



Proactive safety practices at S&B Industrial Minerals S.A.

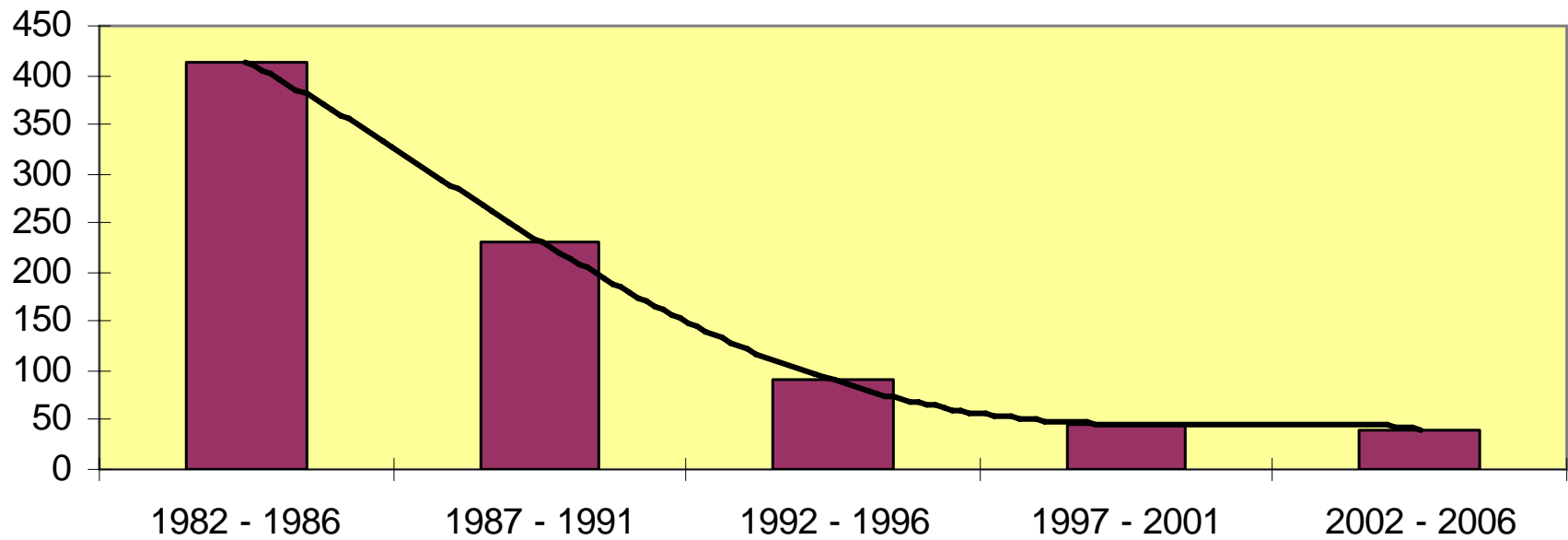
Michalis Stefanakis

Corporate Environment, Health & Safety manager

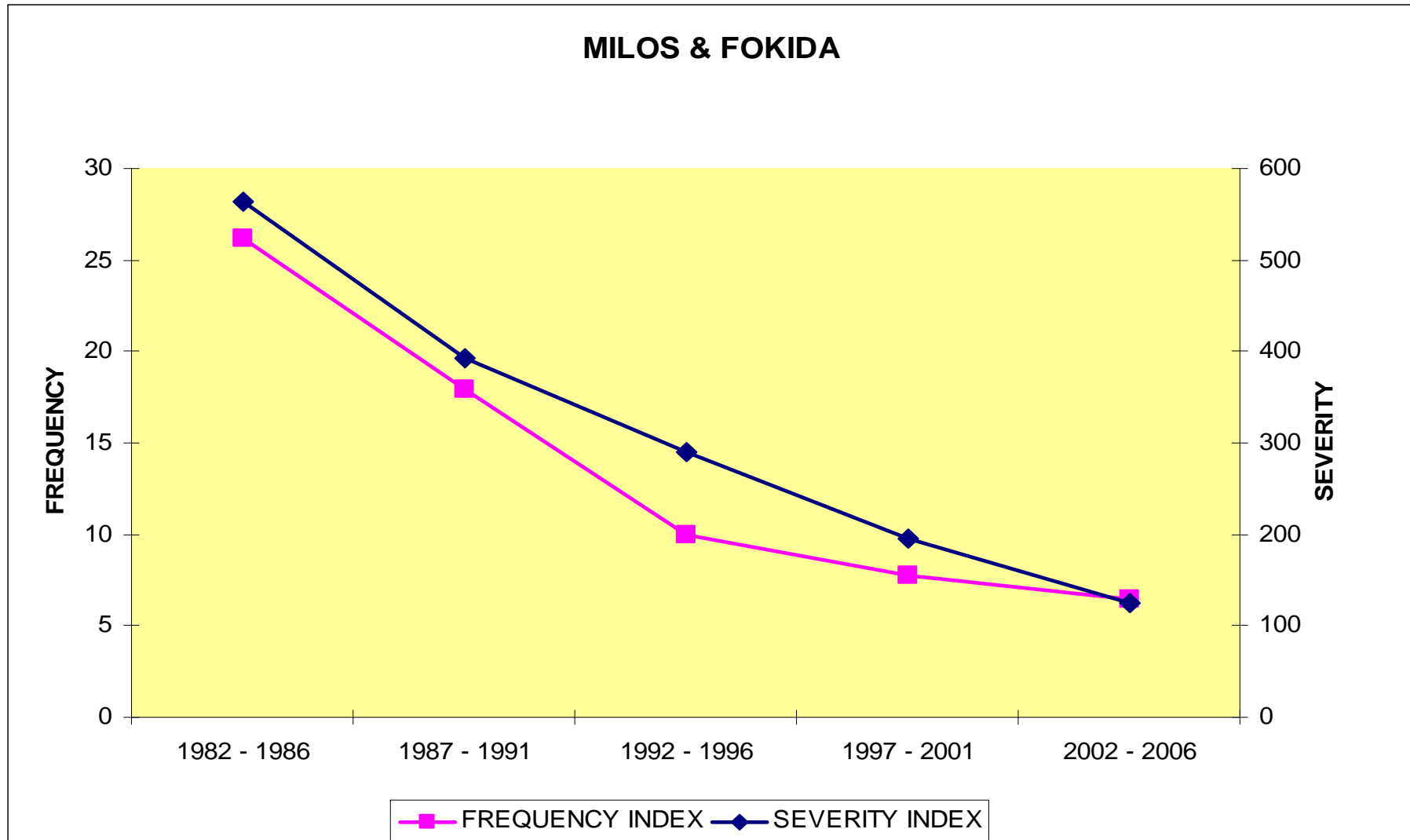
S&B Industrial Minerals S.A., Greece

SDIMI 07, 17-20 June 2007, Milos

Number of incidents in Milos & Fokida

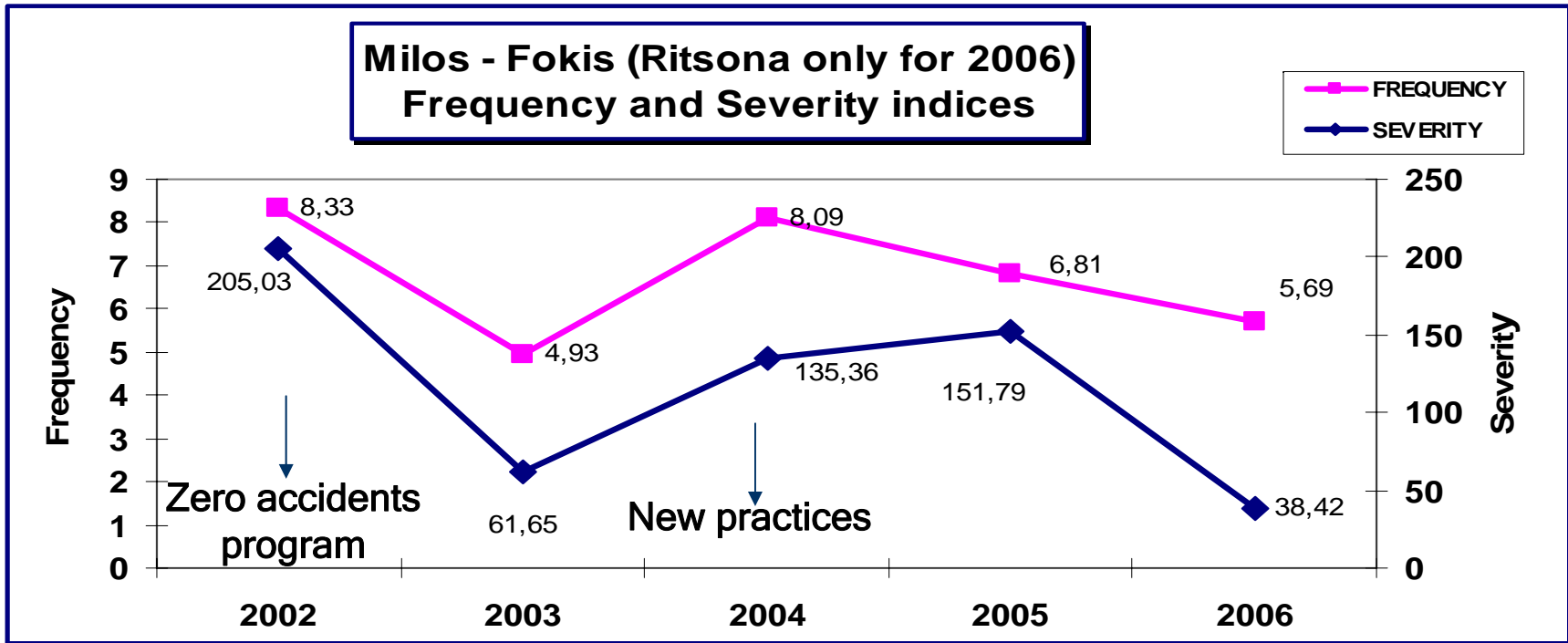


Accidents' indices evolution





Milos – Fokida H&S Indices



S&B PERSONNEL PLUS CONTRACTORS (supervised by S&B)



Good practices introduced and parties involved

Practice	Parties involved
Incidents' investigation	Top management
	Line management
	Employees
Management safety visits	Top management
	Line management
	Employees
Safety barometer	Line management
	Employees

