



CSA Global
Mining Industry Consultants
an ERM Group company

Regulatory Compliance Data; The Must, The Good and The Nice

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Quick recap

1. Input of data

- The data management solution must cater for the process of data collection as well as all types of data.

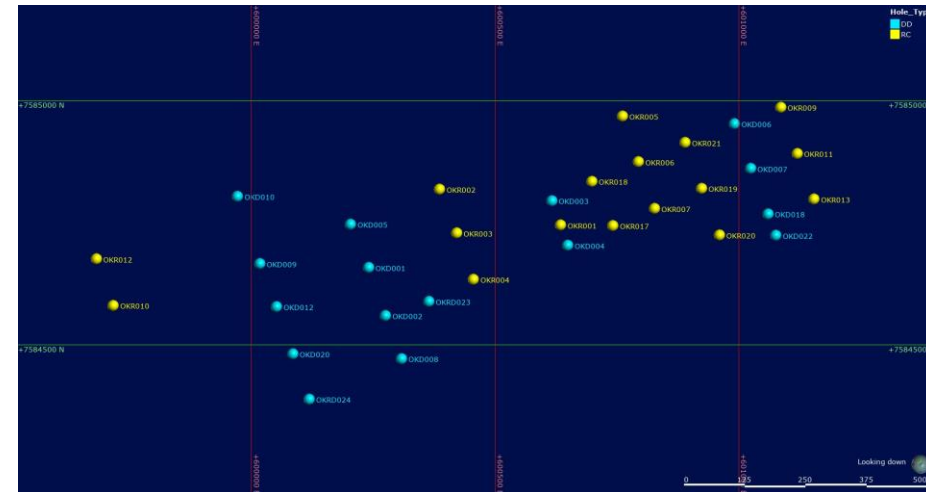
2. Data compliance

- This will ensure that data can be reported in accordance with the principles and guidelines for reporting codes such as JORC and CIM (NI43-101).

Must have – What is it?

This is also known as regulatory compliance – the following eight points are non-negotiable.

1. Unique borehole ID
2. Drill date of borehole
3. Hole type
4. End of hole (EOH) or max depth



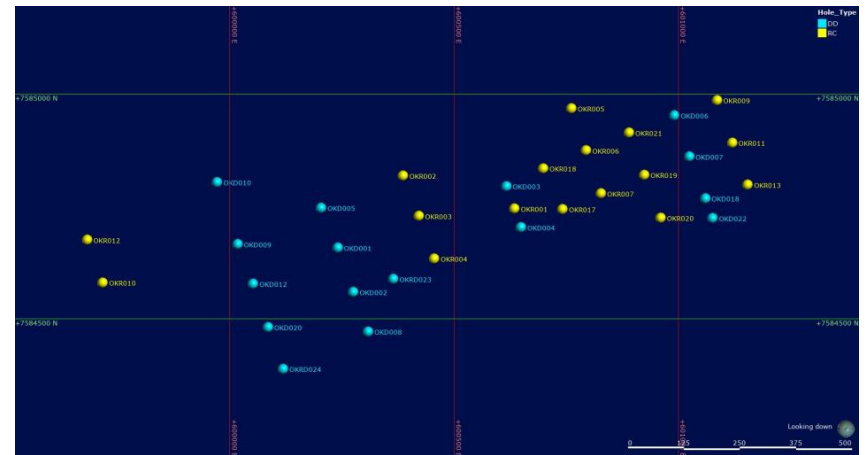
Must have – Where is it located?

5. Borehole Coordinates

- Global coordinates
- National coordinates

6. Downhole Survey

- Survey type
- Depth down hole
- Dip
- Azimuth



Must have – Does it make sense?

