

ACCIDENT REPORT

COPY

**ZYCLON ROLLER COASTER
TULSA STATE FAIR**

OCTOBER 3, 2007

DOL INVESTIGATORS

Don Hankins, Senior Amusement Ride Inspector

Ralph Cole

Randy McGinnis

David Falwell

FACT SHEET

DATE AND TIME: October 3, 2007 - 9:00 P.M.

PLACE: Tulsa State Fair
901 E. 21 Street
Tulsa, Oklahoma

OWNER: John (Butch) Vanhull
D.B.A, Holiday Amusement
12106 Okeechobee Road
Fort Pierce, Florida 34945

OPERATORS: Dennis Terry - Launch Man
Sam Vanhull - Brakeman

RIDE: Zyclon Roller Coaster

OKLAHOMA U.S.A.ID: 1000

MANUFACTURE: Pinfari

DATE IN SERVICE: 1976 (Re-Build 1998)

INJURED: Daelyn Smith
1508 S. 266th West Ave.
Sand Springs, Oklahoma

WITNESSES: Shane Ray-Car # 3
Tacy Ray-Car # 3
Monica Mayes-Car # 3
Hank Mayes-Car # 3
Sara Sanders-Car # 8
Kenneth Tomas-Car # 8
Daniel Bateman-Car # 11
Derek Bateman-Car # 11

SUMMARY

On October 3, 2007 at approximately 9:00 P.M., a ride accident resulting in patron injuries, occurred on the Zyclon Roller Coaster, located at the Tulsa State Fair, Tulsa Oklahoma. While performing ride surveillance I, Ralph Cole and David Falwell were contacted and informed that there were cars stopped on the Zyclon track. Upon our arrival, three patrons were being helped down the walkway on the lift hill, while another car was being pushed manually over a hill on the track. Two patrons were checked onsite by EMSA personal, while another patron was transported to a local hospital for possible treatment. The Tulsa County Sheriff's Department assisted David Falwell and myself, Ralph Cole in obtaining witness statements.

INVESTIGATION

On October 3, 2007 at approximately 9:00 P.M., Ralph Cole and David Falwell were informed that a Zyclon car had stopped on the track. The involved ride known as the Zyclon is a portable tubular steel roller coaster, (see photos # 1 & 2). The individual cars leave the station, (see photo # 4) and travel up a lift hill, (see photo # 3) where they are released and travel by gravity on the remainder of the track and return to the station. The track is divided into blocks with a brake in each block, (see photo # 7 & 8). Under normal operating conditions, once a car clears the lift hill another car leaves the station, with no more than one car being in a brake block. The brake block system is designed to prevent cars on the track from making contact, should any car stop while on the track. The release time and the block brakes are controlled manually by the operators, (see photo # 9). Upon arrival at the Zyclon there were three patrons being assisted down the walkway from the lift hill. Their car # 1 was stopped midway on the lift hill. Car # 11 was in the process of being pushed over the hill near the cross over area where it had stopped. Once car # 11, (see photo # 12) crested the hill, the car returned to the station. The three patrons in car # 11 Mr. Derek Bateman, Daniel Bateman and an unknown female left the scene without providing any statements.

While interviewing the patrons and witnesses it was disclosed to Ralph Cole and David Falwell, that there were two other cars involved, cars # 8 and # 3, (see photos # 13 & 14). Cars # 8 and # 3 were already in the station upon Ralph Cole and David Falwell's arrival at the scene. A total of three cars were on the track at the time of the incident # 3, # 11 and # 8 with a fourth car on the lift hill. The launch-man, Mr. Dennis Terry, (see photo # 6) stated that he saw something on the track causing car # 11 to stop while on the track, he further stated he did not have time to fire the block brakes before contact was made by the other cars. The brakeman, Mr. Sam Vanhull stated he noticed one of the cars was moving slowly on the track, he further stated he did not have time to fire the block brakes before contact was made by the other cars. David Falwell attempted to interview Hank Mayes and Monica Mayes patrons in car # 3 as well as their father Mr. Monty Mayes, a by-stander, however they would only provide him with their phone number and address. David Falwell interviewed Mr. Shane Ray, who was riding in the front seat of car # 3 with his daughter Tacy Ray. Mr. Ray stated that after the first big dip, their car # 3 ran into the back of car # 8, pushing it forward. Then their car # 3 was hit from behind by car # 11, pushing them forward, then car # 3 caught up with car # 8 hitting it a second time. Mr. Ray further stated that car # 3 was hit from behind by car # 11 for the second time, with all cars # 3, # 8 & # 11 continuing to collide for a third time at a different spot on the track. David Falwell then interviewed the owner of the Zyclon Mr. John (Butch) Vanhull, Mr. Vanhull stated the only reason for a car to slow down or stop on the track was for a hat or piece of plastic to get caught up in the car wheels.

