

Workplace Health and Safety Fatality Report



GRAVEL TRUCK OPERATOR CRUSHED AFTER OVERTURNING IN A CREEK

Type of Incident: Fatality

Date of Incident: December 17, 2009

Government of Alberta ■
Employment and Immigration

TABLE OF CONTENTS

SECTION	TITLE	PAGE NUMBER
1.0	DATE AND TIME OF INCIDENT	3
2.0	NAMES & ADDRESSES OF PRINCIPAL PARTIES	3
2.1	Owner(s)	3
2.2	Prime Contractor	3
2.3	Employer	3
2.4	Other Employers	3
2.5	Contractor(s)	3
2.6	Worker	4
3.0	DESCRIPTIONS OF PRINCIPAL PARTIES	4
3.1.1	Owner(s)	4
3.1.2	Employer/Worker	4
3.1.3	Contractor(s)	4
4.0	LOCATION OF INCIDENT	5
5.0	EQUIPMENT, MATERIAL AND OBSERVATIONS	5
5.1	Equipment and Material	5
5.2	Observations and Findings	5
6.0	NARRATIVE DESCRIPTION OF INCIDENT	7
7.0	ANALYSIS	9
7.1	Direct Cause	9
7.2	Contributing Factors	9
8.0	FOLLOW-UP/ ACTION TAKEN	11
8.1	Occupational Health and Safety	11
8.2	Industry	12
8.3	Additional Measures	13
9.0	SIGNATURES	13
10.0	ATTACHMENTS	13

SECTION 1.0 DATE AND TIME OF INCIDENT

1.1 The incident occurred on December 17, 2009 at approximately 10:15 a.m.

SECTION 2.0 NAMES AND ADDRESSES OF PRINCIPAL PARTIES

2.1 Owner(s)

2.1.1 Sundance Forest Industries Ltd. (Owners of the Sundance Haul Road,
P.O. Box 6810 private forestry haul road)
Station Main
Edson, Alberta T7E 1V2

2.1.2 1236112 Alberta Ltd. (owner of the Gravel Truck involved in the incident
also operating as AJAY Trucking)
Edmonton, Alberta T6T 1N5

2.2 Prime Contractor

2.2.1 Prime Contractor not applicable

2.3 Employer

2.3.1 1236112 Alberta Ltd. (owner/operator of the Gravel Truck involved in the incident)
Edmonton, Alberta T6T 1N5

2.4 Other Employers

2.4.1 Husky Oil Operations Ltd.
707 – 8th Avenue SW
Calgary, Alberta T2P 1H5

2.4.2 Hazco Environmental Services Ltd. (CCS Corporation)
103 – 3355 114 Avenue SW
Calgary, Alberta T2Z 0K7

2.4.3 Urgel Contracting Ltd. (contracted to Husky Oil Operations Ltd.)
P.O. Box 20010 RPO Downtown
Edson, Alberta T7E 1W4

2.5 Contractor(s)

2.5.1 Husky Oil Operations Ltd.
707 – 8th Avenue SW
Calgary, Alberta T2P 1H5

- 2.5.2 Hazco Environmental Services Ltd. (CCS Corporation)
103 – 3355 114 Avenue SW
Calgary, Alberta T2Z 0K7

2.6 Worker

- 2.6.1 Truck Operator
Edmonton, Alberta T6T 1N5

SECTION 3.0 DESCRIPTIONS OF PRINCIPAL PARTIES

- 3.1.1 Sundance Forest Industries Ltd. harvests timber, and operates a sawmill in an area south of Edson Alberta. Sundance Forest Industries Ltd. employs approximately 250 workers and contracts log haulers. Sundance Forest Industries Ltd. owns the Sundance Haul Road for access to the timber leases and for use by logging trucks transporting timber to the sawmill. Sundance Forest Industries Ltd. allows other employers in the area to use the Sundance Haul Road through a Road Use Agreement. Husky Oil Operations Ltd. had a Road Use Agreement with Sundance Forest Industries Ltd. to use the Sundance Haul Road.
- 3.1.2 1236112 Alberta Ltd. is an owner operated business that has one gravel haul truck with a quad wagon trailer, both of which were involved in the incident. 1236112 Alberta Ltd. was contracted to Hazco Environmental Services Ltd. and the truck and trailer combination was being operated by the Owner/Truck Operator who passed away in the incident.
- 3.1.3 Husky Oil Operations Ltd. is a subsidiary of Husky Energy Inc. that is headquartered in Calgary, Alberta. Husky Oil Operations Ltd. has a number of oil and gas production properties south of Edson, Alberta. Husky Oil Operations Ltd. uses the Sundance Haul Road to access and maintain many of these production facilities. At the time of the incident, all contactors and sub-contractors working for Husky Oil Operations Ltd. were using the Sundance Haul Road under the umbrella of the Road Use Agreement that Husky Oil Operations Ltd. had with Sundance Forest Industries Ltd.
- 3.1.4 Hazco Environmental Services Ltd. is one of the twelve subsidiaries of CCS Corporation that offer differentiated services to the oil and gas industry. Hazco Environmental Services Ltd. was retained by Husky Oil Operations Ltd. to manage the excavation, clean-up and hauling of contaminated soils to a reclamation/landfill facility. Hazco Environmental Services Ltd. hired the services of approximately 26 gravel haul truckers to facilitate the haulage of the contaminated soils. 1236112 Alberta Ltd. was one of the gravel haul trucking firms hired to transport the contaminated soil.

