CP VR Exercise

Instructor Version

Canadian Pacific Railway

11207619 | Rural - Small Event (3.5) | 03/26/21

Table of Contents

TIMELINE OBJECTIVES - INSTRUCTOR GUIDE

Please Fill This Page

- Participant Name: _____
- Organization: _____
- Title/Position: _____
- Exercise Role: **Facilitator** ☐ **Instructor** ☐ **Evaluator** ☐ **Sim Cell** ☐ **Other** ☐
- Date and Location: _____

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TIMELINE OBJECTIVES - INSTRUCTOR GUIDE

Incident Update #1 – Time : _____

CP Instructor Updates

- Canadian Pacific (CP) report of unplanned emergency stop at _____hrs. for a east bound CP freight train at Mile post _____
- Local Police contacted by CPPS
- CPPS is reporting Train Crew starts walking back for assessment

Additional Info (if required)

- Train Crew looks for air leaks on braking system
- Train Crew performs basic inspection, if possible
- All communications by Train Crew are by radio

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INSTRUCTOR PROMPTS

Incident Update #1

- Was any action required by local police? **Yes** ☐ **No** ☐
  - If yes, what actions? _____
- Was any action required by local fire? **Yes** ☐ **No** ☐
  - If yes, what actions? _____
- Are any roads blocked? **Yes** ☐ **No** ☐
  - If yes, does it affect the response? _____
- Other Information?
  - _____

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TIMELINE OBJECTIVES - INSTRUCTOR GUIDE

Incident Update #2 – Time : _____

CP Instructor Updates

- CPPS confirms to Local Police that the train has derailed
- Local 911 receiving numerous calls from citizens with odour complaints
- Any additional questions that should be asked?

Additional Info (if requested)

- Odours are described as a unpleasant sweet chemical odour similar to glue
- Report by CPPS from Train Crew notes approximately 5 cars involved
- *CPPS only calls Local Police, Fire would be contacted by Local Police.*

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INSTRUCTOR PROMPTS

Incident Update #2

- Given the new information:
  - Was any new actions required by local police? **Yes** ☐ **No** ☐
    - If yes, what action? _____
  - Was any new actions required by local fire? **Yes** ☐ **No** ☐
    - If yes, what action? _____
- Have First Responders established communication with CP? **Yes** ☐ **No** ☐
- Has emergency services requested paperwork? **Yes** ☐ **No** ☐
- What primary and secondary resources are being activated? (If required)
  - Eg. Hydro, Public Works, EMS, etc.
  - _____

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INSTRUCTOR PROMPTS

Incident Update #2

Other Information not covered

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TIMELINE OBJECTIVES - INSTRUCTOR GUIDE

Incident Update #3 – Time : _____

CP Instructor Updates

- Fire department arriving on Site
  - Approximate response time

  _____
- CP Train Crew meets with First Responders*
- **Initiate virtual reality scene assessment**

Additional Background Info

- CP mobilizing assets
- CP Notifications
- *Distribute **Inject 1 – Example CP Notification***
- *Walk closer than personnel normally would to investigate the placards*

* No VR Train Crew available at present

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INSTRUCTOR PROMPTS

Incident Update #3

- Did fire department ask train crew to see train consist information? **Yes** ☐ **No** ☐
  - Once requested, distribute ***Inject #2 – Train Consist***
- Would first responders enter zone to identify potential leaks or assess from distance? _____
- Did first responders identify car marking numbers? **Yes** ☐ **No** ☐
  - If yes, what are they? _____ _____ _____ _____ _____ _____
  - Was AskRail used to identify commodities? (Optional) **Yes** ☐ **No** ☐
- Would you contact CANUTEC and/or CHEMTREC? **Yes** ☐ **No** ☐

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INSTRUCTOR PROMPTS

Incident Update #3 Cont.