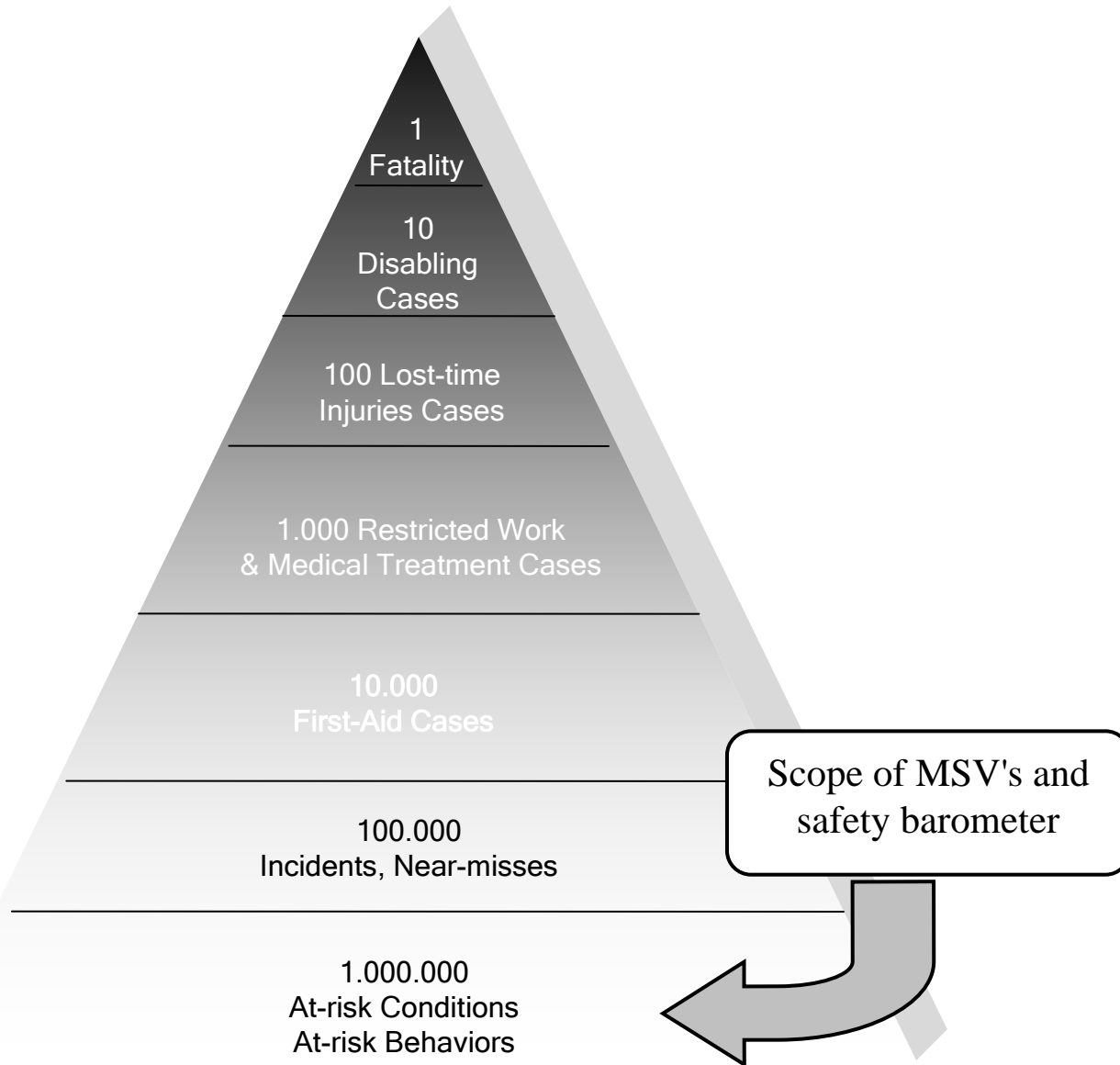


S&B values

- Integrity
 - We keep our promises
- Customer Intimacy
 - We strive to understand and satisfy our customers needs and to share their aspirations for the future.
- **Respect for People**
 - We value our people and we foster their development within a **safe working environment** of mutual trust and respect.
- Social responsibility
 - We gain the respect of our stakeholders with our professional and responsible conduct.