- 3.1.5 Urgel Contracting Ltd. is a small road building and maintenance company based on rural property north of Edson Alberta. Urgel Contracting Ltd. was hired by Husky Oil Operations Ltd. to maintain the Sundance Haul Road and other adjacent roads south of Edson. During the time of the incident a service truck with two Urgel Contracting Ltd's workers was crossing the one-lane, Km 3 bridge, traveling south on the Sundance Haul Road. At the same time the Km 3 bridge was being approached by the 1236112 Alberta Ltd's gravel haul truck and trailer, that were traveling in a northerly direction.

SECTION 4.0 LOCATION OF INCIDENT

- 4.1 The Km 3 bridge is located on the Sundance Haul Road 36 km southwest of Edson, Alberta, and 3 km off Highway 47. (Attachment A – Map).

SECTION 5.0 EQUIPMENT, MATERIAL AND OBSERVATIONS

5.1 Equipment and Material

- 5.1.1 2007 Kenworth (Tandem Axel Gravel Truck)

Construct Model

Serial: 1NKDL40X77J996557

(Attachment C – Photograph 1)

- 5.1.2 2006 Arnes Trailer

Quad Wagon Model

Serial: 2A92142496A003381

(Attachment C – Photograph 2)

- 5.1.3 Truck and Trailer Tires

Type - 11R245 Fullrun

Model – TB809

New Tread Depth – 32/32 inch

5.2 Observations and Findings

- 5.2.1 At the time of the incident the sun was shining directly into the eyes of the Urgel Contracting Ltd's service truck operator as evidenced by witness statements and a picture of the scene of the incident shortly after the crash. (Attachment C – Photograph 3)

- 5.2.2 The weather at the time of the incident was clear, -8 degrees C with wind at 11 km/h from the west.

- 5.2.3 Two communication radios (one very high frequency (VHF), and one Citizens Band (CB)) were taken out of the damaged Gravel Truck (belonging to 1236112 Alberta Ltd.) and examined by a technician at Westcan Wireless in Edmonton, Alberta. Both radios were damaged, and did not allow the technician to retrieve information on which frequency channels each radio was set at.
- 5.2.4 The communication VHF radio in the service truck belonging to Urgel Contracting Ltd. was examined by the Occupational Health and Safety Investigators for functionality the day after the incident and tested by a Sundance Forestry Industries Operations Forester a few days later. It was found to be functioning properly and was set to the proper frequency channel (173.97 Mhz) for the Sundance Haul Road.
- 5.2.5 Most of the Sundance Haul Road is a one-lane roadway with one-lane bridges and periodic pullouts so that empty vehicles can yield to oncoming loaded vehicles traveling out of the forestry area towards Edson in a general northerly direction. Each Km is marked with a sign in both directions and the triangular shaped signs stipulate a mandatory call on the VHF radio to warn road users as to vehicle positions along the road and which direction they are traveling. (Attachment C, Photograph 4) The Sundance Haul Road starts at Km 0 and progresses to higher numbers when you enter the beginning of the road at the intersection with Highway 47, and travel in a southerly direction.
- 5.2.6 There was a mandatory call sign at Km 2 prior to coming to the Km 3 bridge, going south. There was no mandatory call sign just before approaching the bridge area for the vehicles traveling in a southerly direction. The only caution sign before the Km 3 bridge indicated that the traveler was to yield to oncoming traffic crossing the bridge going in a northerly direction.
- 5.2.7 Due to the moderate to heavy logging truck traffic on the Sundance Haul Road, the supervisor of the trucks hauling contaminated soil from the Husky Oil Operations Ltd. sites decided to have the gravel trucks and trailers travel in a circuit. Traveling in a circuit meant that the empty trucks traveled south on Highway 47 and entered the Husky Oil Operations Ltd. production sites from a back road. The trucks were then loaded with soil and only used the Sundance Haul Road for traveling out in the same northerly direction as the loaded log hauling trucks. By traveling in a circuit the empty gravel trucks would minimize meeting traffic head-on and avoid the loaded trucks as they were leaving the excavation sites. (Attachment B, Map of Truck Travel)
- 5.2.8 Husky Oil Operations Ltd. used the services of Urgel Contracting Ltd. to maintain the Sundance Haul Road since Husky Oil Operations Ltd. had initiated heavy road use with the hauling of contaminated soils. The OHS Investigators found the road surface

to be hard packed snow, cleared of snow accumulations, and with gravel on the surface for traction. The crown of the road was quite high and the loaded trucks tended to travel in the middle of the road to avoid sliding into the ditch.

