

Mzimkhulu
Mining



Incident Cause Analysis Method (ICAM) Report
LDV's HEAD ON COLLISION



POINTS OF DISCUSSION

- Incident information
- Incident description
- Incident Scene
- Sequence of events
- Failure analysis
- Root cause process flow
- Key learnings
- Questions

INCIDENT INFORMATION

Date: 05/02/2019

Time: Around 17:55

Site: Mzimkhulu Colliery

Classification: Reportable Injury

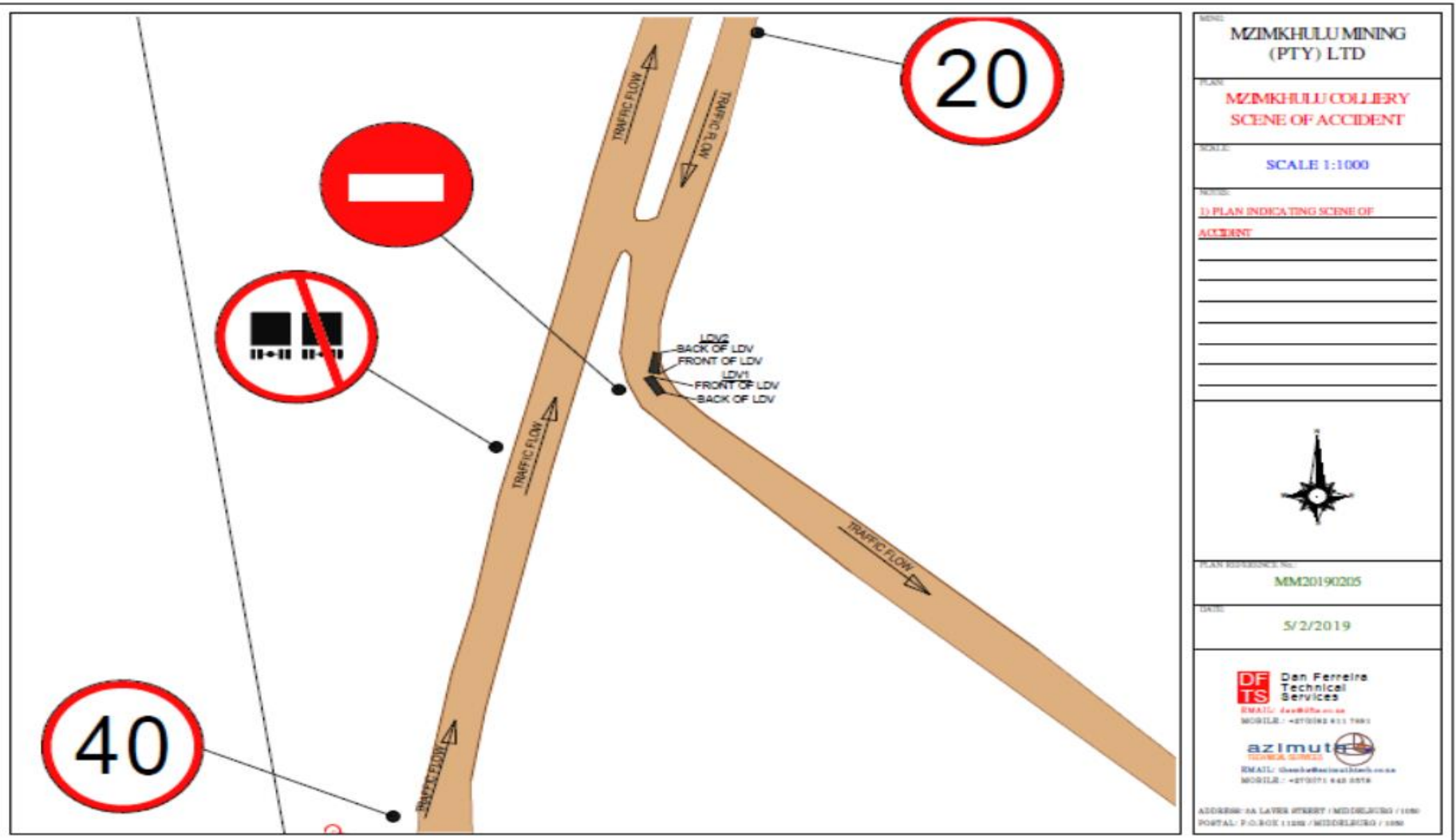
INVESTIGATION TEAM



Name & Surname	Occupation	Company
M Mabogoane	Mine Manager	Mzimkhulu Mining
F Moleleki	Engineer	Mzimkhulu Mining
J Cronje	Chief Safety Officer	Mzimkhulu Mining
A Nkosi	Pit Superintendent	Mzimkhulu Mining
J Harvett	Subordinate Manager	Diesel Power
J Van Wyk	Pit Superintendent - Injured	Diesel Power
EM Buthelezi	Construction Supervisor - Injured	Diesel Power
EM Mtetwa	Grader Operator - Injured	Diesel Power
David Dlamini	Area Health and Safety Representative	Diesel Power
S Mkondo	Fulltime H&S Representative	Diesel Power
W Madonsela	H&S Rep – DP (HS Committee Member)	Diesel Power

INCIDENT DESCRIPTION

- On 05 February 2019, at 17:55, two Diesel Power LDV's collided on the haul road towards the Diesel Power Offices.
- The Pit Superintendent was on his way to the office from the pit and the other vehicle was travelling towards the pit in a one way directional road.
- Both vehicles collided at the corner close to the brake test ramp.
- Both operators of the LDV's were speeding at the time of the incident – the speed limit in this specific zone is 20km/h.

SCENE OF INCIDENT



CLIENT:	MZIMKHULU MINING (PTY) LTD
PLANT:	MZIMKHULU COLLIERY SCENE OF ACCIDENT
SCALE:	SCALE 1:1000
TITLE:	1) PLAN INDICATING SCENE OF ACCIDENT
PLAN REFERENCE NO.:	MM20190205
DATE:	5/2/2019
 DF TS Dan Ferreira Technical Services EMAIL: dan@df-ts.co.za MOBILE: +27082 911 7991  azimut EMAIL: dan@azimut.co.za MOBILE: +27081 448 8578 ADDRESS: 5A LAYERS STREET / MIDDELBURG / 5800 POSTAL: P.O. BOX 11300 / MIDDELBURG / 5800	