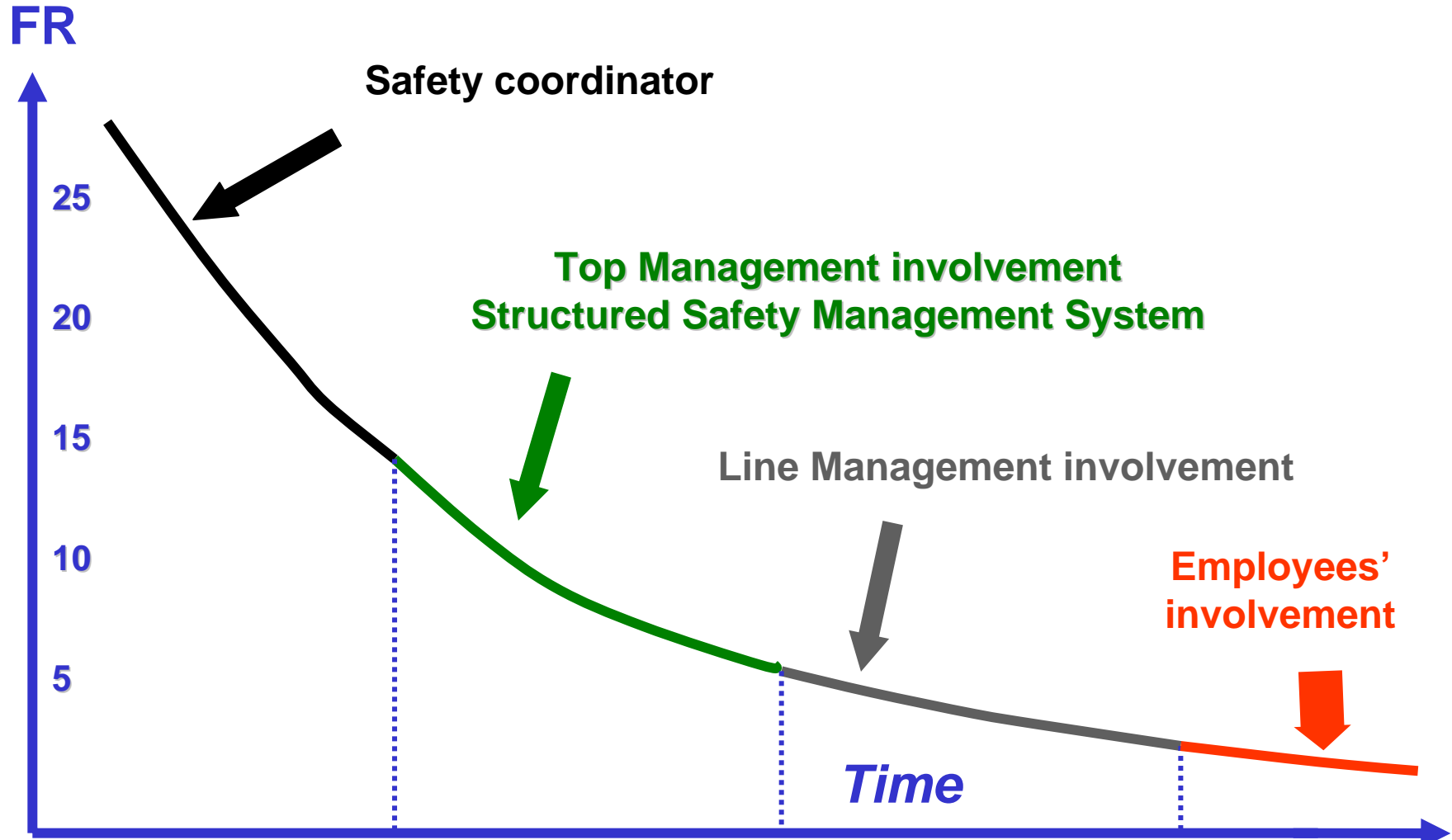


Proactive safety practices





Accidents' Frequency Rate vs. Time





Management safety visits (MSVs)

Definition

- The management safety visit, is a visit paid by two successive management levels (n+1) and (n), to a shop floor operation in order to review together with the employee a specific work carried out at his work post, the purpose being to:
 - Re-inforce safe practices
 - Identify unsafe practices and implement corrective action immediately or within a short period (up to 3 months) to remedy the status and improve the working environment.



Management safety visits (MSVs)

Stages involved

1. Selection of the activity to be witnessed
2. Study the work procedures and instructions applicable for the activity to be visited and all reports from previous MSVs made on that activity.
3. Visit the employee at the shop floor and explain the purpose of the visit. It is important to clarify in the beginning, that discussion is confined to the work activity and not to other general issues.
4. Witness implementation of the work activity selected.
 - Intervene, when safe practices are followed, to congratulate the employee.
 - Intervene when a deviation from safety requirements is observed, asking the employee to describe the risks in which he is exposed or exposing others, prompting for implementation in the correct way.
 - Take immediate corrective measures to remedy risky conditions witnessed during the visit and assist, or seclude the area until measures are taken. It is important that our actions are aligned with the stated value, not permitting to undertake the work in an unsafe way.
5. Ask the employee to summarize the safe practices followed in implementing the work activity, the immediate corrective actions implemented and the unsafe actions that should not be repeated.
6. Issue the visit report within the day and communicate a copy to the employee.



Management safety visits (MSVs)

Value of the practice

- Management commitment
- Involve management with shop floor activities
- Re-inforce safe practices used by employees
- Chain management motivation (the (n+1) level clarifies his expectations from the (n) level)