SECTION 6.0 NARRATIVE DESCRIPTION OF THE INCIDENT

- 6.1 On November 23, 2009 a contractual agreement was reached between Husky Oil Operations Ltd. and Hazco Environmental Services Ltd. (a Division of CCS Corporation) to remove contaminated soil from various oil and gas production sites south of Edson, Alberta and haul away the soil to a remediation/landfill facility off site. The project started immediately.
- 6.2 After approximately two weeks of operation there had been a number of incidents involving various trucks contracted to Hazco Environmental Services Ltd. The non-injury incidents resulted from trucks sliding off the road or partially entering excavated areas. These near miss incidents prompted Husky Oil Operations Ltd's safety and loss prevention staff to stop operations and conduct:
- (i) A preliminary meeting with the supervisor of the trucking contractors and the superintendent of the Hazco Environmental Services Ltd. crew on December 16, 2009 at approximately 9:30 p.m. Disciplinary measures for one truck operator were discussed and concerns about the qualifications and abilities of other truck operators were discussed.
 - (ii) A "Stand Down" safety meeting in the early morning of December 17, 2009 was held with all the truck operators hired by Hazco Environmental Services Ltd. During this meeting 4 near miss incidents were discussed and verbal cautions were given to the truck operators about changing road conditions, speed limits, and the communication requirements for the entire route.

The trucking operation was allowed to proceed after the meetings were completed.

- 6.3 At approximately 9:58 a.m. on December 17, 2009 a Sundance Forest Industries Operations Forester was traveling south on the Sundance Haul Road and pulled aside at Km 5.5 to let a loaded gravel truck, owned by 1236112 Alberta Ltd., coming from the opposite direction to pass. The Operations Forester had heard the 1236112 Alberta Ltd. gravel Truck Operator call on his radio that he was approaching Km 6 bridge and traveling in a northerly direction. The Operations Forester knew there was an empty Logging Truck waiting in the vicinity of Km 0 as he had heard the announcement on the radio.

- 6.4 At approximately 10:00 a.m. on December 17, 2009 an empty logging truck owned by R.T.E.C Contracting Inc. in Edson, Alberta and driven by Log Truck Operator entered the Sundance Haul Road at Km 0 and pulled off the road at Km 0.5. He waited for a loaded gravel truck coming towards him, to pass. After the gravel truck had passed he was surprised to be passed by a white service truck belonging to Urgel Contracting Ltd. going in the same southerly direction as he would be going. The Urgel Contracting Ltd's service truck should have stopped to allow the second loaded gravel hauler to cross the Km 3 bridge according to the Sundance Haul Road rules. The Log Truck Operator stated that there had been no VHF radio communication announcing the Urgel Contracting Ltd's service truck's travel down the Sundance Haul Road. After waiting some time the Log Truck Operator called on his radio and then proceeded southwards on the Sundance Haul Road.
- 6.5 At approximately 10:05 a.m. an Urgel Contracting Ltd. Service Truck entered the Sundance Haul Road off Highway 47. Although the Service Truck Operator stated that he called Km 0 and then proceeded down the road others stated they did not hear him call. The Service Truck Operator also stated that he called the Km 3 bridge on his VHF radio and then proceeded to cross the Km 3 bridge, but others stated they had not heard him call.
- 6.6 At approximately 10:08 a.m. the empty logging truck owned by R.T.E.C Contracting Inc. and driven by Log Truck Operator was at Km 2 of the Sundance Haul Road when he heard the gravel Truck Operator from 1236112 Alberta Ltd. announce that he was approaching the Km 3 bridge going north. At the same time he heard the Gravel Truck Operator 2, that had just passed the Log Truck Operator while he was waiting in the pullout, announce to the Gravel Truck Operator to be aware of a white service truck that was not making VHF radio calls coming toward him. The Log Truck Operator pulled over to the side of the road at Km 2 and was waiting for the Gravel Truck Operator to cross the Km 3 bridge and to pass him.
- 6.7 When the Urgel Contracting Ltd's Service Truck was approximately three quarters of the way across the Km 3 bridge, traveling southwards, both the Driver and his Assistant saw the 1236112 Alberta Ltd. Gravel Truck coming around the bend in the road approaching the south entrance to the Km 3 bridge. They both stated that they saw the truck and trailer wheels lock up and start skidding sideways. The Urgel Contracting Ltd. Service Truck accelerated across the remainder of the bridge and pulled over to the ditch and parked. They stated that they watched the 1236112 Alberta Ltd's Gravel Truck travel past them and go over the embankment into the creek. They both rushed to see if they could help, but the truck was upside down and the cab had broken through the ice and was submerged in the creek. (Attachment C, Photograph 5)

