

Howell, Rosa (NHTSA)

From: Demeter, Kathleen (NHTSA)
Sent: Monday, November 23, 2009 3:34 PM
To: Hershman, Larry (NHTSA)
Cc: Yon, Scott (NHTSA)
Subject: FW: NASS Case 2006 81 16

See below from Clarence. He would like this to be included in DP file.

From: Clarence Ditlow [mailto:cmdiii@autosafety.org]
Sent: Monday, November 23, 2009 3:19 PM
To: Demeter, Kathleen (NHTSA)
Cc: Chidester, Chip (NHTSA)
Subject: NASS Case 2006 81 16

This is a 1995 Jeep Grand Cherokee fatal fire crash that also showed up in the FARS run (Case # 53101 on March 15, 2006, in Washington State) – note the NASS analysis found the fuel leakage came from the filler neck & that there was filler neck separation. The right front passenger suffered AIS 6 burn injuries. The next highest injuries levels were AIS 4. The other passenger (second row left) suffering AIS 6 burn injuries would have died from trauma suffering AIS head, spinal cord & myocardial laceration) injuries. Another passenger (second row right) suffered AIS 5 burn injuries over 50% of the body. The second row middle passenger had AIS 3 burn injuries over 15% of the body. I will be sending images in two separate files. We will be making submissions to our defect petition on 1993-04 Jeep Grand Cherokee shortly. In the meantime, please consider this NASS case as part of the petition file. Note also that FARS did not classify this as a MHE fire case.

Clarence Ditlow
Executive Director
Center for Auto Safety.

DP09-005

Center for Auto Safety

11/23/2009

NASS_cases 2006 81 16

Crash Reports

Prepared by Ken Digges

Mon Nov 23 13:14:11 2009

Contents

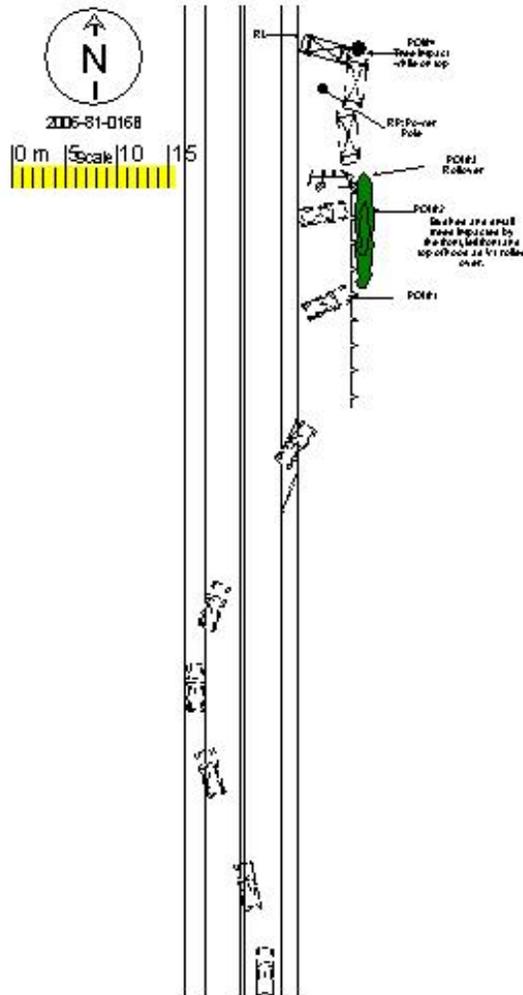
1 Case 2006-81-16

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1 Case 2006-81-16

Summary:

Vehicle 1, a 1995 Jeep Grand Cherokee, was traveling north in lane one of a straight, wet, bituminous, two lane undivided roadway which had a downhill grade in the crash area. For unknown reasons, V1 crossed into the oncoming lane, exited the roadway onto the west shoulder, then steered to the right, and departed the right side of the roadway in a clockwise yaw, and struck an embankment with its front plane. V1 continued and struck bushes with the front before the vehicle tripped and rolled over with the left side leading. Vehicle 1 then traveled another 18 meters on the top plane before it ramped up an embankment, became airborne, and struck a large tree with its back plane while inverted. Vehicle 1 rotated clockwise off of the tree and came to rest on its top facing generally north. After the impact to the back plane, a fuel leak occurred and V1 had a major fire event. V1 was towed from the scene due to damage. The driver was hospitalized overnight for observation of loss of consciousness and released with scalp laceration. The left front seat passenger was fatal at the scene with total body burn as well as multiple injuries. The left second seat passenger was fatal at the scene with crushed skull, spinal cord transection and heart lacerations as well as multiple other injury and total body burn. The middle second seat passenger was hospitalized with 15



Vehicle	Body type	Make	Model	Year	Occ.#	Age	Occupant's sex	Maximum known occupant ais
1	COMPACT UTILITY	Jeep	Cherokee84-	1995	1	18	MALE	2=Moderate
1	COMPACT UTILITY	Jeep	Cherokee84-	1995	2	20	MALE	6=Maximum
1	COMPACT UTILITY	Jeep	Cherokee84-	1995	3	20	MALE	6=Maximum
1	COMPACT UTILITY	Jeep	Cherokee84-	1995	4	15	MALE	4=Severe
1	COMPACT UTILITY	Jeep	Cherokee84-	1995	5	15	MALE	2=Moderate
1	COMPACT UTILITY	Jeep	Cherokee84-	1995	6	15	MALE	5=Critical

Occupant: 2006-81-16-1-1



Fire Information

Fire Occurrence	Major fire
Fire Origin	Fuel tank
Location of Fuel Leakage	Filler neck
Type of Fuel Tank	Unknown type
Fuel Tank Location	Behind rear axle, centered
Fuel Cap Location	Left side, behind rear axle
Fuel Tank Damage	Fill neck separation
Fuel Type	Gasoline



Crash Severity

Nr. Quarter Turns	2 QUARTER TURNS
Impact Speed	999
Total, Longitudal, and Lateral δV	999 999 999
Est. δV with sequence number	MODERATE 4
CDC	40 B D A W 5
Damage (C1-C6)	107 102 84 76 67 58
Crush (L and D)	160 0
Object Contacted 1	LARGE TREE
Object Contacted 2	EMBANKMENT

NASS Weighting Factor

Weighting factor	22.036
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Rollover Characteristics

Number of Events	5
Rollover Initiation Type	TRIP-OVER
Location of Rollover Initiation	ROADSIDE/MEDIAN
Rollover Initiation Object	GROUND
Contacted	
Location on Vehicle where Principal Tripping Force was Applied	WHEELS/TIRES
Direction of Initial Roll	ROLL LEFT

Pre-Crash Environment

Traffic Flow	Not DIVIDED
Number of Travel Lanes	TWO
Roadway Alignment	STRAIGHT
Roadway Profile	DOWNHILL GRADE
Roadway Surface Type	ASPHALT
Roadway Surface Condition	WET
Light Conditions	DARK/LIGHTED
Atmospheric Conditions	No ADVERSE COND
Relation to Intersection	NONINTER/NONJUNC
Traffic Control Device	
Police Reported Alcohol Presence	ALCOHOL PRESENT
Alcohol Test (< 95 indicates BAC 0.xx)	35

Vehicle Factors

Make-Model	Jeep Cherokee84-
Year	1995
Class	TRUCK
Body Type	COMPACT UTILITY
Weight	184

Pre-Crash Driver Data

Accident Type	2
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	OFF EDGE-RIGHT
Attempted Avoidance Manue- ver	99
Pre-impact Stability	LATERAL SKID-CLK
Pre-impact Location	DEPARTED ROADWAY

DRIVER Factors

Age	18	Height	180	Weight	93
Gender			MALE		
Ejection			No EJECTION		
Ejection Area			No EJECTION		
Entrapment			9		

Restraint Factors

Restrain	99
AOPS	NO
Airbag Deployment	9
Airbag Deployment - 1 st Seat	Not EQUIP/AVAIL
Airbag Deployment - Oth Seat	Not EQUIP W/ OTH Seat