PHOTOS OF INCIDENT



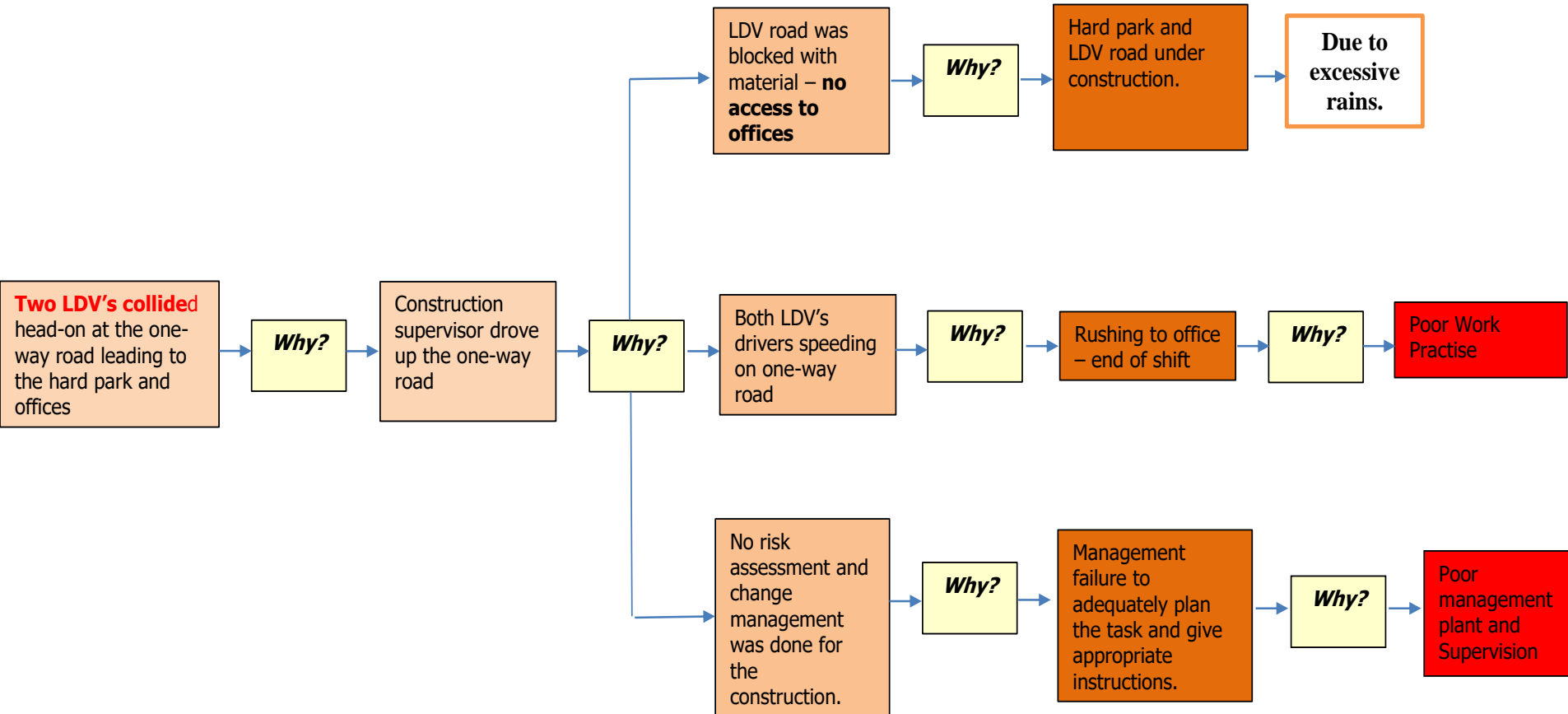
SEQUENCE OF EVENTS

Date	Time	What happened
29/01/2019		Safety Officer instructed (Inspection Report) construction supervisor to grade / maintain hard park area.
05/02/2019	10:00	Construction supervisor started tipping hard at hard park area.
05/02/2019	14:00	Pit Superintendent stated that this was the last time he visited the office / hard park area – Fatigue break
05/02/2019	17:45	Construction supervisor stated that he met J van Wyk in the pit, J van Wyk asked about the pump that was moved.
05/02/2019	17:50	Construction supervisor drives towards the offices , at the hard park he observes that the LDV road is blocked with hard loads tipped onto the road. He decided to turn around and drive back towards the pit – up the one-way. The grader operator (EM Mtetwa) stated that he did warn the construction supervisor that he is driving up a one-way, the supervisor choose to ignore him.
05/02/2019	17:55	The Pit Superintendent (J van Wyk) drives out of the Pit , up the road leading to the offices and at the corner close to the brake test ramp the LDV's made contact – head on collision. The position of the vehicles after the incident indicated that the construction supervisor did cut the corner. The speed limit in this area as per the TMP is 20km/h. From the tracking records it was clear that both LDV's were speeding: <ul style="list-style-type: none"> • Pit Superintendent was travelling at 66km/h at the point of contact. • Construction supervisor was travelling at 53km/h at the point of contact. All drivers and the passenger claimed to have used their seatbelts. Airbags on both LDV's did not deploy.
