

Evidence-Based Research on Selected Artisanal Mining Sites in South Africa

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Figure 1: Artisanal Mining Surface Trenches in Durban Deeps



Figure 2: Artisanal Mining of a Shear Zone in Louisville

Characteristics of Each Site:

- **Durban Deeps:** surface mining, gold, illegal immigrants, syndicates, men and women, mining and beneficiation
- **Louisville:** surface/underground mining, gold, traditional community, mostly men, mining and beneficiation
- **Kimberly:** surface mining, diamonds, community members and illegal immigrants, men and women, mining.

Aim:

To document, classify and assess different types of artisanal mining

Selected Artisanal Mining Sites

- Durban Deeps, Gauteng
- Louisville, Mpumalanga
- Kimberly, Northern Cape

Research Methods:

- Grab Sampling
- Informal/Formal Interviews
- Site Observation



Figure 2: Artisanal Mining of "floors" in Kimberly

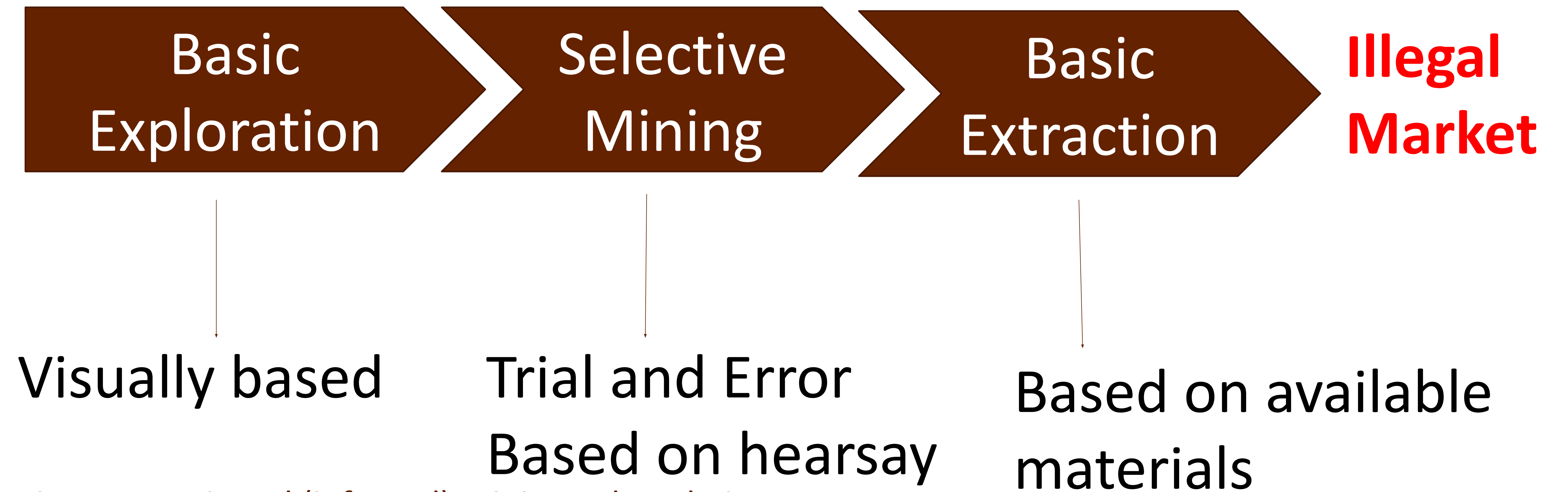


Figure 3: Artisanal (informal) Mining Value Chain

Key Findings:

- Grades in the area are incongruent with grades claimed by miners
- 3 types of artisanal mining
 - Illegal (Durban Deep)
 - Customary (Louisville)
 - Legal (Kimberly)
- The artisanal (informal) mining value chain is present in each artisanal mining site
- Mining methods are basic but innovative using available materials
- Miners have basic geological knowledge (indigenous knowledge)

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| Sample | Au (g/t) |
|---------|----------|
| BBT101A | 0.56 |
| BBT101C | 3.21 |
| BBT102 | 1.24 |
| BBT104 | 0.6 |
| BBT105A | 1.28 |
| BBT105B | 2.83 |
| BBT109 | 1.82 |
| BBT111A | 0.13 |
| BBT111B | 0.11 |
| BBT112A | 0.34 |
| BBT113 | 0.5 |
| BBT114A | 0.82 |
| BBT114B | 0.41 |
| BBT114C | 0.09 |
| BBT115B | 0.1 |
| BBT116B | 0.27 |
| BBT116C | 0.61 |

Table 1: Grab Sample assay results from Louisville