Ralph Cole examined all the cars involved for a hat or plastic hung in the car wheels, the cars were also examined for bad wheel and/or wheel bearings, all cars appeared normal. While the fenced area around the Zyclon had debris through out the area, none appeared to have been on the track or in contact with a car wheel. The Zyclon remained closed while the investigation continues.

On October 4, 2007 at approximately 8:00 A.M. I, Don Hankins, Ralph Cole and Randy Mc Ginnis met at the Zyclon to continue the investigation. All cars were timed empty from the top of the lift hill to entering the loading station, (Car # 10), 57 seconds, (Car # 6), 1 minute 8 seconds, (Car # 8), 1 minute 3 seconds, (Car # 3), 1 minute 11 seconds, (Car # 11), 1 minute 4 seconds, (Car # 1), 1 minute six seconds. All cars were then tested in the same manner with two people riding, Don Hankins and a operator for a total approximate loaded weight of 365 pounds, (Car # 10), 53 seconds, (Car # 1), 57 seconds, (Car # 10), 52 seconds, (Car # 6), 52 seconds, (Car # 6), 59 seconds, (Car # 8), 55 seconds, (Car # 3), 58 seconds.

The cars were then timed from the top of the lift hill to the different brake blocks, (Brake # 1), (Car # 11), 5 seconds, (Car # 1), 5 seconds, (Car # 10), 5 seconds, (Car # 6), 5.5 seconds, (Car # 8), 5 seconds, (Car # 3), 5 seconds.

(Brake # 1 to # 2), (Car # 11), 12 seconds, (Car # 1), 12 seconds, (Car # 10), 11 seconds, (Car # 6), 14 seconds, (Car # 8), 13 seconds, (Car # 3), 14 seconds.

(Brake # 2 to # 3), (Car # 11), 18 seconds, (Car # 1), 18 seconds, (Car # 10), 17 seconds, (Car # 6), 20 seconds, (Car # 8), 18 seconds, (Car # 3), 20 seconds.

During all of the above test, when the cars were properly dispatched from the loading station, (one car clearing the lift hill before another is dispatched), it was found to be impossible to have more than two cars on the track with another on the lift hill at any one time. The owner, Mr. John (Butch) Vanhull made the statement to myself, Don Hankins several times that it was impossible to make any money if the cars were dispatched properly. Mr. Vanhull's operators had been observed and cautioned about dispatching to early on October 29, 2007, (see surveillance report).

During the course of the investigation, a concession vendor located near the Zyclon, Mr. Todd Robertson stated he saw a car stopped on the track for 24 to 26 seconds before being struck by other cars, (see statement # 1).

The cars and area enclosed by the ride were re-examined for any signs of debris being under the car wheels or track, none were noted.

The owner, Mr. John (Butch) Vanhull provided a one page maintenance log, operators training, pre-opening inspection were provided after numerous request.

CONCLUSION

Amusement ride accidents investigations generally address three specific areas of concern, mechanical and/or design flaws, patron error, operator error.

After careful consideration of all witness statements, testing and physical inspection of the Zyclon no mechanical failure and/or design flaw was found to be a contributing factor to this accident.