7. Interval data

- Records should not extend beyond EOH
- No overlapping intervals
- No duplicate intervals
- No gaps

Depth below GL	Description	Thickness	Legend	Soil classification	Sample type	Depth	SPT N results
1					UDS		
2	Silty clay	4.5	[Vertical lines]	ML	UDS SPT	2.3	7
3					UDS SPT		
4					UDS SPT	3.8	7
5	Silty sand	3	[Vertical lines]	SM-SP	UDS SPT	5.3	9
7					UDS SPT	6.8	9
8					UDS SPT	8.3	10
9	Silty sand	4	[Horizontal lines]	SP	UDS SPT	9.8	13
11					UDS SPT	11.3	15
12					UDS SPT	12.8	18
13	Silty sand	1	[Vertical lines]	SM-SP	UDS SPT	12.8	18
14	Silty sand	1	[Vertical lines]	SM	UDS SPT	14.3	19
15	Silty sand	2.5	[Horizontal lines]	SP	UDS SPT	15.8	22
16					UDS SPT	17.3	23
17					UDS SPT	18.8	25
18	Silty sand	6.5	[Vertical lines]	SM-SP	UDS SPT	20.3	24
19					UDS SPT	21.8	25
20					UDS SPT	23.3	27
21	Silty clay	4.5	[Grid]	CL	UDS SPT	24.8	27
22					UDS SPT	26.3	22
23					UDS SPT	27.8	24
24					UDS SPT	29.3	28
25					UDS SPT		
26					UDS SPT		
27					UDS SPT		
28					UDS SPT		
29					UDS SPT		
30					UDS SPT		



Must have – Is it trustworthy?

8. Samples and QC

- Sample Category
- Sample Method
- Sample Type
- Sample Date
- Sampler
- Sample condition
- Samples without assay results

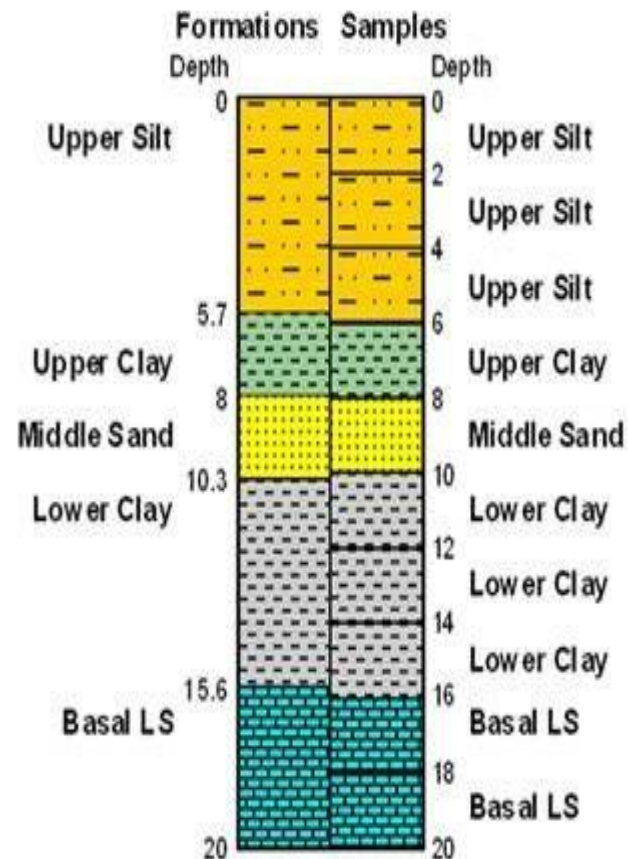
SampleID	Hole_ID	Depth_From	Depth_To	Interval_Length	Sample_Type	Sample_Method	Sample_Category
007B-001	BHID10007	148.3	150.3	2	PULP	Core	ORIG
007B-002	BHID10007	150.3	152.3	2	PULP	Core	ORIG
007B-003	BHID10007	152.3	154.82	2.52	PULP	Core	ORIG



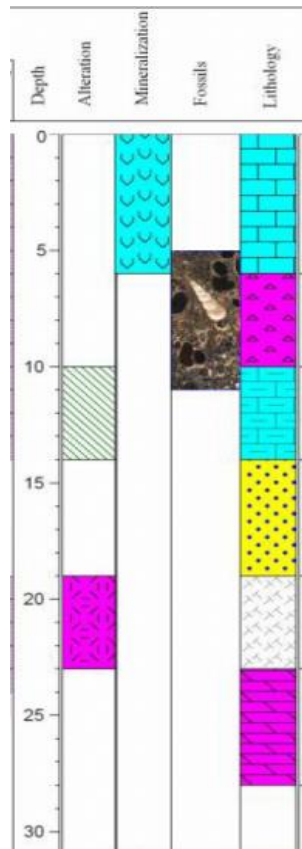
Data - Must have modelling

Must for geological modelling

- Geology/Lithology data
- Specific gravity



Data - Good to have



- Drill details
- Metadata
- Alteration
- Minerals
- Structure
- Oxidation
- Sulphides
- Veins
- Weathering
- Colour
- Grain size