- Emphasize the safety importance through implementation of immediate corrective actions.



Safety barometer

Principles

- Focus on the daily risk exposure of employees, prior to any incidents' occurrence.
- Quantification of “behaviours”



Safety Barometer

Implementation stages

- **Selection of safety requirements**
 - Related with “behaviour”
 - Observable with no employee involvement
 - Compliance verification with a “Yes” or “No” answer
- Design implementation and monitoring
- Evaluate results
- Communicate results and schedule actions



Safety barometer – Underground mines

List of safety requirements

1. Sign the “In - Out log book” upon entering/exiting the underground mine.
2. Put on your safety helmet and light.
3. **Park the supervision vehicle with the rotary light on, or with flashing alarm lights.**
4. Maintain internal – external communication with the lodge out of the mine and with head offices at 51km (telephone, VHF radio).
5. Maintain the necessary first aid material (pharmacy, blankets, stretcher) at the lodge.
6. Stay into the drilling machine cabin (operator) during the drilling operation.
7. Stay behind (i.e. all other employees present, apart from the operator) the drilling machine during the drilling operation.
8. Always charge drill holes in the presence of another employee.
9. Put explosive’s caps in a wooden box.
10. Keep aside a scaling bar during drilling operation.
11. Use (i.e. the employee responsible for charging) the scaling bar to remove all loose rock-mass present in the charging area.
12. Short circuit explosive’s caps after finishing the charging operation.
13. **Isolate a charged face with label or tape.**
14. Put the firing conductor on wooden sticks.
15. Carry out drilling and charging operations separately, while in the same face.
16. Drive the loader only in reverse.
17. Put on the safety belt while working with the scaling vehicle.
18. Secure mined out areas and uneven working levels with tapes, wire mesh or a rock pile.
19. Commence scaling, standing under an already scaled roof.
20. **Wear working suits with reflecting straps.**



Safety Barometer

Implementation stages

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Safety barometer – Observation sheet