- Did first responders identify car damage? **Yes** ☐ **No** ☐
  - If yes, where is the damage? _____
- Did first responders identify active leaks? **Yes** ☐ **No** ☐
  - If yes, what cars? _____ _____
- Did first responders identify placards on cars? **Yes** ☐ **No** ☐
  - If yes, what are they? _____ _____ _____
- What are the air readings in the initial assessment area?
  - LEL _____ O2_____ H2S_____ CO_____ VOC_____

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TIMELINE OBJECTIVES - INSTRUCTOR GUIDE

Incident Update #4 – Time : _____

CP Instructor Updates	Additional Info (if required)
• **Initial VR Assessment completed** • Car marking numbers identified by first responders • What are the DGs on Site? _____ _____ _____	• Shipper was notified by CP ▪ Product Waybills emailed to First Responders / IC ▪ Distribute ***Inject 3 – Product Waybills*** • CP Activates product ERAP (if asked) • Dangerous Goods on Site ▪ 1 Alcohols N.O.S (loaded)

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INSTRUCTOR PROMPTS

Incident Update #4

- Has FD evaluated Incident Command structure and setup? **Yes** ☐ **No** ☐
  - Eg. IC or Unified Command
  - If yes, what type? _____ If no, why? _____
- Has a provincial/state team been notified? **Yes** ☐ **No** ☐
- Has mutual aid been activated? **Yes** ☐ **No** ☐
  - If no, why/when would you? _____
- Did an evacuation occur? **Yes** ☐ **No** ☐
  - Who would handle this task? _____
- Did shelter in place occur? **Yes** ☐ **No** ☐
  - If yes, how is this information distributed? _____

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INSTRUCTOR PROMPTS

Incident Update #4

Fire Department - Other Information not covered

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INSTRUCTOR PROMPTS

Incident Update #4

Police - Other Information not covered

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INSTRUCTOR PROMPTS

Incident Update #4

EMS - Other Information not covered

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TIMELINE OBJECTIVES - INSTRUCTOR GUIDE

Incident Update #5 – Time : _____

CP Instructor Updates

- SDSs from shipper are received by CP/First Responders
- CP DGO or sentinel arrives on-Site
- Additional Scene assessment with First Responders
- ***Re-enter VR Scenario***
- Begin detailed damage assessment with First Responders

Additional Info (if required)

- Distribute ***Inject 4 – Product SDS***
- Distribute ***Inject 5 – Blank CP Damage Assessment Forms***
- *Cast to iPad*

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INSTRUCTOR PROMPTS

Incident Update #5

- Were product leaks identified and estimated? **Yes** ☐ **No** ☐
  - Where are any identified leaks located? _____
- Was significant damage identified? **Yes** ☐ **No** ☐
  - If yes, where? (Jacket or Car Damage) _____
- Exclusion zone for SCBAs established? **Yes** ☐ **No** ☐ **N/A** ☐
  - 200 m / 650'? 800 m / 2,600'? Based on ERG? _____

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INSTRUCTOR PROMPTS

Incident Update #5

Any relevant receptors for air quality concerns? **Yes** ☐ **No** ☐

- Eg. hospitals, long-term care facilities, group homes, schools, prisons, public event areas, etc.
- If yes, which receptors? _____
- If yes, how do you approach these?_____

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TIMELINE OBJECTIVES - INSTRUCTOR GUIDE

Incident Update #6 – Time : _____

CP Instructor Updates

- CP and First Responders create initial Site map
- Complete damage assessment forms with First Responders
- Air monitoring plan initiated by CP
- Deployment of UAV assets, if not already deployed
- Determine active leaks and estimated volumes (if not completed)

Additional Info (if required)

- After hand map sketched distribute ***Inject 6 – UAV Arial Imagery***
- ~1,500 L (400 gal) leak from denatured ethanol SIOX 031002

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INSTRUCTOR PROMPTS

Incident Update #6

- Is there a plan for stopping active leaks? **Yes** ☐ **No** ☐
  - With your current training could you stop a leak? **Yes** ☐ **No** ☐
- Is there a plan for product containment? **Yes** ☐ **No** ☐ **N/A** ☐
- Do you have any supplies to contain/control a large release? **Yes** ☐ **No** ☐ **N/A** ☐
- Is there a plan for protection of environmental receptors?
  - Waterways? **Yes** ☐ **No** ☐ **N/A** ☐ If yes, what? _____
  - Public? **Yes** ☐ **No** ☐ **N/A** ☐ If yes, what? _____
  - Storm drains? **Yes** ☐ **No** ☐ **N/A** ☐ If yes, what? _____
  - Infrastructure / properties? **Yes** ☐ **No** ☐ **N/A** ☐ If yes, what? _____