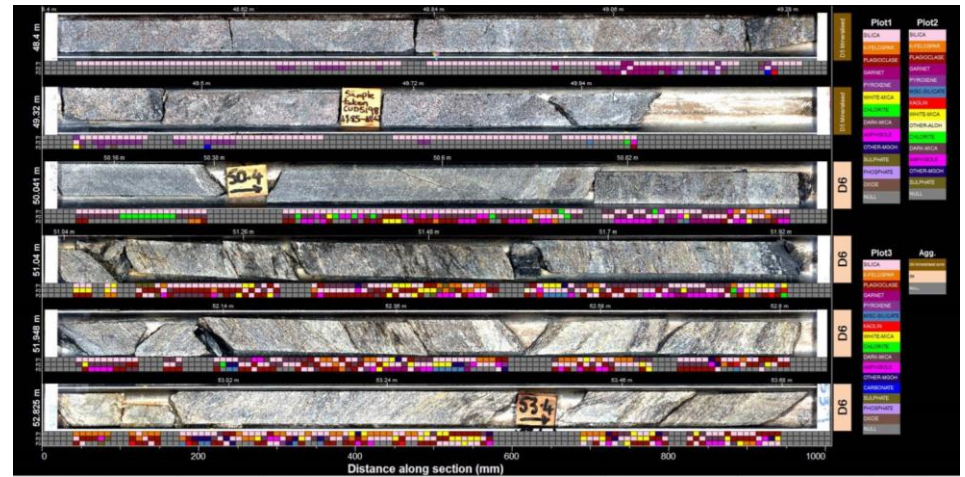
Data - Good to have

- Structure orientation
- Geophysics
- Geotechnical data
- Geotechnical load strength
- Geotechnical RMR
- Geotechnical RQD
- Core orientation
- Core recovery run
- Metallurgical samples
- Metallurgical sample QC



Data - Nice to have

- Core storage details
- Grouting
- Photos
- Core scans
- Drill casing left



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Data – The influence

- Geological and sampling data inform the geological model of the underlying area
- The geological model forms the base for the mineral resource estimation

KEEP IN MIND WHY WE COLLECT DATA

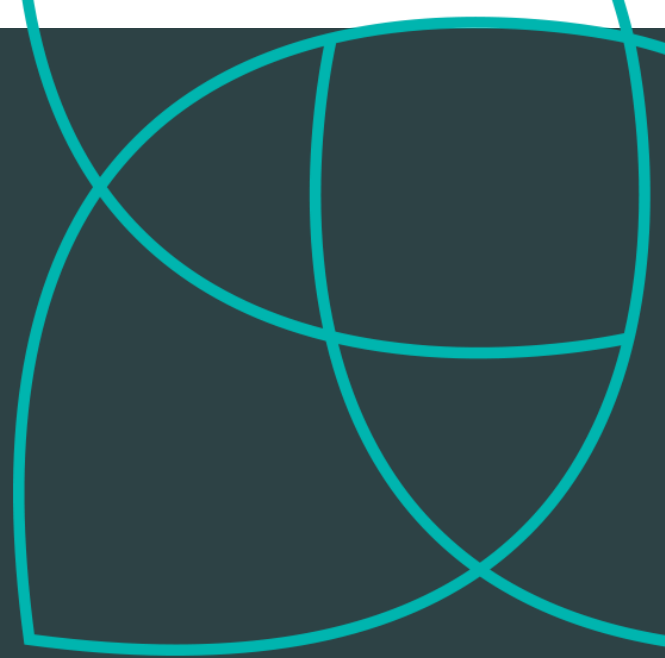
Take home

Data must be used to make informed decisions

Geological and sample data form the foundation of the mineral resource estimate - critical to the confidence of the feasibility study as well as the day-to-day operation of the mine.



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Thank you!



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