessary to summarize the information presented in the FMV report. Each BLM site must be correlated with specific sites the contractor identifies as having comparable materials, site and sale conditions. The contractor should reiterate the conclusions from the analysis of market boundaries and from each of the approaches to value. The reasoning for selecting a final estimate of value should be sound and presented at this point. The final FMV estimate for each type of mineral materials should be reasonable and based on the data presented and reasoning involved.

H. Contractor's Certification - The FMV report will include a contractor's signed and dated statement that the contractor, to the best of his or her knowledge and belief, certified that:

1. The statements of fact contained in the report are true and correct;
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions, limiting conditions, and legal instructions, and are the personal, unbiased professional analyses, opinions, and conclusions of the contractor;
3. The compensation received by the contractor for the commodity evaluation is not contingent on the analyses, opinions, or conclusions reached or reported;
4. The commodity evaluation was made and the evaluation report prepared in conformity with well-established industry standards and the BLM Handbook H-3630-1, where it applies and accompanied by as much as necessary supportable data to develop defensible results.

5. No one provided significant professional assistance to the contractor. If professional assistance was provided to the contractor, the name of the individual providing such assistance must be stated and his/her professional qualifications should be included in the addenda of the evaluation report;
6. The contractor's certification must also include the contractor's estimate of the market value of the material commodities as of the effective date of the report. This certification is to be followed by the contractor's signature and date.

Part Ill – Addenda

A. Commodity valued.

B. Title reports, etc.

C. Comparable sales location map - This map will show the location of sales used in estimating market value of the subject mineral materials commodities. Prepare a separate map for each type of mineral materials commodity. All sales for an individual commodity should be shown on one map if possible, but the map should be of sufficient detail that when combined with the plat maps, it could be used to locate the property with certainty by a third party. A series of maps may be needed to accomplish this. If data is confidential, the map should be marked "confidential".

D. Comparable sales data sheets - Data sheets must be included on each comparable sale used in the FMV report, as well as sales that were not comparable. Also, include comparable map(s) and photo(s) for each individual sale with that sale's data sheet rather than in a separate section. **If the sale data is confidential, the data sheet MUST be marked "confidential".**

E. Other material - Include pertinent documents, charts, maps, etc., not included in the exhibits listed above.

SECTION D - GOVERNMENT FURNISHED PROPERTY

The contr**a**ctor will have access to review information of public record in BLM possession. A list of all existing disposal sites on BLM administered land in the [***INSERT OFFICE – e.g., SNDO***] is provided in Attachment B. Contract Form 3600-9 and 43 CFR 3603.10 is attached for contractors' reference.

SECTION E - DELIVERIES OR PERFORMANCE

1. After award, the performance period will commence after the written Notice to Proceed is issued.

2. All contract tasks must be completed and delivered to the Contracting Officer within 300 days after the written Notice to Proceed is issued.

3. The initial inspection and collection of data regarding mineral materials at sites in the [***INSERT OFFICE – e.g., SNDO***] will be compiled into a draft evaluation report as required in Section G. This draft report will contain progress to date, foundational information collected, and projected schedule for technical analysis. A complete itemized bill of cost should be included with the preliminary report.

Completed copies of the final report as described within this request will be delivered, along with an itemized bill of cost to BLM as specified in Section G.

4. Address all deliverables to:

Contracting Officer's Representative (COR)
To be designated after award

SECTION G - CONTACT ADMINISTRATION DATA

1. Contracting Officer (CO) – [***INSERT CO NAME***], BLM, is the contracting officer responsible for the overall administration of this contract on behalf of the Government, telephone [***INSERT TELEPHONE # e.g., (xxx) xxx-xxxx. Mailing address: e.g., (1340 Financial Blvd., Reno, NV 89502)***].

2. Contracting Officers Representative (COR) - After award, a BLM employee will be designated as the Contracting Officer's Representative for the purpose of administering the technical aspect of this procurement. The COR is authorized to clarify technical requirements, and to review and approve work which is clearly within the scope of work. The COR is not authorized to issue changes pursuant to the changes clause or to in any other way modify the scope of work.

4. Deliverables and Dates – The table below lists the contract deliverables along with the due date and percent of the contract value for each deliverable.

Deliverable Item	Date	% of Contract
Data Collection and [i]Draft Evaluation Report	180 days after Notice to Proceed	40%
[ii]Revised Draft Evaluation Report	60 days after Data Collection and Draft Evaluation Report	20%
[iii]Final Evaluation Report	60 days after Revised Draft Evaluation Report	20%
BLM Report Acceptance [iv]		20%

[I] Subject to BLM's internal and technical review process, typically within 2 weeks of receipt.
[ii] Subject to BLM's internal and technical review process, typically within 2 weeks of receipt.
[iii] Subject to BLM's internal and technical review process, typically within 2 weeks of receipt.
[iv] Subject to review and concurrence with DME, typically within 2 weeks of receipt.