- 6.8 After waiting a few minutes at Km 2 on the Sundance Haul Road pullout, the Log Truck Operator called on his VHF radio to determine whether there was a loaded gravel truck coming toward him. He received no answer. He then proceeded to the Km 3 bridge and crossed the bridge. The sun was directly in his eyes so he did not see the 1236112 Alberta Ltd's gravel truck and trailer that had driven off the haul road and into the creek. He did see the white service truck owned by Urgel Contracting Ltd. parked at the side of the road with the warning flashers on. Since he had not heard them call on the VHF radio, he reasoned that they probably did not have a VHF radio and that they were planning on following him down the Sundance Haul Road. The Log Truck Operator passed the Urgel Contracting Ltd's service truck and continued southwards on the Sundance Haul Road. When he had reached Km 4, he heard a call on the VHF radio that there had been an incident at the Km 3 bridge. He turned his truck around and went back to the incident site to assist in rescue operations.
- 6.9 The Sundance Forest Industries Ltd's Operations Forester called 911 Emergency Services at 10:21 a.m. Edson Emergency Services personnel arrived and proceeded to free the 1236112 Alberta Ltd's trapped Truck Operator.
- 6.10 Emergency Services personnel pronounced the Gravel Truck Operator dead at the scene at 1:23 p.m. on December 17, 2009 and the body was transferred to the Edson, Alberta hospital.
- 6.11 The Operations Forester heard the Urgel Contracting Ltd's Service Truck Driver calling the km on his VHF radio when he was leaving the site of the incident.

SECTION 7.0 ANALYSIS

7.1 Direct Cause

- 7.1.1 On December 17, 2009 the 1236112 Alberta Ltd's Gravel Truck Operator received fatal crush injuries when his truck left the one-lane haul road, went over an embankment, overturned, and became submerged in a creek after breaking through the ice. (Attachment C, Photograph 5)

7.2 Contributing Factors

- 7.2.1 There was an S bend in the Sundance Haul Road just prior to the south entry point at the Km 3 bridge. There were no speed reduction signs in this area to warn travelers to slow down due to possible traffic on the Km 3 bridge. Witnesses to the incident stated they saw the Truck Operator lose control of the 1236112 Alberta Ltd's truck and trailer when it came around the bend approaching the Km 3 bridge while he was trying to slow down by applying the brakes. (Attachment C, Photograph 6)

- 7.2.2 There were trees blocking the view just before the approach of the Km 3 bridge for drivers proceeding northward on the Sundance Haul Road. A vehicle on the one lane bridge could not be seen until just before the approach to the bridge. During the time just prior to the incident there was a vehicle on the Km 3 bridge when the loaded gravel truck owned by 1236112 Alberta was approaching the south entry of the bridge. The Urgel Contracting Ltd's Service Truck Operator sped up and exited the bridge before the loaded Gravel Truck arrived at the approach. The Gravel Truck Operator would have had very little time to slow his vehicle. (Attachment C, Photograph 6) The Gravel Truck Operator was familiar with the road as he had travelled it many times in the past weeks.
- 7.2.3 According to a number of witness statements, the Urgel Contracting Ltd's Service Truck Operator did not call out to warn of his travel on the Sundance Haul Road, did not call out his approach to the Km 3 bridge, nor had he heard that the loaded 1236112 Alberta Ltd. gravel truck was approaching the Km 3 bridge to cross it. Loaded vehicles had the right-of-way. The Log Truck Operator, a Gravel Truck Operator 2, and the Operations Forester all stated that they never heard any VHF radio communication from the Urgel Contracting Ltd. Service Truck. Had the Service Truck Operator heard that a gravel truck was approaching the Km 3 bridge from the opposite direction, he could have stopped and waited as the logging truck had done.
- 7.2.4 The 1236112 Alberta Ltd's gravel truck and quad wagon trailer had a majority of tires that were significantly worn. The tires without grip lugs had little traction ability for slippery roads. The Sundance Haul Road was hard packed snow that was gravelled but had slippery sections.
- 7.2.5 A mechanical inspection of the 1236112 Alberta Ltd's truck and trailer found the brakes in a condition that would pass inspection, but also found that some of the tires were in poor condition due to tread wear. One tire on the Quad Wagon trailer had no tread left. These tire conditions adversely affected stopping ability and traction to prevent loss of control. (Attachment C, Photograph 7)
- 7.2.6 The Owner/Manager of Fountain Tire in Edson was requested by Occupational Health and Safety Investigators to examine the tires on the Gravel Haul Truck and Quad Wagon Trailer owned by 1236112 Alberta Ltd., to determine the type and condition of the tires, and make comment on whether these tires were suited to operate on icy forestry roads. The tires were identified as "Mixed Service Tires" that were suited to forestry road conditions. The assessment also indicated that, "One flaw in the design of this tire is that some time in the later stages of wear, the tire that started out with four distinct blocks (Attachment C, Photograph 8) in the tread, becomes one solid lug across the face of the tire, at this point the traction ability becomes very poor. This is the stage that these tires had reached."

