

# Good Practice Due Diligence

*Mining and Metallurgical Society of America*

*October 11, 2019*

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# Disclaimer

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This presentation is not meant to be prescriptive. Just some thoughts and suggestions on what to consider and how to present your due diligence.

# Due Diligence

An **appraisal** of all **material aspects** of a proposed or operating mine by a **qualified and experienced** Team

*Assessment*

*Investigation*

*Evaluation*

*Reasoning*

*Measure*

*Accounting*

*Quantification*

*Expectation*

**WHAT ARE THE RISKS?**

# Deal Team Needs

## Qualified & Experienced Team

- The “A” Team. **Technical & DD experience.**
- “Blurb” in proposal should relate the independent expert’s (IE) technical expertise to project-specific requirements.
- What is this IE’s role on the project?
- It’s generally acceptable to bring in 3<sup>rd</sup>-party subject experts to strengthen the team. But, confirm this with your client.
- Confirm Team can complete the project on time.

*How does the IE bring value to the project?*

# Deal Team Needs

## Unified Team

- As Project Manager understand the Deal Team's needs and communicate this to your due diligence team.
- Develop an internal DD Execution Plan - (No compartmentalization).
- Don't lose sight of the requisite work scope.
- Provide consistent conclusions. Don't confuse the Deal Team.**

*"Did these guys even read each other's sections?"*

# Deal Team Needs

## Scope of Work

**All clients and project deals are not the same and don't require (or expect) the same level of effort or reporting.**

### **Understand what your client wants**

- Fatal Flaw Review (Desktop)
- Technical Review (Limited)
- Due Diligence Report (Audit)

***No cookie-cutter approach.***

# Deal Team Needs

## Scope of Work

### State your value proposition

- ❑ **This is what you will get (and this is what you will not get) given the scope and budget.**
- ❑ This is your opportunity to state limitations, as required.
  - ❖ “We will review but will not provide sign-off on the Estimate of Mineral Resource”
  - ❖ “Given the limited scope, the review will primarily rely on the NI43-101 Feasibility Report, benchmarking of similar projects, and professional opinion.”
  - ❖ “Capital cost review will be based on in-depth review of Basis of Estimate analysis, and including comment on construction labor productivities and rates.”
- ❑ What if client asks for “X” but I believe what they really want is “Y”
  - ❖ Respond to RFP requisites and provide an alternative scope and budget alongside
  - ❖ **Call your client and discuss your proposition**

*Communicate with your client.*



# Deal Team Needs

## Timely & Concise

### ❑ **The Deal Team is under time pressure.**

- ❖ Delay in report delivery is **NOT** an option!
- ❖ Provide a comprehensive initial findings report (first 2 weeks)

### ❑ **Time to review DD report is limited.**

- ❖ Keep report as short as possible. Focus on conclusions based on your due diligence.
- ❖ Focus on the material issues.
- ❖ Use an organized, logical and easy-to-find report structure.
- ❖ Consider descriptive graphs, charts & tables to illustrate your point instead of text.
- ❖ **DO NOT repeat source information. Your client has read the feasibility Study and is intimately familiar with the project, its location, and its development details.**

***Communicate – Immediately Report Material Findings***

# Deal Team Needs

## Timely & Concise

- ❑ **Address the fundamental questions.**
  - ❖ **Can I rely on the counterparty' work?**
  - ❖ **Does it meet the requisite standard of care? E.g. Is it a “real” feasibility study?**
  - ❖ **What are the project risks? Their likelihood? Their impact?**
  - ❖ **Can these risks be eliminated or mitigated?**
  - ❖ **If so, at what cost?**
- ❑ **Focus on what is relevant.**
  - ❖ **Don't get lost in the weeds.**
  - ❖ **Recall the scope.**

*Communicate - Let the Deal Team know where your team is heading.*

# Deal Team Needs

## Definitive & Honest Conclusions

### ❑ “Qualified & Experienced”

- ❖ It is understood that you were afforded a limited period to review work that has taken months to prepare, and presented in your value proposition.
- ❖ Your conclusions are based on;
  - the agreed scope, timeframe, and budget to complete the work, and
  - your experience as the discipline expert.