		Date	Hour		Shift									
Site or Department :		<input type="checkbox"/>	Safety Req't		measurable		<input type="checkbox"/>							
Person in charge of measurement :		<input type="radio"/>	Safety Req't		measured "conform"		<input type="radio"/>		T T					
N°	Safety Requirement	1	2	3	4	5	6	7	8	9	10	N°	<input type="checkbox"/>	<input type="radio"/>
1	Sign the "In - Out log book" upon enter-ing/exiting the underground mine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1		
2	Put on your safety helmet and light.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2		
3	Park the supervision vehicle with the rotary light on, or with flashing alarm lights.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3		
4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4		
5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5		
6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6		
7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7		
8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8		
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9		
10		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10		
11		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11		
12		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12		
13		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13		
14		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14		
15		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15		
16		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16		
17		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17		
18		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18		
19		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	19		
20		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20		
Observations :		Total "measurable" Safety Req'ts <input type="checkbox"/> A = 0												
		Total Safety Req'ts measured "conform" <input type="radio"/> B = 0												
		% Proactive Safety Performance (100 x B / A) = ####												



Safety Barometer

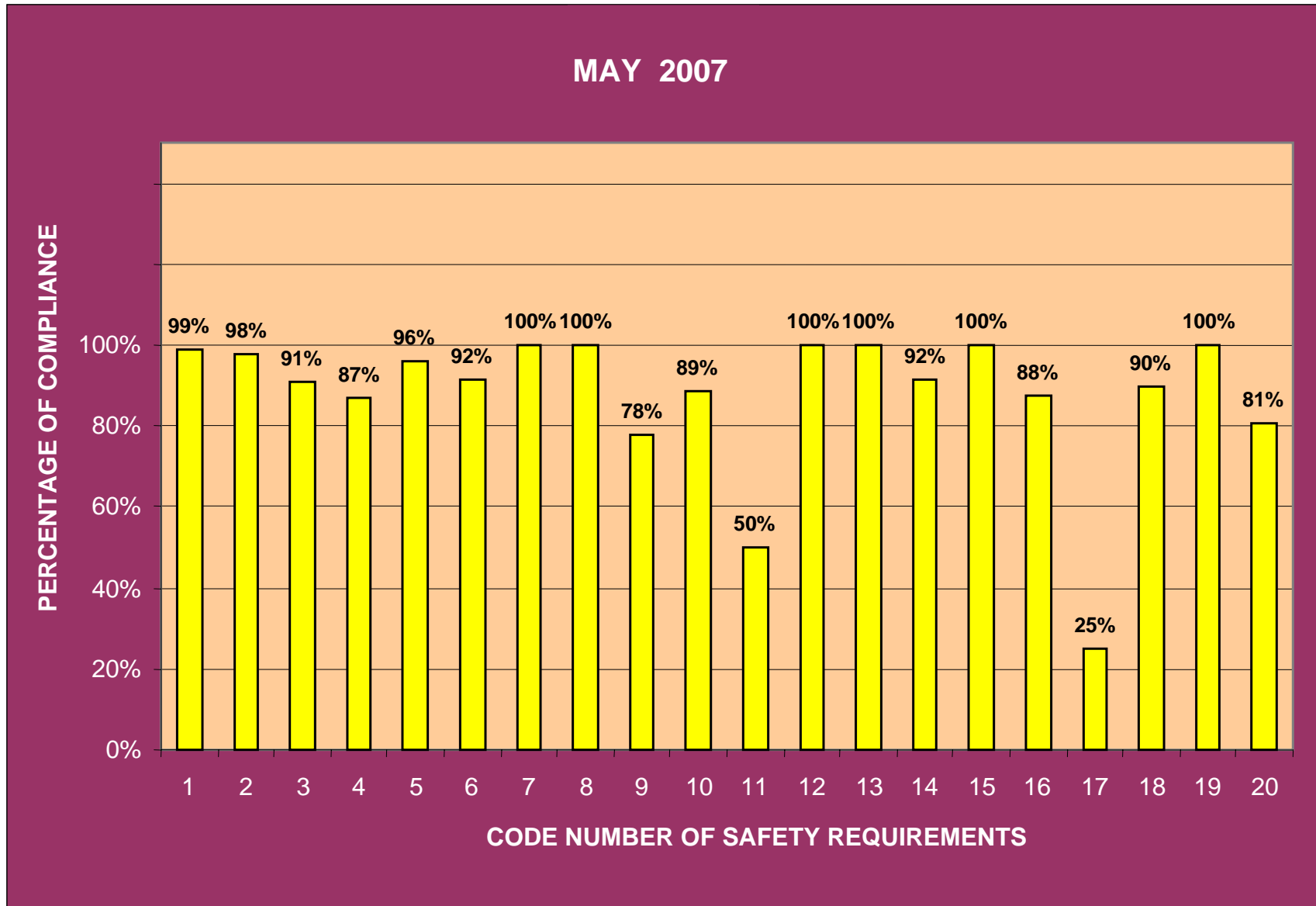
Implementation stages

- Selection of safety requirements
 - Related with “behaviour”
 - Observable with no employee involvement
 - Compliance verification with a “Yes” or “No” answer
- Design implementation and monitoring
- **Evaluate results**
- Communicate results and schedule actions