Injuries

Occupant	2006-81-16-1-1
MAIS	2=Moderate
Seat Position	Front left side

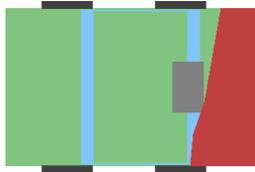
AIS Level	Injury Description	Contacts
2=Moderate	Awake on admission, unconscious <1 hour	Roof left rail
1=Minor	Scalp laceration, mi- nor	Roof left rail
1=Minor	Facial skin laceration, minor	Roof left rail
1=Minor	Leg skin abrasion	Left hardware
1=Minor	Leg skin abrasion	Knee bolster

Occupant: 2006-81-16-1-2



Fire Information

Fire Occurrence	Major fire
Fire Origin	Fuel tank
Location of Fuel Leakage	Filler neck
Type of Fuel Tank	Unknown type
Fuel Tank Location	Behind rear axle, centered
Fuel Cap Location	Left side, behind rear axle
Fuel Tank Damage	Fill neck separation
Fuel Type	Gasoline



Crash Severity

Nr. Quarter Turns	2 QUARTER TURNS
Impact Speed	999
Total, Longitudal, and Lateral δV	999 999 999
Est. δV with sequence number	MODERATE 4
CDC	40 B D A W 5
Damage (C1-C6)	107 102 84 76 67 58
Crush (L and D)	160 0
Object Contacted 1	LARGE TREE
Object Contacted 2	EMBANKMENT

NASS Weighting Factor

Weighting factor	22.036
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Rollover Characteristics

Number of Events	5
Rollover Initiation Type	TRIP-OVER
Location of Rollover Initiation	ROADSIDE/MEDIAN
Rollover Initiation Object	GROUND
Contacted	
Location on Vehicle where Principal Tripping Force was Applied	WHEELS/TIRES
Direction of Initial Roll	ROLL LEFT

Pre-Crash Environment

Traffic Flow	Not DIVIDED
Number of Travel Lanes	TWO
Roadway Alignment	STRAIGHT
Roadway Profile	DOWNHILL GRADE
Roadway Surface Type	ASPHALT
Roadway Surface Condition	WET
Light Conditions	DARK/LIGHTED
Atmospheric Conditions	No ADVERSE COND
Relation to Intersection	NONINTER/NONJUNC
Traffic Control Device	
Police Reported Alcohol Presence	ALCOHOL PRESENT
Alcohol Test (< 95 indicates BAC 0.xx)	35

Vehicle Factors

Make-Model	Jeep Cherokee84-
Year	1995
Class	TRUCK
Body Type	COMPACT UTILITY
Weight	184

Pre-Crash Driver Data

Accident Type 2
 Pre-event Movement GOING STRAIGHT
 Critical Pre-crash Event OFF EDGE-RIGHT
 Attempted Avoidance Manue- 99
 ver
 Pre-impact Stability LATERAL SKID-CLK
 Pre-impact Location DEPARTED ROADWAY

PASSENGER Factors

Age 20 Height 152 Weight 66
 Gender MALE
 Ejection No EJECTION
 Ejection Area No EJECTION
 Entrapment 9

Restraint Factors

Restrain 99
 AOPS NO
 Airbag Deployment 9
 Airbag Deployment - 1st Seat Not EQUIP/AVAIL
 Airbag Deployment - Oth Not EQUIP W/ OTH
 Seat

Injuries

Occupant 2006-81-16-1-2
 MAIS 6=Maximum
 Seat Position Front right side

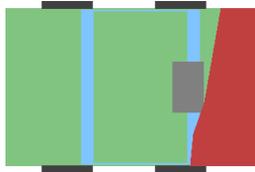
AIS Level	Injury Description	Contacts
6=Maximum	Burn, 2nd or 3rd degree, >90% (includes incineration)	Fire in vehicle
4=Severe	Basilar skull fracture, open, with brain tissue loss.	Roof
3=Serious	Cerebral contusions, multiple, bilateral, small	Roof
3=Serious	Cerebral subarachnoid hemorrhage	Roof
4=Severe	Lung contusion, bilateral	Seat, back
1=Minor	Myocardial contusion, minor	Seat, back
4=Severe	Thoracic aortic laceration, minor (incomplete, EBL<20%)	Seat, back
2=Moderate	Hepatic laceration, minor (<3cms deep, EBL<20%, simple cap.)	Seat, back
3=Serious	>3 rib fractures one side & <3 other side, with stable chest	Seat, back
3=Serious	Sacroilium fracture	Seat, back