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TIMELINE OBJECTIVES - INSTRUCTOR GUIDE

Incident Update #7 – Time : _____

CP Instructor Updates

- Continued scene stabilization
- Public information officer coordinating with appropriate parties
- Air monitoring plan complete
- ***Share AR Scenario (IPAD / USDZ File)***

Additional Info (if required)

- Distribute ***Inject 7 – Air Monitoring Plan*** *if requested*

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INSTRUCTOR PROMPTS

Incident Update #7

- Has anyone asked CP to clear rail cars blocking roads? **Yes** ☐ **No** ☐ **N/A** ☐
- How would you communicate with CP? _____
- Has a communication plan for the public been established? **Yes** ☐ **No** ☐
  - If yes, was CP Media Relations consulted and what is the communication plan?
    _____
- Additional receptors to consider based on GIS Package? (If available) **Yes** ☐ **No** ☐
  - If yes, what are the receptors? _____
- What are the action levels for worker air monitoring? (if Hazmat team has capability)
  _____
- What are the action levels for the Site perimeter? (if Hazmat team has capability)
  _____

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TIMELINE OBJECTIVES - INSTRUCTOR GUIDE

Incident Update #8 – Time : _____

CP Instructor Updates

- Discretion of Instructor
- Any other relevant items to test or identify as part of Scenario

Additional Info (if required)

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INSTRUCTOR PROMPTS

Incident Update #8

- Discussion of any other response related items
  - Possible concerns are?

    _____

    _____

    _____

    _____
- If no additional concerns, move to next Incident Update

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TIMELINE OBJECTIVES - INSTRUCTOR GUIDE

Incident Update #9 – Time : _____

CP Instructor Updates

- Imagery Shared from Site

Additional Info (if required)

- Distribute ***Inject 8 – Imagery from Site***

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INSTRUCTOR PROMPTS

Incident Update #9

- Does the imagery identify any additional concerns or Site controls needed that were not previously identified? **Yes** ☐ **No** ☐
  - Eg. blockades, fencing, decon, traffic control
- If yes, what are the additional concerns?

_____

_____

_____

_____

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TIMELINE OBJECTIVES - INSTRUCTOR GUIDE

Incident Update #10 – Time : _____

CP Instructor Updates

- Air monitoring consultant arrives conducting perimeter air monitoring
- CP provides initial air monitoring data from Site
- Perimeter air monitoring data shows that at a distance of 200 m (650') concentrations are below action levels

Additional Info (if required)

- Distribute ***Inject 9 – Air Monitoring Memo***

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INSTRUCTOR PROMPTS

Incident Update #10

- Can evacuations or shelter in place be scaled back? **Yes** ☐ **No** ☐
  - What distance should be maintained? _____
- What resources are required for Site hazmat work? Eg. Waste removal, Product storage, Vac Trucks
  - _____
- How long should air monitoring at perimeter stay in place?
  - _____
- Is data collected and distributed to the wider community? **Yes** ☐ **No** ☐

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TIMELINE OBJECTIVES - INSTRUCTOR GUIDE

Incident Update #11 – Time : _____

CP Instructor Updates

- CP assets, hazmat contractors, and heavy equipment arriving on Site
- CP is plugging, patching and capping cars as needed if not already complete

Additional Info (if required)

- Could involve more permanent solutions to initial controls

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INSTRUCTOR PROMPTS

Incident Update #11

- What is the effect on the area?
  - Transportation _____
  - Residential Access _____
  - Media _____
  - Public Concerns _____
  - Etc. _____

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INSTRUCTOR PROMPTS

Incident Update #11

- Is Incident Command organized for next OP? **Yes** ☐ **No** ☐
  - If yes, IC or Unified Command? _____
- What are some long term cleanup goals/activities?
  - _____
- Are there specific Site controls that need to be implemented?
  - _____

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TIMELINE OBJECTIVES - INSTRUCTOR GUIDE

Objectives for Next Operational Period

CP Objectives

- Site Safety
- Site Stabilization
- Product Transfers
- Continuity of Business
- Remediation
- Restoration
- Site Closure

First Responder Objectives

- Staffing requirements?
- Involvement during remaining phases?
- Restoring Local Institutions
  - Schools, Hospitals, etc.
- Local residents allowed to return
- Longer term road closures
- Any other disruptions to community?