- 7.2.7 Concerns had been raised in the preliminary meeting before the “Safety Stand Down” meeting (noted in section 6.2 of this report) as to the qualifications and skill levels of the gravel haulers that had city driving experience in Edmonton, Alberta. The Gravel Truck Operator was a truck operator hired with a group of truck operators from the City of Edmonton.
- 7.2.8 The truck trailer configuration allowed for two pivot points between the rear of the gravel truck and the front of the quad wagon trailer. When the truck and trailer were braking to try to stop or slow down, loss of trailer control would be magnified on slippery surfaces.

SECTION 8.0 FOLLOW-UP/ ACTION TAKEN

8.1 Alberta Employment and Immigration; Occupational Health and Safety

- 8.1.1 Occupational Health and Safety (OHS) Investigators attended to the scene of the incident and investigated the incident.
- 8.1.2 OHS Investigators initiated a mechanical inspection of the gravel truck and quad wagon trailer involved in the incident. The Diesel Shop (a certified Commercial Vehicle Inspection Facility) in Edson, Alberta provided the service.
- 8.1.3 OHS Investigators initiated a tire inspection/identification of the gravel truck and quad wagon trailer by the manager and owner of Fountain Tire in Edson, Alberta.
- 8.1.4 Orders were written to Sundance Forest Industries Ltd. to conduct a hazard assessment of the Sundance Haul Road, considering the road signage prior to the south entry to the Km 3 bridge, and visibility for northward travelers of potential oncoming traffic on the bridge. Bridge guardrail repairs were initially required of Husky Oil Operations Ltd. but were taken over by Sundance Forest Industries Ltd. due to their ownership of the road.
- 8.1.5 Orders were written to Husky Oil Operations Ltd. to continue the voluntary stop work of soil haulage and participate in the Sundance Haul Road hazard assessment. Acceptable changes to signage and visibility issues were required to prevent a similar incident. The stipulations of the Road Use Agreement (between Husky Oil Operations Ltd. and Sundance Forest Industries Ltd.) were required to be shared with all contractors under the umbrella of Husky Oil Operations Ltd.
- 8.1.6 Hazco Environmental Services Ltd. was required to conduct an investigation of the Gravel Truck crash incident, and prepare a report outlining the corrective measures to prevent a similar incident. Orders were also written to ensure equipment they

8.1.7 Urgel Contracting Ltd. was required by the OHS Investigators to make their Service Truck (that was at the scene of the incident) available for OHS Investigators to examine the radio function and also the have the VHF radio function examined independently by Sundance Forest Industries personnel to ensure it was coded properly for the Sundance Haul Road. The Urgel Contracting Ltd's management was required to familiarize their employees with the rules of the Sundance Forest Industries Ltd's Road Use Agreement.

8.2 Industry

8.2.1 Immediately after notification of the gravel haul truck crash incident, Husky Oil Operations Ltd's Construction Supervisor stopped all soil haulage and arranged for heavy equipment to be brought to the incident site to assist in freeing the Gravel Truck Operator and removing the equipment from the creek at Km 3 bridge. Husky Oil Operations Ltd's Construction Supervisor arranged for brightly colored concrete Jersey Barriers to be placed where the Km 3 bridge guardrailing was missing. The Construction Supervisor started the process of having the repairs to the Km 3 bridge guardrail evaluated, and then turned the responsibility of repair completion over to Sundance Forest Industries Ltd.

8.2.2 Sundance Forest Industries Ltd. installed additional signage on the south approach to the Km 3 bridge, on the Sundance Haul Road, warning of a curve ahead and speed slowdown for the bridge. The trees on the S curve on the south side of the Km 3 bridge were removed to allow for better visibility for travelers approaching the Km 3 bridge from the south, and thus allow them to see if there was any traffic on the one lane bridge. A hazard assessment for the Sundance Haul Road that had recently been produced was supplied to the OHS Investigator for review. Sundance Forest Industries sent a notice to all the stakeholders who had a Road Use Agreement outlining the details of the incident and the corrective measures that had been initiated along with a copy of the Road Use Agreement rules, with additional cautionary comments.

8.2.3 Hazco Environmental Services Ltd. produced an incident investigation report and made this available for the OHS Investigators for review. Hazco Environmental Services Ltd. assisted in retrieving the equipment belonging to 1236112 Alberta Ltd. from the creek at Km 3 bridge and ensured the contaminated soil and truck fluids were cleaned up to prevent environmental damage. Hazco Environmental Services Ltd. ensured the equipment was stored at a secure facility for the OHS Investigators

to inspect. Hazco Environmental Services Ltd. retrieved the VHF and CB radios from the wreckage and delivered these to the OHS Investigators for assessment.