Occupant: 2006-81-16-1-3



Fire Information

Fire Occurrence	Major fire
Fire Origin	Fuel tank
Location of Fuel Leakage	Filler neck
Type of Fuel Tank	Unknown type
Fuel Tank Location	Behind rear axle, centered
Fuel Cap Location	Left side, behind rear axle
Fuel Tank Damage	Fill neck separation
Fuel Type	Gasoline



Crash Severity

Nr. Quarter Turns	2 QUARTER TURNS
Impact Speed	999
Total, Longitudal, and Lateral δV	999 999 999
Est. δV with sequence number	MODERATE 4
CDC	40 B D A W 5
Damage (C1-C6)	107 102 84 76 67 58
Crush (L and D)	160 0
Object Contacted 1	LARGE TREE
Object Contacted 2	EMBANKMENT

NASS Weighting Factor

Weighting factor	22.036
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Rollover Characteristics

Number of Events	5
Rollover Initiation Type	TRIP-OVER
Location of Rollover Initiation	ROADSIDE/MEDIAN
Rollover Initiation Object	GROUND
Contacted	
Location on Vehicle where Principal Tripping Force was Applied	WHEELS/TIRES
Direction of Initial Roll	ROLL LEFT

Pre-Crash Environment

Traffic Flow	Not DIVIDED
Number of Travel Lanes	TWO
Roadway Alignment	STRAIGHT
Roadway Profile	DOWNHILL GRADE
Roadway Surface Type	ASPHALT
Roadway Surface Condition	WET
Light Conditions	DARK/LIGHTED
Atmospheric Conditions	No ADVERSE COND
Relation to Intersection	NONINTER/NONJUNC
Traffic Control Device	
Police Reported Alcohol Presence	ALCOHOL PRESENT
Alcohol Test (< 95 indicates BAC 0.xx)	35

Vehicle Factors

Make-Model	Jeep Cherokee84-
Year	1995
Class	TRUCK
Body Type	COMPACT UTILITY
Weight	184

Pre-Crash Driver Data

Accident Type 2
 Pre-event Movement GOING STRAIGHT
 Critical Pre-crash Event OFF EDGE-RIGHT
 Attempted Avoidance Manue- 99
 ver
 Pre-impact Stability LATERAL SKID-CLK
 Pre-impact Location DEPARTED ROADWAY

PASSENGER Factors

Age 20 Height 183 Weight 84
 Gender MALE
 Ejection No EJECTION
 Ejection Area No EJECTION
 Entrapment JAMMED DOOR/FIRE

Restraint Factors

Restrain 99
 AOPS NO
 Airbag Deployment Not EQUIP/AVAIL
 Airbag Deployment - 1st Seat Not EQUIP/AVAIL
 Airbag Deployment - Oth Not EQUIP W/ OTH
 Seat