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INSTRUCTOR PROMPTS

Next Operational Period

What are the Departments / Municipalities Objectives

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NEXT STEPS

What information, training and resources may help improve?

- Information – Eg. AskRail Applications, documents from CP (ICP & Forms)

_____

- Training – Eg. RR101, FLBR, SERTC, HAZMAT: Awareness, HAZ TECH, 1081

_____

- Resources – Eg. specialized equipment (midland kits)

_____

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Inject 1
Example CP Notification

Scott Croome, CPR

Subject: FW: [2421 - NEW] CPPS Service Alert

From: CP Alerting Services <CP_Alert@cpr.ca<mailto:CP_Alert@cpr.ca>>
Time:
To: Scott Croome <Scott_Croome@cpr.ca<mailto:Scott_Croome@cpr.ca>>
Subject: [2421 - NEW] CPPS Service Alert

Subject: Collision Train Inv

Location -
Date of occurrence:
Time of occurrence:

Call source: RTC
Type of Incident: Collision Train Inv
Train #:

DGs involved, leak spills, waterways: Yes

Injuries: Unknown

Emergency Services Informed: Yes

Other CP Personnel Advised: ESR

Name: scott lavery

Adjacent To or On First Nations Land: No

Current situation/Incident description: Police communications have been notified train has derailed. PCPPS en rte.

Communications Officer: D502/H105

Inject 2
Train Consist

CANADIAN PACIFIC RAILWAY

```
#########################################################################
#                                                                       #
#   K   K  EEEEE   Y   Y       TTTTT   RRRR     AAA   IIIII  N    N   #
#   K  K   E        Y Y          T     R   R   A   A    I     NN  N   #
#   KKK    EEE       Y           T     RRRR    AAAAA    I     N N N   #
#   K  K   E         Y           T     R  R    A   A    I     N  NN   #
#   K   K  EEEEE     Y           T     R   R   A   A  IIIII   N    N   #
#                                                                       #
#########################################################################
```

THIS TRAIN HANDLING SPECIAL DANGEROUS COMMODITIES
THIS TRAIN HANDLING LOADED HAZMAT DOT111 LEGACY TANK(S) SPECIAL HANDLING PROCEDURES MAY APPLY
THIS TRAIN CONTAINS THE FOLLOWING "KEY-TRAIN" HAZARDOUS MATERIALS LOADS:

		SET-OUT/PICK-UP			
CRUDE OIL Legacy DOT111 Tank Cars	0 (CRU)	_____	_____	_____	_____
CRUDE OIL CPC1232 Tank Cars or other	0 (CRU)	_____	_____	_____	_____
POISON INHALATION HAZARD Tank Cars	0 (PIH)	_____	_____	_____	_____
POISON INHALATION HAZARD NonTank Cars	0 (PIH)	_____	_____	_____	_____
CLASS 7 (SNF / HLRW)	0 (RAD)	_____	_____	_____	_____
HAZARDOUS MATERIALS (HAZ,FG,XA,ESC)	35	_____	_____	_____	_____
TOTAL:	35	_____	_____	_____	_____

POSITIVE CHAIN OF CUSTODY RULES APPLICABLE ONLY IN THE UNITED STATES
THIS SECTION MUST BE FILLED OUT AND FAXED TO CSF WITH CREW PAPERWORK
IF ANY ALERT LOADS HAVE BEEN DELIVERED /LIFTED/INTERCHANGED

EQUIPMENT ON BUILT TRAIN:

SEQ	INIT	NUMBER	CP EMPLOYEE NAME	CONTACT-EMPL NAME	DATE/TIME/TRACK
NIL					

EQUIPMENT ON WORK ORDER TO LIFT/PULL:

TRK	INIT	NUMBER	CP EMPLOYEE NAME	CONTACT-EMPL NAME	DATE/TIME/TRACK
NIL					

UNPLANNED WORK:

INIT	NUMBER	CP EMPLOYEE NAME	CONTACT-EMPL NAME	DATE/TIME/TRACK

CMRM MESSAGE KEY

PIH = POISON/ TOXIC INHALATION
RAD = CLASS 7 SNF / HLRW
ESC = ENVIRONMENTAL SENSITIVE CHEMICALS
CRU = CRUDE OIL
XA = CLASS 1.1 OR 1.2 EXPLOSIVES
FG = CLASS 2. FLAMMABLE GAS
HAZ = OTHER HAZARDOUS MATERIALS

CARS IN THIS CONSIST COUNT FROM HEAD TO REAR

OUTBOUND WHEEL REPORT FOR TRAIN 234WE27

```
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
 $  YOU ARE IN CHARGE OF HANDLING TRAIN  499WE27    FOR OUR VALUED CUSTOMERS  $
 $                                                                            $
 $ TO MAINTAIN OUR ON TIME  PERFORMANCE THIS TRAIN IS SCHEDULED TO DEPART:    $
 $                                                                            $
 $           WINDSOR                           12:40 AM                       $
 $                                                                            $
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
******************************************************************************
```

CLASS CODES IN THIS TRAIN

CLASS CODE	HEAD CAR	REAR CAR	LOADS	EMPTIES	TONS	LENGTH
7325MA1	CRYX 005181	CRGX 016033	1	14	782	1089
D08	SHPX 432397	FLOX 983262	0	3	84	126
M13	SOO 118993	SOO 118993	1	0	63	56
7700MA1	AOKX 078163	PROX 071607	27	7	3828	2046
8200M11	TR 805450	SOO 063529	2	21	971	1345
8200MA1	PROX 047211	PROX 044447	2	0	260	119
8200M11	CP 334160	PROX 041252	30	11	4130	2411
8200MA1	CP 600955	GATX 219409	1	7	404	450
8200M11	GNTX 295670	PROX 637183	1	1	168	139
8200MA1	CP 337266	TCMX 034354	6	9	1063	927
8526MA1	TTZX 086342	TTZX 086342	0	1	34	81
8200MA1	WCHX 030128	CP 220107	4	9	840	876

****

```
                AAR  L
SEQ INIT NUMBER TYPE E CMDTY TON CLASSCD CONSIGNE LTH FDOL     TIME/TRACK

000 CP   E008106 D127 E E                           74          NO WAYBILL
                ENGINE ASSIGNED BY LOCOMOTIVE MANAGEMENT SYSTEM
                  PLTF
000 CP   E008501 D127 E E                           74          NO WAYBILL
                ENGINE ASSIGNED BY LOCOMOTIVE MANAGEMENT SYSTEM

                  PLTF

001  CRYX 005181 R660 E POTAT  52 7325MA1 AMLOG CA  83 7762     ________________
                  PLTF
                  Cushioned Draw Bars

                  Car LENGTH exceeds 80 feet

002  CRYX 005282 R660 E POTAT  52 7325MA1 AMLOG CA  83 7762     ________________
                  PLTF
                  Cushioned Draw Bars

                  Car LENGTH exceeds 80 feet

003  CRYX 005141 R660 E POTAT  52 7325MA1 AMLOG CA  83 7762     ________________
                  PLTF
                  Cushioned Draw Bars

                  Car LENGTH exceeds 80 feet

004  CRYX 005169 R660 E POTAT  52 7325MA1 AMLOG CA  83 7762     ________________
                  PLTF
                  Cushioned Draw Bars
                  Car LENGTH exceeds 80 feet
```