8.2.4 Urgel Contracting Ltd complied with all the requirements given by the OHS Investigators.

8.3 Additional Measures

8.3.1 No additional measures were required.

SECTION 9.0 SIGNATURES

Original Report Signed _____
Lead Investigator Date

Original Report Signed _____
Investigator Date

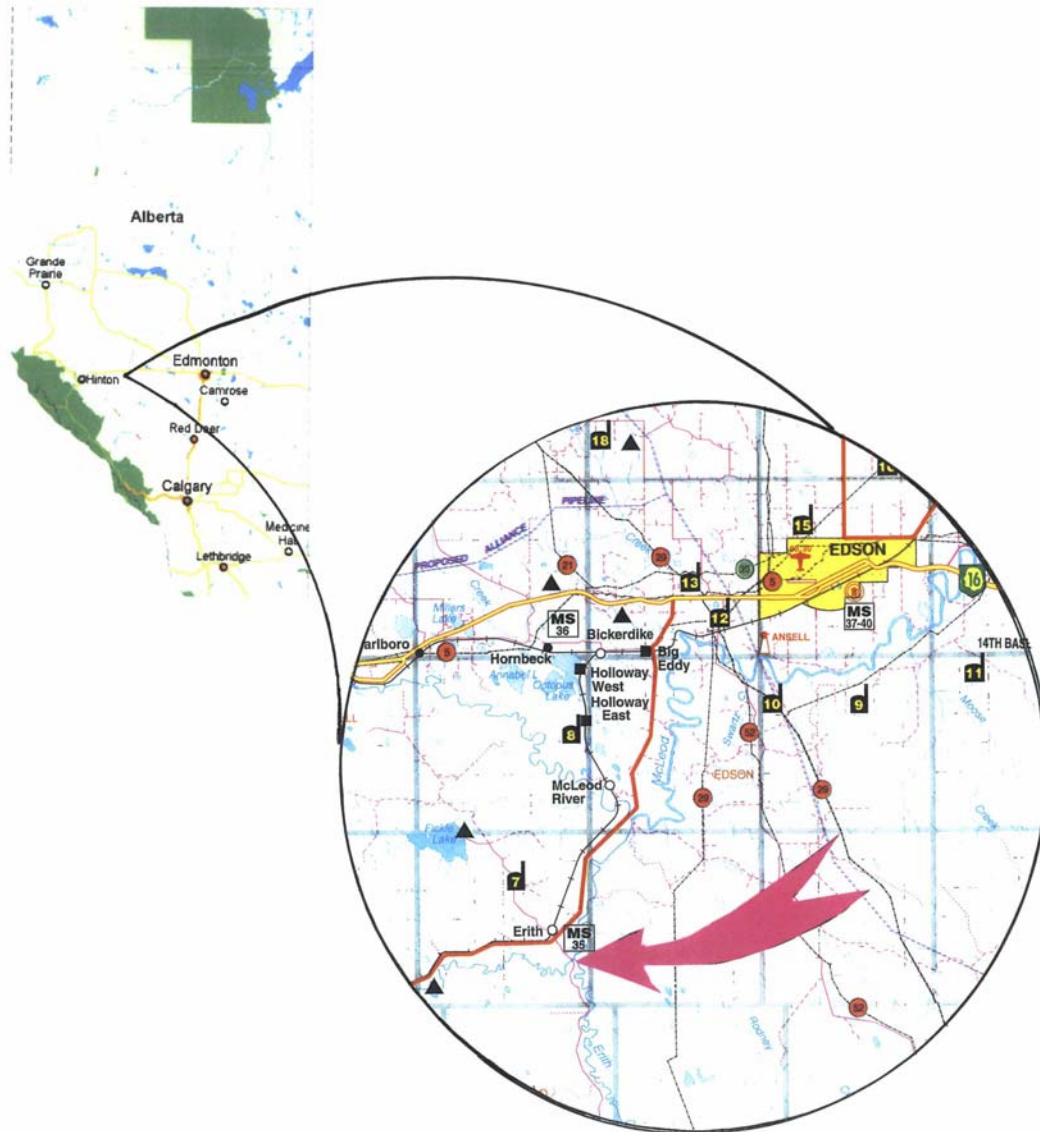
Original Report Signed _____
Manager Date