Injuries

Occupant 2006-81-16-1-3
 MAIS 6=Maximum
 Seat Position Second left

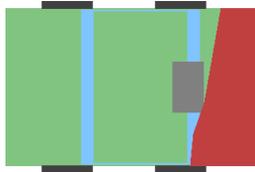
AIS Level	Injury Description	Contacts
6=Maximum	Head injury, crush (massive destruction of skull and brain)	Roof
6=Maximum	Cord laceration, complete, C3 or above, with fx&dislocation	Roof
6=Maximum	Myocardial laceration with complex perforation	Seat, back
5=Critical	Flail chest, bilateral	Seat, back
2=Moderate	Thoracic vertebral body fracture without cord injury NFS	Seat, back
2=Moderate	Sternal fracture	Seat, back
2=Moderate	Humeral fracture, closed	Seat, back
2=Moderate	Pericardial laceration (puncture)	Seat, back
4=Severe	Lung laceration, bilateral, with hemomediastinum	Seat, back
4=Severe	Bronchus distal to main stem laceration, complex (avulsion)	Seat, back
4=Severe	Pulmonary artery laceration, major (complete or EBL>20%)	Seat, back
4=Severe	Pulmonary vein laceration, major (complete or EBL>20%)	Seat, back
5=Critical	Thoracic aortic laceration, major, & mediastinal bleeding	Seat, back
4=Severe	Other abdominal artery intimal laceration, major (EBL>20%)	Seat, back
5=Critical	Celiac artery laceration, major (complete, EBL>20%)	Seat, back
3=Serious	Splenic laceration, moderate (>3 cms deep, no hilar injury)	Seat, back
2=Moderate	Hepatic laceration, minor (<3cms deep, EBL<20%, simple cap.)	Seat, back
3=Serious	Inhalation injury, minor (CO level<20 mg%)	Fire in vehicle
6=Maximum	Burn, 2nd or 3rd degree, >90% (includes incineration)	Fire in vehicle

Occupant: 2006-81-16-1-4



Fire Information

Fire Occurrence	Major fire
Fire Origin	Fuel tank
Location of Fuel Leakage	Filler neck
Type of Fuel Tank	Unknown type
Fuel Tank Location	Behind rear axle, centered
Fuel Cap Location	Left side, behind rear axle
Fuel Tank Damage	Fill neck separation
Fuel Type	Gasoline



Crash Severity

Nr. Quarter Turns	2 QUARTER TURNS
Impact Speed	999
Total, Longitudal, and Lateral δV	999 999 999
Est. δV with sequence number	MODERATE 4
CDC	40 B D A W 5
Damage (C1-C6)	107 102 84 76 67 58
Crush (L and D)	160 0
Object Contacted 1	LARGE TREE
Object Contacted 2	EMBANKMENT

NASS Weighting Factor

Weighting factor	22.036
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Rollover Characteristics

Number of Events	5
Rollover Initiation Type	TRIP-OVER
Location of Rollover Initiation	ROADSIDE/MEDIAN
Rollover Initiation Object	GROUND
Contacted	
Location on Vehicle where Principal Tripping Force was Applied	WHEELS/TIRES
Direction of Initial Roll	ROLL LEFT

Pre-Crash Environment

Traffic Flow	Not DIVIDED
Number of Travel Lanes	TWO
Roadway Alignment	STRAIGHT
Roadway Profile	DOWNHILL GRADE
Roadway Surface Type	ASPHALT
Roadway Surface Condition	WET
Light Conditions	DARK/LIGHTED
Atmospheric Conditions	No ADVERSE COND
Relation to Intersection	NONINTER/NONJUNC
Traffic Control Device	
Police Reported Alcohol Presence	ALCOHOL PRESENT
Alcohol Test (< 95 indicates BAC 0.xx)	35

Vehicle Factors

Make-Model	Jeep Cherokee84-
Year	1995
Class	TRUCK
Body Type	COMPACT UTILITY
Weight	184

Pre-Crash Driver Data

Accident Type	2
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	OFF EDGE-RIGHT
Attempted Avoidance Manue- ver	99
Pre-impact Stability	LATERAL SKID-CLK
Pre-impact Location	DEPARTED ROADWAY

PASSENGER Factors

Age	15	Height	999	Weight	999
Gender			MALE		
Ejection			No EJECTION		
Ejection Area			No EJECTION		
Entrapment			9		

Restraint Factors

Restrain	99
AOPS	NO
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 st Seat	Not EQUIP/AVAIL
Airbag Deployment - Oth Seat	Not EQUIP W/ OTH Seat