005 CRYX 007065 R660 E POTAT 52 7325MA1 AMLOG CA 83 7762 _____
PLTF
Cushioned Draw Bars
Car LENGTH exceeds 80 feet

006 CRYX 005260 R660 E POTAT 52 7325MA1 AMLOG CA 83 7762 _____
PLTF
Cushioned Draw Bars
Car LENGTH exceeds 80 feet

007 CRYX 005301 R660 E POTAT 52 7325MA1 AMLOG CA 83 7762 _____
PLTF
Cushioned Draw Bars
Car LENGTH exceeds 80 feet

008 CRYX 005197 R660 E POTAT 52 7325MA1 AMLOG CA 83 7762 _____
PLTF
Cushioned Draw Bars
Car LENGTH exceeds 80 feet

009 CRYX 007055 R660 E POTAT 52 7325MA1 AMLOG CA 83 7762 _____
PLTF
Cushioned Draw Bars
Car LENGTH exceeds 80 feet

010 SDPX 096252 C114 L SOYBN 138 7325MA1 BALLCO F 60 7854 _____
In Bond

011 RBOX 033144 B314 E CARS, 31 7325MA1 LANTIC I 56 7765 _____

012 QC 077276 A406 E CARS, 35 7325MA1 TECK MET 59 9264 _____
Cushioned Draw Bars

013 QC 077189 A406 E CARS, 35 7325MA1 TECK MET 59 9264 _____
Cushioned Draw Bars

014 CRGX 029869 T108 E ANIMA 40 7325MA1 CARGILL 59 7880 _____

015 CRGX 016033 T107 E ANIMA 37 7325MA1 CARGILL 58 7880 _____

000 NS X073592 M970 E E NO WAYBILL

016 SHPX 432397 C112 E SODIU 27 D08 SASKATCH 43 6312 _____
Car Length Less Than 45 Feet

017 NAHX 330067 C112 E CRS,R 28 D08 SASKATCH 42 6312 _____
Car Length Less Than 45 Feet

018 FLOX 983262 C312 E CRS,R 28 D08 SASKATCH 42 6312 _____
Car Length Less Than 45 Feet

019 SOO 118993 C114 L CANOL 63 M13 VITERRA 56 6301 _____

020 AOKX 078163 C114 L DIST 134 7700MA1 THE SCOU 69 9088UP _____

021 AOKX 078166 C114 L DIST 134 7700MA1 THE SCOU 69 9088UP _____

022 AOKX 078176 C114 L DIST 134 7700MA1 THE SCOU 69 9088UP _____

023 AOKX 078181 C114 L DIST 134 7700MA1 THE SCOU 69 9088UP _____

024 AOKX 078180 C114 L DIST 134 7700MA1 THE SCOU 69 9088UP _____

025 MP 723258 C113 E CARS, 30 7700MA1 GRAYMONT 60 9089UP _____

026 UP 079640 C113 E CARS, 31 7700MA1 GRAYMONT 60 9089UP _____

027 UP 076189 C113 E CARS, 32 7700MA1 GRAYMONT 60 9089UP _____

028 OFOX 011580 C113 E CRS,R 30 7700MA1 GRAYMONT 60 9089UP _____
2000 FEET FROM THE LEAD LOCOMOTIVE

029 UP 075346 C113 E CARS, 31 7700MA1 GRAYMONT 60 9089UP _____

030 UP 074823 C113 E CARS, 30 7700MA1 GRAYMONT 60 9089UP _____

031 UP 079822 C113 E CARS, 32 7700MA1 GRAYMONT 60 9089UP _____

032 FURX 854260 C114 L CANOL 142 7700MA1 CENTRAL 62 9088UP _____

033 BNGX 032003 C114 L CANOL 142 7700MA1 CENTRAL 62 9088UP _____

034 FURX 854249 C114 L CANOL 142 7700MA1 CENTRAL 62 9088UP _____

035 AEX 015817 C114 L CANOL 142 7700MA1 CENTRAL 67 9088UP _____

036 NDYX 863382 C114 L CANOL 142 7700MA1 CENTRAL 70 9088UP _____

037 DME 051884 C114 L CANOL 142 7700MA1 CENTRAL 61 9088UP _____

038 DME 051670 C114 L CANOL 142 7700MA1 CENTRAL 60 9088UP _____

039 SOO 119774 C114 L CANOL 142 7700MA1 CENTRAL 56 9088UP _____

040 SOO 116829 C113 L CANOL 137 7700MA1 CENTRAL 56 9088UP _____

041 SOO 116094 C113 L CANOL 140 7700MA1 CENTRAL 56 9088UP _____

042 SOO 122646 C114 L CANOL 142 7700MA1 CENTRAL 56 9088UP _____

043 SOO 115138 C113 L CANOL 137 7700MA1 CENTRAL 56 9088UP _____

044 BNGX 030284 C114 L CANOL 142 7700MA1 CENTRAL 62 9088UP _____

045 CP 418518 M190 L RWY C 97 7700MA1 MANAGER 58 7700 _____
Do not Hump or cut off in motion
Car Restricted in I/C by AAR Reason: Age