Safety Barometer – Underground mines

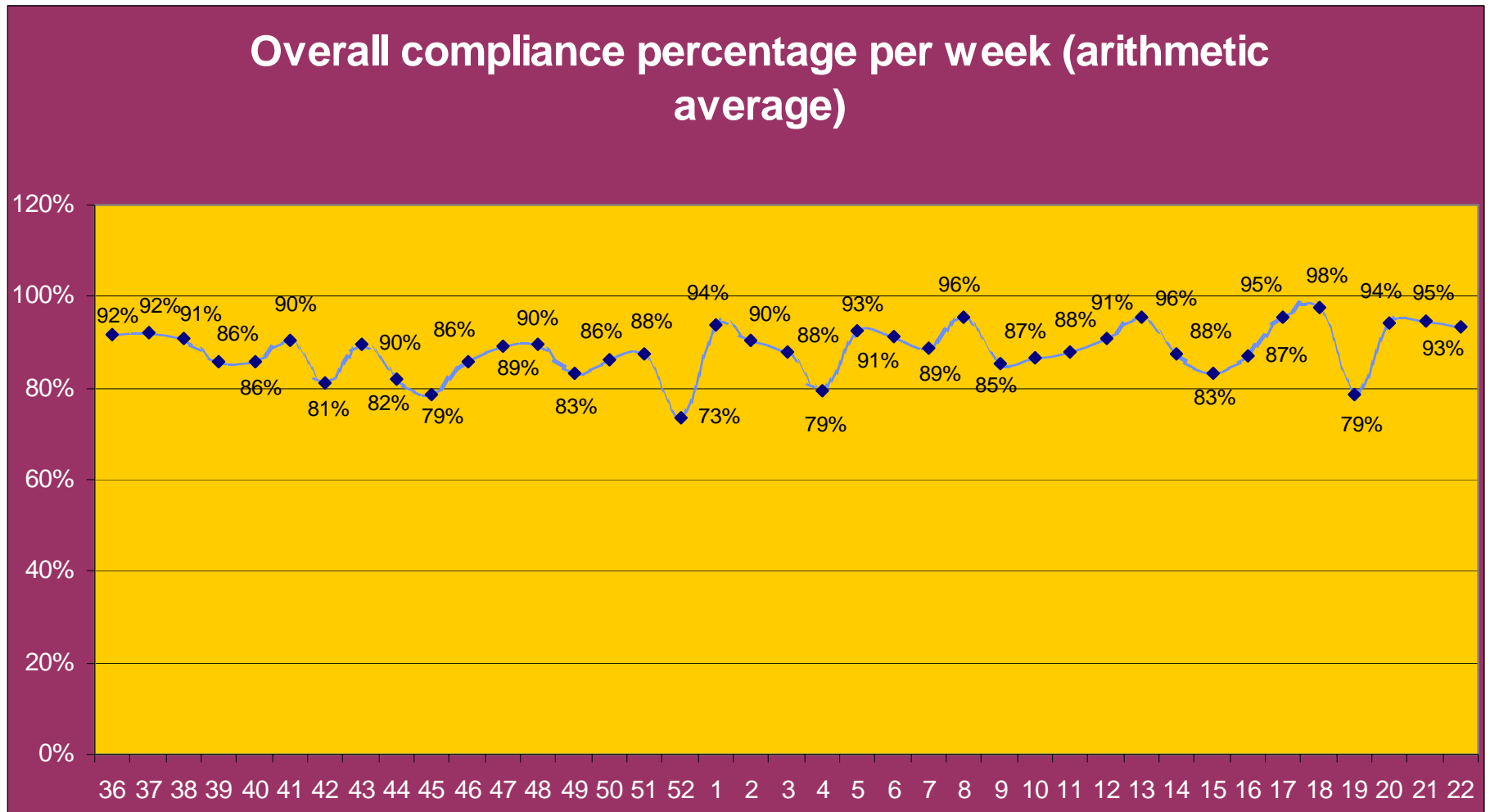
[Percentage of compliance with safety requirements]