Original Report Signed _____
Regional Director, North Date

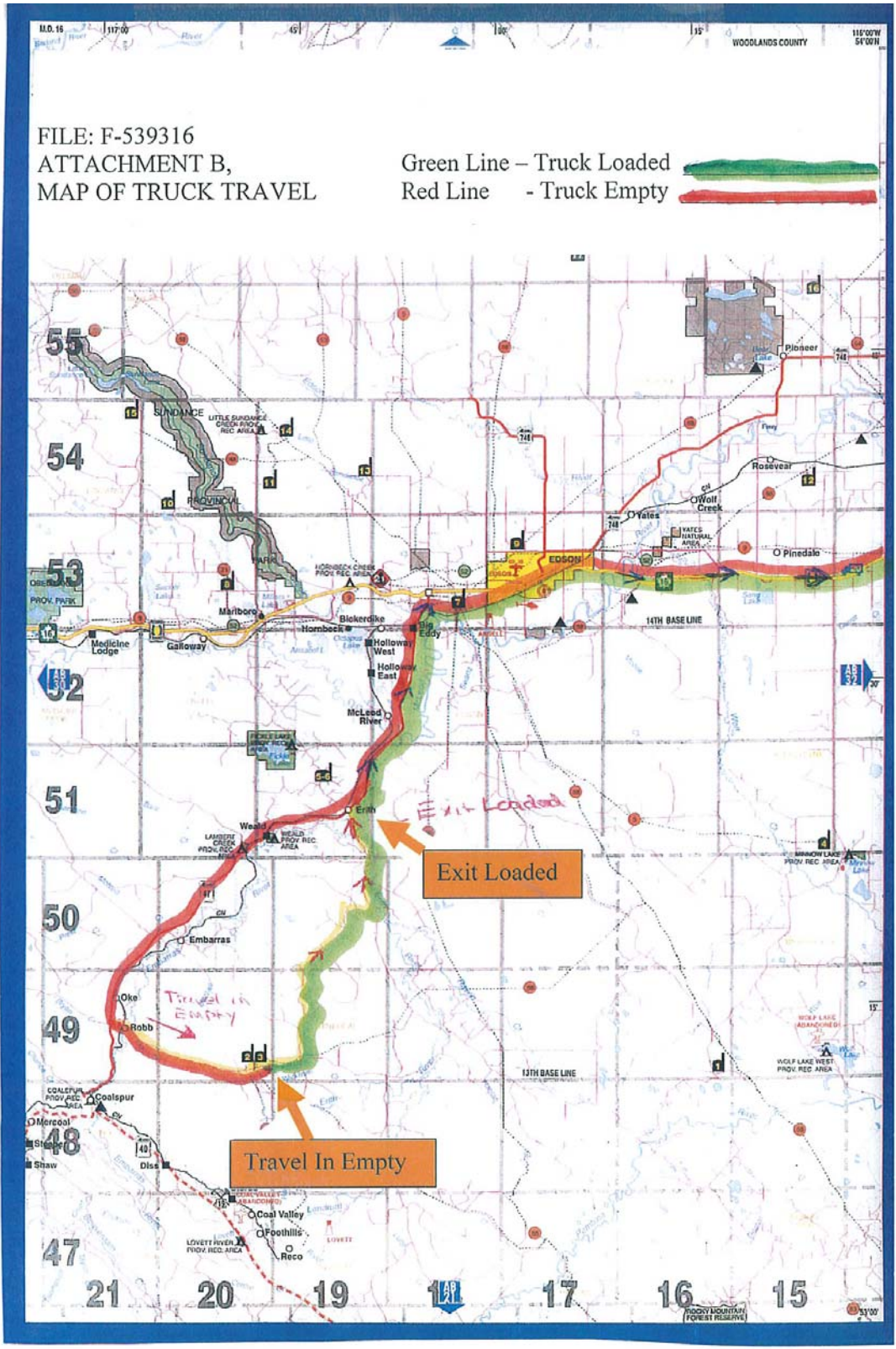
SECTION 10.0 ATTACHMENTS:

Attachment A Map
Attachment B Map of Truck Travel
Attachment C Photographs

Government of Alberta ■
Employment and Immigration



Alberta Employment and Immigration, Occupational Health and Safety





Photograph #1 Shows the Kenworth gravel truck belonging to 1236112 Alberta Ltd. after it was retrieved from the Sundance Haul Road Km 3 bridge creek bed. The truck was brought to a Commercial Vehicle Inspection Shop for examination by the OHS Investigators, Commercial Vehicle Inspection mechanics and a tire expert.



Photograph #2

Shows the Arnes quad wagon gravel trailer belonging to 1236112 Alberta Ltd. that was retrieved from the Sundance Haul Road Km 3 bridge creek bed. This unit is parked in the secure storage compound in Edson, Alberta. This unit was examined by an OHS Investigator, a Commercial Vehicle Inspection Mechanic and a tire expert.



Photograph #3

Shows the crash site shortly after the incident occurred. This photograph was taken by a representative of Husky Oil Operations Ltd. who was at the scene immediately after the incident occurrence. This view shows how the sun would have been in the eyes of the two workers employed by Urgel Contractors Ltd. when they were crossing the Sundance Haul Road, Km 3 bridge at the same time the 1236112 Alberta Ltd's gravel truck and trailer were approaching the bridge from the opposite direction.