### ❑ No Qualifiers

- ❖ “...appears”, “...may be”, “...a challenge”, “...could result in”, “...perhaps”, etc. are **NOT** conclusions and are not helpful.

*Communicate – Use concise, direct, and short phrases.*

# Deal Team Needs

## Definitive & Honest Conclusions

### Not Good:

“QA/QC procedures may not be adequate.”

### Good:

“QA/QC procedures indicate bias and are not consistent with good industry practice.”

*Communicate – Use concise, direct, and short phrases.*

# Deal Team Needs

## Definitive & Honest Conclusions

**Not Good:** “The tailings dam is well-understood.”

**Good (-):** “The tailings dam was properly engineered and is performing to design specification. However, as an upstream design it is subject to increased risk of failure risk as it enters Phase 4 operation.”

**Good (+):** “The tailings dam was properly engineered and is performing to design specification. Given continued responsible operating practice by the site team, the downstream design will not result in increased stability risk as it enters Phase 4 operation.”

**Good (o):** There is insufficient information for [*consultant*] to provide an opinion. It is recommended that a Cone Penetration Test (CPT) be completed to better understand this condition.

*Communicate – Use concise, direct, and short phrases.*

# Deal Team Needs

## Definitive & Honest Conclusions

### ❑ Fair & Honest

- ❖ Call it the way you see it. .
- ❖ Don't hide negative findings.

### ❑ It's not all good, and it's not all bad.

- ❖ Comment positive and negative attributes.
- ❖ Keep in mind not all negative attributes are necessarily a risk.
- ❖ Include a list of open items which require additional review. .

*Communicate material findings to your client immediately.*

# Due Diligence

## Greenfield Project

### Social & EH&S

- Equator Principles
- Stakeholders
- Best Practice Environmental Standards
- Operating Permits & Closure Requirements
- Health & Safety Protocols

### Mineral Resource

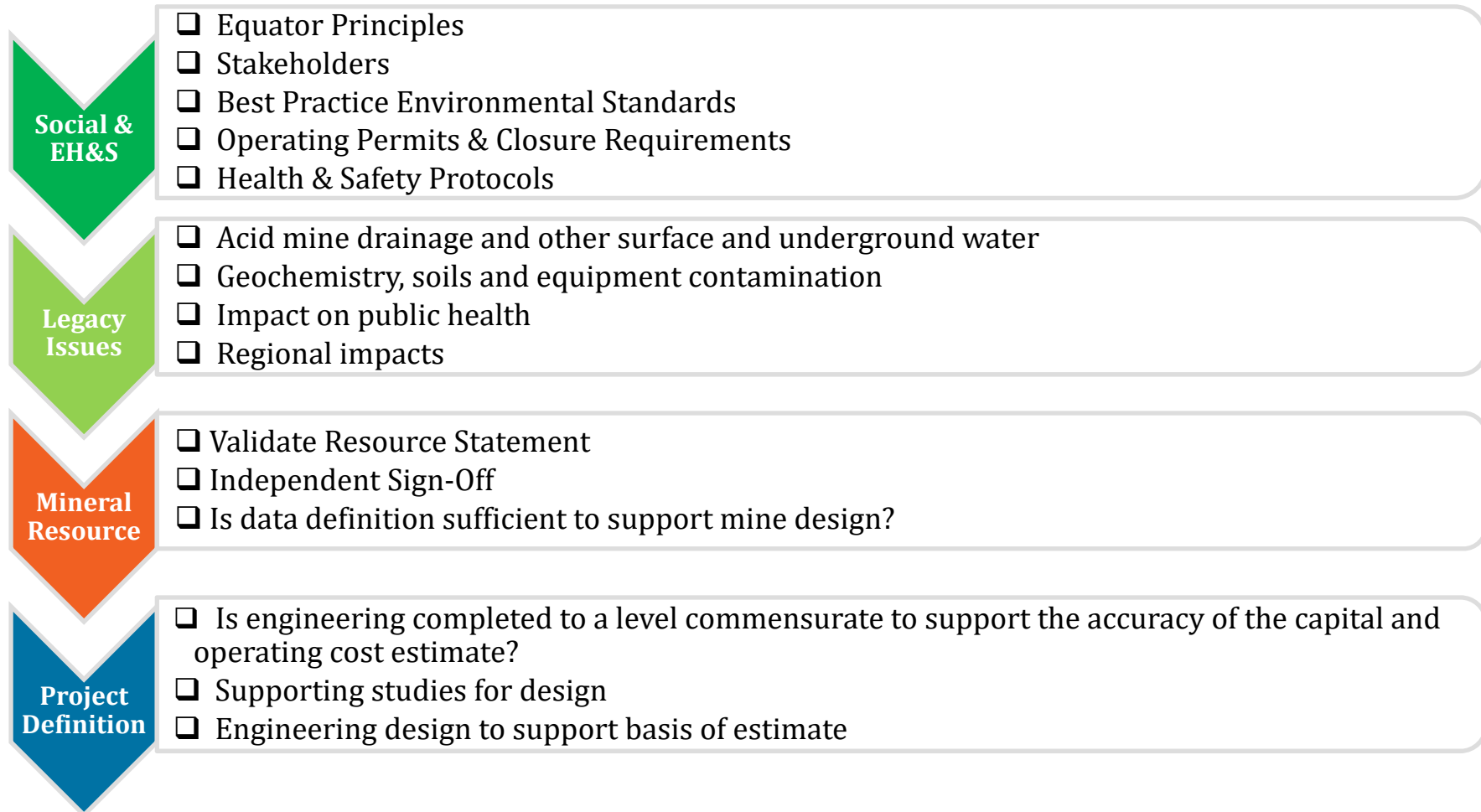
- Validate Resource Statement
- Independent Sign-Off
- Is data definition sufficient to support mine design?