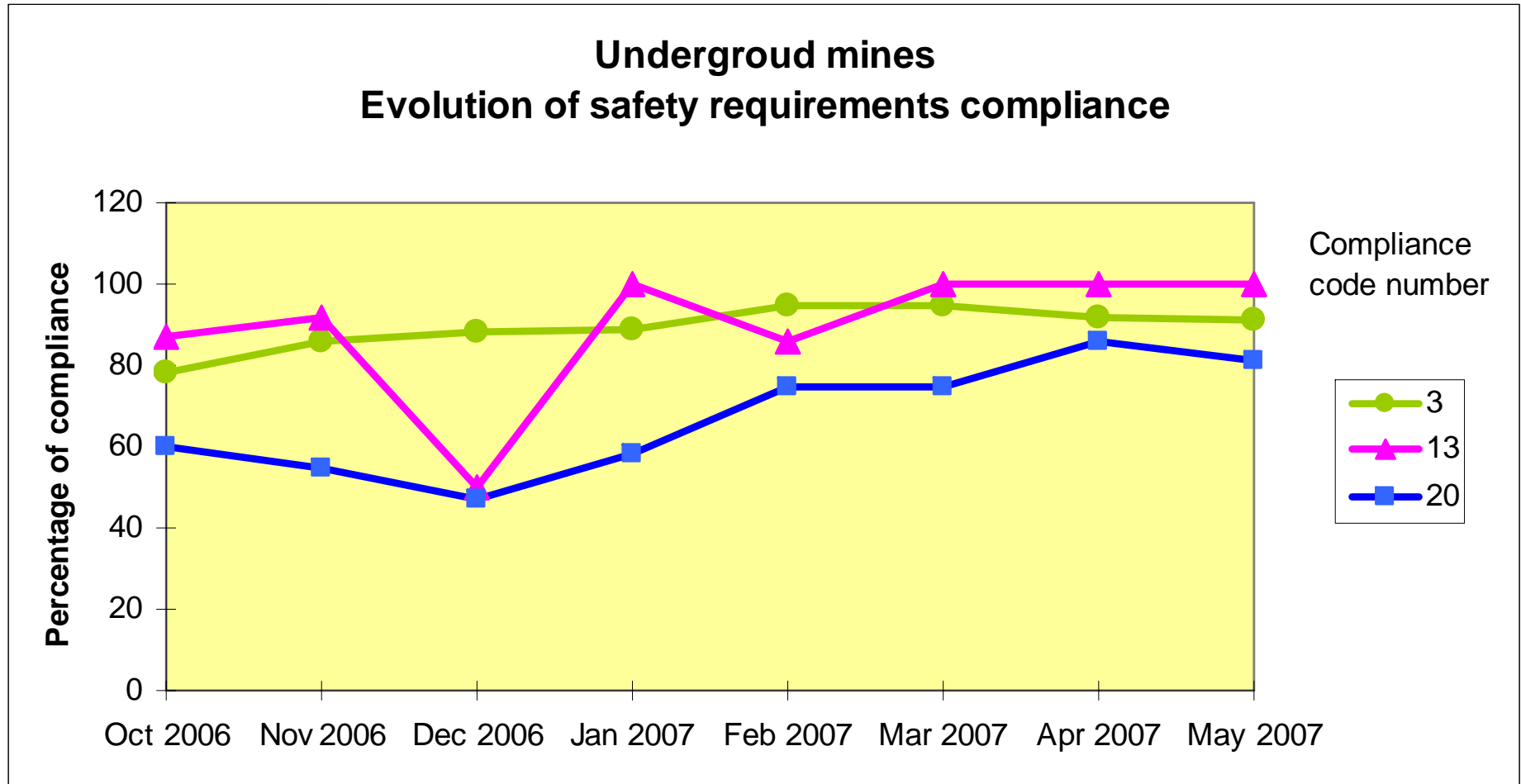




Safety Barometer – Underground mines

[Total percentage of compliance per week]





- 3: Park the supervision vehicle with the rotary light on, or with flashing alarm lights
- 13: Isolate a charged face with label or tape
- 20: Wear working suits with reflecting straps



Safety Barometer

Implementation stages

- Selection of safety requirements
 - Related with “behaviour”
 - Observable with no employee involvement
 - Compliance verification with a “Yes” or “No” answer
- Design implementation and monitoring
- Evaluate results
- **Communicate results, seek feedback and schedule actions**