The second area of concern in amusement ride accidents, is operational error. The owner and operators of the Zyclon coaster admitted they made no attempt to fire the block brakes to prevent the cars from making contact at the time of the accident. It is also clear they allowed more cars on the track than the block brake system is designed for. While the operators stated they did not have time to react before the cars made contact, the testing during this investigation proved that statement to be false. While statements were made about a cap or plastic on the track, causing one or more cars to slow or stop on the track, this could neither be proved true or un-true. Statements indicate that several cars made contact several times at different locations on the track. Had no more than one car been allowed in a brake block and with proper attention to the ride during operation this accident in all likelihood could have been prevented. There is clear evidence that operational error on several levels was the major contributing factor to this accident.

The third area of concern in amusement ride accidents is patron error. There is no evidence of patron error in this accident.

RECOMMENDATIONS

The operation of the Zyclon outside of the block brake designed limits should never be allowed, condoned, by the owners and/or operators. Testing proved, there appeared to be adequate time to fire the block brakes to prevent contact of the cars on the track. On a manual block system, proper operation falls on the operators, who must be scanning the track and maintaining constant eye contact with all cars on the track 100% of the time during operation, in order to fire the brakes in a timely manner. In a manual system the operator may also release a car early from the loading station

All owner/operators of manual type release and block brake systems on any roller coaster operating in Oklahoma should be required to up-grade to an automatic type system , taking this very important safety system out of the operators control, before being allowed to operate in Oklahoma.

STATE OF OKLAHOMA
 Department of Labor
 4001 North Lincoln Blvd.
 Oklahoma City, OK 73105-5212
 (405) 528-1500

AMUSEMENT RIDE INJURY REPORT

AN OWNER/OPERATOR SHALL REPORT INJURY TO OPERATORS OR THE GENERAL PUBLIC TO THE DEPARTMENT OF LABOR IMMEDIATELY AT (405) 528-1500 AT WHICH TIME THE NECESSITY FOR AN INVESTIGATION WILL BE DETERMINED. (See Oklahoma Amusement Ride Safety Act, 1982 and Rules)

(Please Print Plainly)

DATE OF REPORT: 10-3-07		DATE OF ACCIDENT: 10-3-07		TIME: 9:00	A.M. <input checked="" type="checkbox"/> P.M.
CARNIVAL/AMUSEMENT CO.: BUTCH VANHULL				PHONE: ()	
PERMANENT ADDRESS:					
LOCATION OF INCIDENT: ZYCLON COASTER					
NAME OF OPERATOR: DENNIS TERRY (LAUNCH)				REGISTRATION #: 1000	
NAME OF OPERATOR: SAM VANHULL (BRAKES)				INSPECTION DATE: 9-27-07	
INSURANCE CO.:		PHONE:		NOTIFIED?	
POLICE: YES		PHONE:		NOTIFIED?	
HOSPITAL: YES		PHONE:		NOTIFIED?	
NUMBER OF EMPLOYEES INJURED:			NUMBER OF GENERAL PUBLIC INJURED: 1		
NUMBER OF PERSONS WITH: MINOR INJURIES: _____		MAJOR INJURIES: _____		FATALITIES _____	

EXPLAIN IN DETAIL WHAT HAPPENED TO CAUSE INCIDENT, THE RESULTS OF THE INCIDENT, AND WHAT, IF ANYTHING, WAS DONE AS A RESULT OF THE INCIDENT: (CONTINUE ON BACK IF NEEDED)

UPON ARRIVING AT RIDE RALPH COLE ENTERED TRACK AREA WHILE LAST CAR WAS BEING REMOVED FROM TRACK. I STAYED ON LOADING PLATFORM AND INTERVIEWED ~~OPERATORS AND CAR OPERATORS~~ FATHER OF TWO PASSENGERS AND FATHER WHO WAS RIDING WITH DAUGHTER. WHILE I GOT INFO FROM THESE PEOPLE, RALPH INSPECTED CARS INVOLVED IN INCIDENT.

MONTY MAYES HAD SON AND DAUGHTER ON RIDE (CAR#3) AND STATED THAT THEIR CAR WAS HIT FROM BEHIND AT LEAST ONCE. THIS FATHER WAS VERY UPSET AND ONLY GAVE ADDRESS AND PHONE NUMBER AND PREVIOUS STATEMENT.

PERSON REPORTING INCIDENT

JOB TITLE