### Project Definition

- Is engineering completed to a level commensurate to support the accuracy of the capital and operating cost estimate?
- Supporting studies for design
- Engineering design to support basis of estimate

# Due Diligence

## Brownfield Project





# Due Diligence

## Operating Mine



- Equator Principles
- Stakeholders
- Best Practice Environmental Standards
- Operating Permits & Closure Requirements
- Health & Safety Protocols



- Operational Health & Safety
- Contracts (labor, suppliers, markets)
- Maintenance Programs



- Geologic Block Model (RoM Tonnes & Grade)
- Production Tonnes and grade
- Process Recovery
- Budget vs. Actual Operating and Capital Costs

# Reporting Guideline

## 3 – Step Process

- Work Progress / Question Tracker
- Initial Findings Report
- Draft Due Diligence Report

*Develop an organized, logical and easy-to-find report structure*

# Reporting Guideline

## Work Progress / Question Tracker (Communication)

- ❑ Develop a simple work progress and question & answer tracker to be shared and updated by the Deal Team, Due Diligence Team and Counterparty.
  - ❖ Serves as a simple and effective communication tool
  - ❖ Logs the due diligence progress
  - ❖ Provides a record of issues and resolutions for all parties.
  - ❖ Keeps everyone on the project on “the same page”

*Deliverable : Continually revised Xcel Spreadsheet*

# Reporting Guideline

## Example:

Due Diligence Tracker						
No.	Discipline	Counterparty Responsible Person	Referenced Document	Priority (H, M, L)	Question/Request and Responses	Issue Resolved?
001	Mining	John Doe	FS, Section 14.7	Medium	MES 21-Jan: Describe the question in detail in this area. Be descriptive enough so all that are on the distribution can understand the context of the question. "MES" would be the initials of the person asking the question, along with the date. KDS 3-Feb: KDS responds here in different color font. MES 8-Feb: MES or anyone else can respond unit issue is resolved.	No
002						
003						
004						
005						

# Reporting Guideline

## Initial Findings Report

- ❑ Completed 1-2 weeks after kick-off and before site visit
- ❑ Based on Data Room review.
- ❑ Identifies positive and negative attributes and open items requiring additional review.
- ❑ More importantly, identifies “first-pass” specific areas of concern which will be the initial focus of the site visit.
- ❑ Becomes basis for DD Team site visit “Checklist”
- ❑ ... And the Work Progress / Question Tracker