Injuries

Occupant	2006-81-16-1-4
MAIS	4=Severe
Seat Position	Second middle

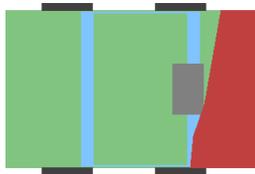
AIS Level	Injury Description	Contacts
4=Severe	Lung contusion, bilat- eral	Seat, back
3=Serious	792016	Fire in vehicle
2=Moderate	892012	Fire in vehicle
1=Minor	692006	Fire in vehicle
2=Moderate	Clavicle fracture	Seat, back
3=Serious	2-3 rib fractures with stable chest and hemo-/pneumothorax	Seat, back
1=Minor	690202	Seat, back

Occupant: 2006-81-16-1-5



Fire Information

Fire Occurrence	Major fire
Fire Origin	Fuel tank
Location of Fuel Leakage	Filler neck
Type of Fuel Tank	Unknown type
Fuel Tank Location	Behind rear axle, centered
Fuel Cap Location	Left side, behind rear axle
Fuel Tank Damage	Fill neck separation
Fuel Type	Gasoline



Crash Severity

Nr. Quarter Turns	2 QUARTER TURNS
Impact Speed	999
Total, Longitudal, and Lateral δV	999 999 999
Est. δV with sequence number	MODERATE 4
CDC	40 B D A W 5
Damage (C1-C6)	107 102 84 76 67 58
Crush (L and D)	160 0
Object Contacted 1	LARGE TREE
Object Contacted 2	EMBANKMENT

NASS Weighting Factor

Weighting factor	22.036
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Rollover Characteristics

Number of Events	5
Rollover Initiation Type	TRIP-OVER
Location of Rollover Initiation	ROADSIDE/MEDIAN
Rollover Initiation Object	GROUND
Contacted	
Location on Vehicle where Principal Tripping Force was Applied	WHEELS/TIRES
Direction of Initial Roll	ROLL LEFT

Pre-Crash Environment

Traffic Flow	Not DIVIDED
Number of Travel Lanes	TWO
Roadway Alignment	STRAIGHT
Roadway Profile	DOWNHILL GRADE
Roadway Surface Type	ASPHALT
Roadway Surface Condition	WET
Light Conditions	DARK/LIGHTED
Atmospheric Conditions	No ADVERSE COND
Relation to Intersection	NONINTER/NONJUNC
Traffic Control Device	
Police Reported Alcohol Presence	ALCOHOL PRESENT
Alcohol Test (< 95 indicates BAC 0.xx)	35

Vehicle Factors

Make-Model	Jeep Cherokee84-
Year	1995
Class	TRUCK
Body Type	COMPACT UTILITY
Weight	184

Pre-Crash Driver Data

Accident Type	2
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	OFF EDGE-RIGHT
Attempted Avoidance Manue- ver	99
Pre-impact Stability	LATERAL SKID-CLK
Pre-impact Location	DEPARTED ROADWAY

PASSENGER Factors

Age	15	Height	999	Weight	999
Gender			MALE		
Ejection			No EJECTION		
Ejection Area			No EJECTION		
Entrapment			9		

Restraint Factors

Restrain	99
AOPS	NO
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 st Seat	Not EQUIP/AVAIL
Airbag Deployment - Oth Seat	Not EQUIP W/ OTH Seat

Injuries

Occupant	2006-81-16-1-5
MAIS	2=Moderate
Seat Position	Second right

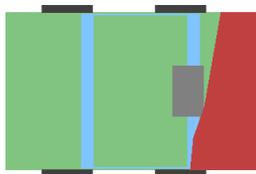
AIS Level	Injury Description	Contacts
2=Moderate	Hepatic contusion, minor (subcapsu- lar, <50% surface, <2cms)	Seat, back
1=Minor	Adrenal gland contu- sion, minor	Seat, back
1=Minor	690402	Seat, back
1=Minor	792006	Fire in vehicle

Occupant: 2006-81-16-1-6



Fire Information

Fire Occurrence	Major fire
Fire Origin	Fuel tank
Location of Fuel Leakage	Filler neck
Type of Fuel Tank	Unknown type
Fuel Tank Location	Behind rear axle, centered
Fuel Cap Location	Left side, behind rear axle
Fuel Tank Damage	Fill neck separation
Fuel Type	Gasoline