05/02/2019	17:55	The construction supervisor leaves the scene of the accident and went to sit at the brake test ramp – possible shock. The pit superintendent requested the grader operator to assist him with his injury – first aid.
05/02/2019	17:58	The Pit Superintendent phones the Sub-Ordinate Manager and emergency response procedures is activated.
05/02/2019	18:35	Investigation Team arrives at the mine and in-loco investigation is conducted.
06/02/2019	09:00	DMR IOM arrives at the mine and conducts in-loco investigation and section 54 is issued.

FAILURE ANALYSIS

- **No proper planning** for construction of the hard park.
- **No risk assessment was done** - Alternative route.
- **No change management** - Communication of changes.
- **Failure to adhere to speed limit** - Traffic Management Plan.
- **Poor judgement** – Construction supervisor driving up a one-directional road.
- **Both LDV's not equipped with PDS** as per (Reg. 8.10(2.1) & 8.10(2.1)a).
- **Substandard on equipment:**
 - ❖ No proof of service records for both LDVs.
 - ❖ No proof of dynamic brake tests for both LDVs.
 - ❖ No proof of quarterly tagging records.

ROOT CAUSE PROCESS FLOW



KEY LEANINGS

- **Change management** – Issue clear instructions.
- **Proper task planning** – LPC.
- **Adequate risk assessment** - Task specific.
 - What?, When?, **How?** and **Why?**
- **LDV compliance file**– Equivalent to HME.
 - ❖ Service records LDVs as per OEM.
 - ❖ Dynamic brake tests for LDVs.
 - ❖ Conduct regular inspections on LDVs.
- **Speed monitoring**- Download tracking events.
- **TMLP and PDS** – **Level 1-6** and PDS implementation.

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QUESTIONS?