Photograph #4

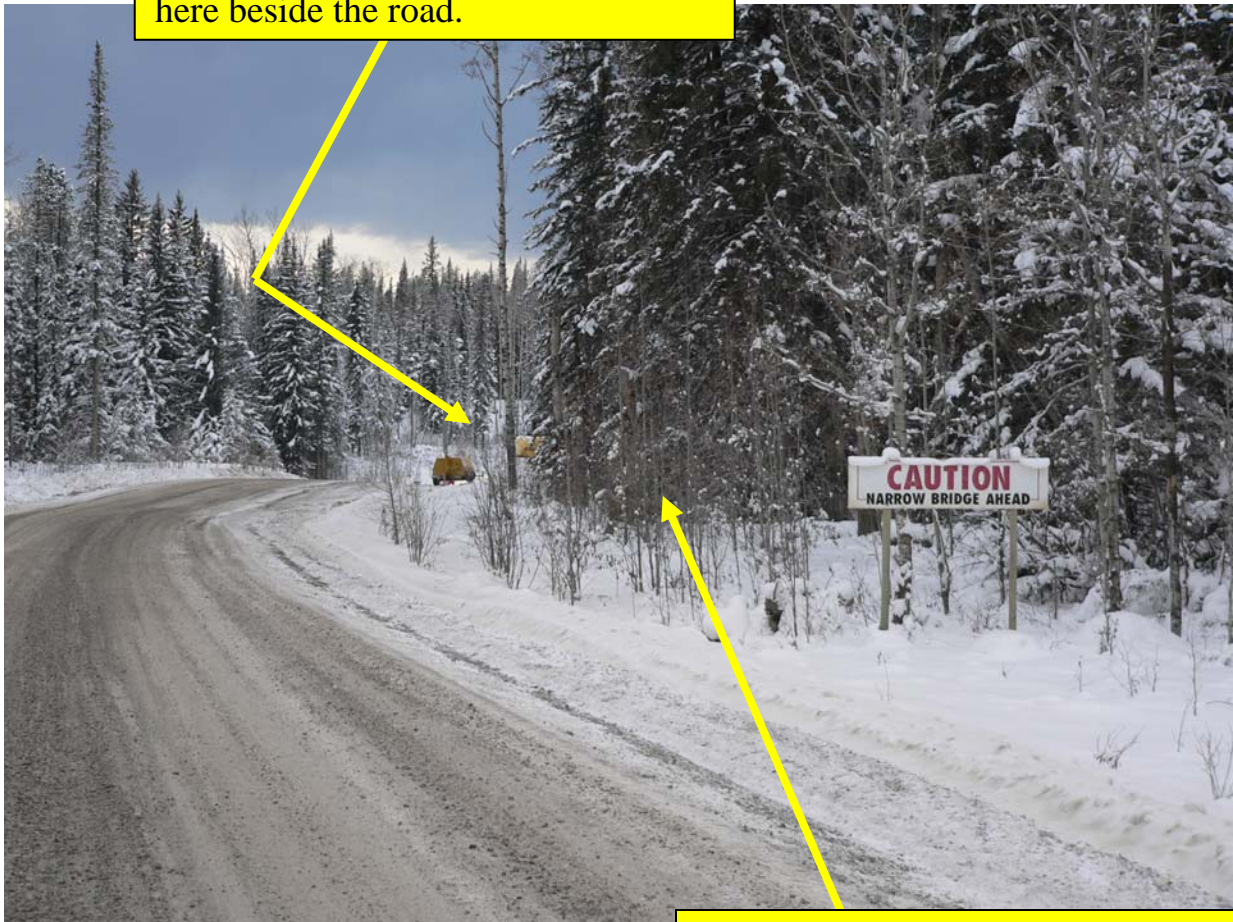
Shows one of the signs at the entrance to the Sundance Haul Road from Highway 47. This sign indicates mandatory use of radios on this road and also requires that all vehicles yield to loaded vehicles coming out of the forest.



The whole front of the gravel truck had broken through the ice and was submerged in the creek.

Photograph #5 Shows the aftermath of the 1236112 Alberta Ltd's gravel truck and trailer going over the south side embankment of the Sundance Haul Road, Km 3 bridge. This view was taken by an RCMP member shortly after the incident and before the truck was moved by heavy equipment to try to free the truck operator.

The south approach to the Km 3 bridge is just behind the grove of trees past the power generator seen here beside the road.



These trees block the view of the Km 3 bridge when traveling in the S bend going northward.

Photograph #6 Shows a view that would have been seen by the 1236112 Alberta Ltd's truck operator when he was in the S bend driving northwards and approaching the Sundance haul Road Km 3 bridge. The trees at the corner of the right turn are blocking the view of the bridge. Any traffic on the bridge would not be seen by a driver from this position.



This tire had no depth of tread left and would have no traction capabilities on slippery surfaces.

Photograph # 7 Shows the wornout condition of the tires on the Arnes quad wagon gravel trailer belonging to 1236112 Alberta Ltd. See photograph 8 for an example of how tires with good tread pattern should appear. This view shows a rear set of dual tires on the passenger side of the trailer. The photos were taken by an OHS Investigator. Many of the Gravel Truck tires were worn nearly to this level of baldness, with the exception of the front steering axel tires which were in near-to-new condition.



Photograph # 8

Shows a set of newer tires with deep lugs for comparison to the ones on the 1236112 Alberta Ltd's truck and trailer. These tires were on a log haul transport truck that was parked in the Commercial Vehicle Inspection shop where the OHS Investigators were performing an examination of the Kenworth Gravel Truck belonging to 1236112 Alberta Ltd.