Crash Severity

Nr. Quarter Turns	2 QUARTER TURNS
Impact Speed	999
Total, Longitudal, and Lateral δV	999 999 999
Est. δV with sequence number	MODERATE 4
CDC	40 B D A W 5
Damage (C1-C6)	107 102 84 76 67 58
Crush (L and D)	160 0
Object Contacted 1	LARGE TREE
Object Contacted 2	EMBANKMENT

NASS Weighting Factor

Weighting factor	22.036
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Rollover Characteristics

Number of Events	5
Rollover Initiation Type	TRIP-OVER
Location of Rollover Initiation	ROADSIDE/MEDIAN
Rollover Initiation Object	GROUND
Contacted	
Location on Vehicle where Principal Tripping Force was Applied	WHEELS/TIRES
Direction of Initial Roll	ROLL LEFT

Pre-Crash Environment

Traffic Flow	Not DIVIDED
Number of Travel Lanes	TWO
Roadway Alignment	STRAIGHT
Roadway Profile	DOWNHILL GRADE
Roadway Surface Type	ASPHALT
Roadway Surface Condition	WET
Light Conditions	DARK/LIGHTED
Atmospheric Conditions	No ADVERSE COND
Relation to Intersection	NONINTER/NONJUNC
Traffic Control Device	
Police Reported Alcohol Presence	ALCOHOL PRESENT
Alcohol Test (< 95 indicates BAC 0.xx)	35

Vehicle Factors

Make-Model	Jeep Cherokee84-
Year	1995
Class	TRUCK
Body Type	COMPACT UTILITY
Weight	184

Pre-Crash Driver Data

Accident Type	2
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	OFF EDGE-RIGHT
Attempted Avoidance Manue- ver	99
Pre-impact Stability	LATERAL SKID-CLK
Pre-impact Location	DEPARTED ROADWAY

PASSENGER Factors

Age	15	Height	999	Weight	999
Gender			MALE		
Ejection			No EJECTION		
Ejection Area			No EJECTION		
Entrapment			9		

Restraint Factors

Restrain	99
AOPS	NO
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 st Seat	Not EQUIP/AVAIL
Airbag Deployment - Oth Seat	Not EQUIP W/ OTH Seat

Injuries

Occupant	2006-81-16-1-6
MAIS	5=Critical
Seat Position	Second other

AIS Level	Injury Description	Contacts
5=Critical	Burn, 2nd or 3rd de- gree, 40%-89%	Fire in vehicle
2=Moderate	Lethargic on admis- sion, unconscious <1 hour	Rear header
2=Moderate	Clavicle fracture	Seat, back

DP09-005

Center for Auto Safety

11/23/2009

Summary Case 2006 81 16

Summary:

Vehicle 1, a 1995 Jeep Grand Cherokee, was traveling north in lane one of a straight, wet, bituminous, two lane undivided roadway which had a downhill grade in the crash area. For unknown reasons, V1 crossed into the oncoming lane, exited the roadway onto the west shoulder, then steered to the right, and departed the right side of the roadway in a clockwise yaw, and struck an embankment with its front plane. V1 continued and struck bushes with the front before the vehicle tripped and rolled over with the left side leading. Vehicle 1 then traveled another 18 meters on the top plane before it ramped up an embankment, became airborne, and struck a large tree with its back plane while inverted. Vehicle 1 rotated clockwise off of the tree and came to rest on its top facing generally north. After the impact to the back plane, a fuel leak occurred and V1 had a major fire event. V1 was towed from the scene due to damage. The driver was hospitalized overnight for observation of loss of consciousness and released with scalp laceration. The left front seat passenger was fatal at the scene with total body burn as well as multiple injuries. The left second seat passenger was fatal at the scene with crushed skull, spinal cord transection and heart lacerations as well as multiple other injury and total body burn. The middle second seat passenger was hospitalized with 15% body burn, lung contusion and rib fracture. The right second seat was shared by two passengers. One was hospitalized with liver contusion. The other was hospitalized with 50% body burn.)