APPENDIX 2: CHECKLIST FOR EVALUATION DATA ACQUISITION

The following information provides a checklist for data used in preparing a mineral materials evaluation. Items with an asterisk are most commonly used for income approach (DCF method) evaluations.

A. General

1. Identify each individual agency, or firm from which comparable sales data will be solicited. Include names, addresses, telephone numbers, and dates interviewed, but remember that some of this may be confidential subject to the Privacy Act.
2. Obtain topographic maps and aerial photographs for the mineral materials sites to be examined.
3. Obtain Master Title Plat and Historical Index for the mineral materials site.
4. Prepare field equipment, including GPS device and camera, for collecting data.
5. Obtain pricing data, for the appropriate commodity, from public and private sources, such as but not limited to, the USGS, Bureau of Labor Statistics, State Agencies and local mineral materials operations.
6. If site has been previously mined, check LR2000 and case file for production and pricing data.
7. Contact state environmental quality agencies and MSHA for current permits

B. Physical Features

1. Note the direction and distance from nearest town and/or urban area.
2. Describe the accessibility of the mineral materials site, how it is reached, the road surface, any transportation facilities, etc.
3. Describe the topography by giving a general description and the elevations.
4. Describe the vegetation, general climate, and any effects upon the working season.
5. Describe the water and power facilities, as appropriate.
6. Identify the boundaries of the proposed mineral materials site by locating section corners and other identifying land features.
7. Describe the current land use of the mineral materials site.

C. Geology and Mineral Deposits. (Note: This information is collected in general terms)

1. Describe the general geology of the land on which the proposed mineral materials site is located.
2. Describe the type of deposit and such geologic and material characteristics as the types of bedding, weathering or alteration, thickness of deposit, porosity, permeability, specific gravity, etc., and collect samples for testing, if necessary.
3. Describe the texture as to grading and sorting.
4. Describe the composition and color of the mineral materials to be mined and sold.
5. Identify the suitability and usage of the mineral materials for various purposes, use(s) of the material proposed by the applicant, and known uses by previous purchasers or permittees at this site.
6. Describe the type, compaction, and stripping ratio of the overburden.
7. Estimate the tonnage/yardage of reserves.

D. Mineral Development

*1. Describe surface and subsurface workings and drill holes (relate to surface and subsurface geology and structure), verify data on existing maps, and discuss past and present production.
*2. Describe the type and present use of any buildings, improvements, and equipment.
*3. Estimate the value and utility of plant and equipment.
*4. Calculate the distance to market (first point of sale - BLM sales are f.o.b., but private sales may be different).
*5. Describe types of transportation used, costs per ton-mile for haulage, and miscellaneous costs such as loading and unloading, etc.
*6. Describe the methods and equipment used for extraction and processing of the mineral materials.

E. Sample Data

1. Obtain any available testing results if possible, to determine quality and/or quantity of the mineral materials. Good sources are highway departments and private contractors. Note that if applicants received an exploration permit for sampling and testing, they are required to provide the results to BLM.
2. If no mineral materials information is available for the mineral materials site being evaluated, refer to Chapter 5 for guidance on sampling and testing.
3. If possible, take photographs of the mineral materials being evaluated, the site in which it is located, and any significant appurtenances.

F. Economic Data. Note: This information is usually proprietary and confidential

*1. Obtain mining and processing costs.
*2. Identify sale price or onsite (f.o.b.) prices for each type of mineral materials sold.
*3. Determine the taxes paid (local taxes, County, City, State, and Federal severance tax). If not available from producer or landowner, contact appropriate agency.
*4. Estimate the current assessed value of buildings, facilities, and auxiliary equipment. If it is a new operation, estimate the capital costs of the equipment and facilities.
*5. Obtain data on royalty or sale/purchase price paid at private sites, if operator is other than the owner.
*6. Rent paid to owner in addition to payment for mineral materials (e.g., land rent for stockpile areas, asphalt plant sites) – obtain from operator, landowner, or public records where feasible
*7. Other charges (environmental fees, processing fees, NEPA costs, etc.)
*8. Production rates. (specify units and show conversions)
*9. Reclamation methods and costs.

G. Other Pertinent Data to be Identified

1. Identify Federal, State and local regulations that could affect mining and reclamation and their possible effects. Identify if the seller is responsible for related costs as part of the sale price or if the purchaser pays those costs in addition to the purchase price.

2. Contingencies or other conditions of sale, i.e., mining, reclamation, and bonding requirements.
3. Make maps and sketches of the mineral materials site, as necessary.
4. Identify if the seller requires purchaser to pay for administrative costs of processing a sale in addition to the purchase price.
5. Identify allowable uses of the surface and any operating restrictions (e.g., hours, seasonal, access).
6. Identify private contract requirements, such as length of terms, volume limits, production diligence and reporting requirements, payment options, bonds, contract renewals,
7. Existence of other competing sites in the vicinity that are not visited.