*Deliverable : Concise (“bullet-style”) memo or report*

# Reporting Guideline

## Example:

### Resource Estimation & Reporting

- ✓ Competent Person (QP) well-qualified and visited site;
- ✓ High proportion of Indicated Resources and substantial base for potential conversion to Reserves;
- ✓ Potential for eventual economic extraction considered in detail by constraining to pit shell;
- ✓ The grade interpolation methodology is based on Ordinary Kriging and is clearly explained;
- ✓ Generated variograms recreated in Vulcan agree with the choices they made for nugget.
- ✗ No Measured Resources estimated reflecting concerns with overall data;
- ✗ Use of supplied pit shell in Resource delineation increases exposure to external influences and factors, such as changing commodity price;
- Modelling database only recently supplied for review.
- More work is necessary to establish the validity of the geostatistical work included in the resource estimate. In general our high level review has shown that the low nugget and downhole variograms appear to be appropriate.

# Reporting Guideline

## Draft Due Diligence Report

- ❑ **The foundation of your appraisal should be a comprehensive risk matrix, with text documenting the risks, as well as recommended mitigative measures.**
  - ❖ A comprehensive risk matrix to include; likelihood and impact of risk, mitigative measure & cost, then likelihood and impact after mitigation
  - ❖ Each section or chapter should address the disciplines outlined in the RFP, with key areas of that discipline as subsections.
  - ❖ For each discipline section include a narrative describing conclusions drawn from the due diligence, including positive and negative findings, and recommendations
  - ❖ In section provide a narrative of each risk, describing; (1) likely and (2) worst case scenario, mitigative measure with time and cost to complete and likely outcome after mitigation.

*An appraisal of all material aspects of a proposed or operating mine by a qualified and experienced Team*

# Reporting Guideline

Example:

CONSEQUENCE	Severe	E	Low		Medium		High		Potentially Fatal		Fatal	
	Major	D	Low		Medium		High		Potentially Fatal		Fatal	
	Moderate	C	Low		Medium		High		Potentially Fatal		Fatal	
	Minor	B	Low		Medium		High		Potentially Fatal		Fatal	
	Insignificant	A	Low		Medium		High		Potentially Fatal		Fatal	
			1	2	3	4	5					
			Rarely	Unlikely	Possible	Likely	Almost Certain					
			LIKELIHOOD									



# Reporting Guideline

## Example:

Risk Template													
Risk	Discipline	Report Section	Risk Description	Consequence	Likelihood	Impact	Impact	Mitigation	Estimated Cost	Mitigation Outcome	Likelihood	Impact	Impact
2a	Geology	2.2.6	The domaining process and variogram calculation approach used, variogram models do not truly represent the spatial autocorrelation of all variables.	Reduced recovery and ore:waste misclassification leading to loss in revenue.	2	3	6	Complete a structural geology study and update the resource estimation using geological domains improving the quality and reliability of the resource estimate.	Capital: \$55,000 Opex: \$0.00/t	Reliable Resource estimate. Better mine optimization. Increased revenues.	1	1	1
4a	Process												
4b	Process	4.3.2	No on-site assay lab	Poor grade control, and plant recovery	3	4	12	Build on-site laboratory	Capital: \$1.2M Opex: \$0.12/t	Optimized operation, increased recovery and revenues.	2	1	2

# Reporting Guideline

## Example:

### **Risk 4b: No On-site Laboratory**

Note, this narrative is the key part of the DD report should be a descriptive as necessary to describe the risk.

Example: Not having an on-site laboratory is poor operating practice. Delays in receiving assays will result in operational inefficiencies at the mine, unnecessary dilution, poor grade to the mill, reduced recoveries and increased costs. Etc.

**Mitigation:** Design, cost and construct an on-site mill and supporting services.

**Estimated Cost:** \$1.2M capital cost for complete laboratory and \$0.07/t-RoM incremental operating cost, above contracted off-site laboratory fee.

**Timeline:** 3 months

**Likely scenario:** 5% higher \$/oz-Au operating cost, and up to 10% less recovery at the mill.

**Worst scenario:** 10% higher \$/Au operating cost and 15% less recovery at the mill.

**“In summary, the data quality is generally considered reasonable, with some areas of concern”.**