046 UTLX 672906 T106 L ASPH 125 7700MA1 OWENS CO 56 7705BNSF _____
**** UN3257 ****
HAZ Dangerous
HAZ Key Train Load

047 PROX 075570 T106 L ASPH 126 7700MA1 OWENS CO 56 7705BNSF _____
**** UN3257 ****
HAZ Dangerous

```
HAZ              Key Train Load

048 PROX 074622 T106 L ASPH   126 7700MA1 OWENS CO  56 7705BNSF _________________
                 **** UN3257 ****
HAZ              Dangerous

HAZ              Key Train Load

049 PROX 071523 T106 L ASPH   127 7700MA1 OWENS CO  56 7705BNSF _________________
                 **** UN3257 ****
HAZ              Dangerous

HAZ              Key Train Load

050 PROX 072845 T106 L ASPH   125 7700MA1 OWENS CO  56 7705BNSF _________________
                 **** UN3257 ****
HAZ              Dangerous

HAZ              Key Train Load

051 PROX 071604 T106 L ASPH   127 7700MA1 OWENS CO  56 7705BNSF _________________
                 **** UN3257 ****
HAZ              Dangerous

HAZ              Key Train Load

052 PROX 071395 T106 L ASPH   127 7700MA1 OWENS CO  56 7705BNSF _________________
                 **** UN3257 ****
HAZ              Dangerous

HAZ              Key Train Load

053 PROX 071607 T106 L ASPH   127 7700MA1 OWENS CO  56 7705BNSF _________________
                 **** UN3257 ****
HAZ              Dangerous

HAZ              Key Train Load

054 TR   805450 G519 E CARS,   33 8200M11 EVRAZ DI  57 8205     _________________
                 Speed restricted to 50 MPH

055 TR   527193 E534 E CARS,   32 8200M11 EVRAZ DI  58 8205     _________________
                 Speed restricted to 50 MPH

056 TR   805402 G519 E CARS,   33 8200M11 EVRAZ DI  57 8205     _________________
                 Speed restricted to 50 MPH

057 TR   805382 E534 E CARS,   33 8200M11 CANADIAN  57 8480     _________________
                 Speed restricted to 50 MPH

058 TR   527272 G519 E CARS,   32 8200M11 EVRAZ DI  58 8205     _________________
                 Speed restricted to 50 MPH

059 SOO  063969 E534 E CARS,   31 8200M11 EVRAZ DI  58 8205     _________________
                 Speed restricted to 50 MPH

060 TR   527101 E534 E CARS,   32 8200M11 EVRAZ DI  58 8205     _________________
                 Speed restricted to 50 MPH

061 CP   429042 J303 E CARS,   29 8200M11 TERVITA   59 8285     _________________

062 TR   527517 E534 E CARS,   33 8200M11 EVRAZ DI  58 8205     _________________
                 Speed restricted to 50 MPH
```

063 SOO 063372 E534 E CARS, 31 8200M11 EVRAZ DI 58 8205 _____
Speed restricted to 50 MPH

064 TR 585622 E534 E CARS, 33 8200M11 EVRAZ DI 58 8205 _____

065 DME 080153 E534 E CARS, 33 8200M11 EVRAZ DI 57 8205 _____
Speed restricted to 50 MPH

066 TR 527887 E534 E CARS, 33 8200M11 EVRAZ DI 55 8205 _____

067 SOO 063983 E534 E CARS, 31 8200M11 EVRAZ DI 58 8205 _____
Speed restricted to 50 MPH

068 PROX 045197 T208 L FUEL 141 8200M11 ASHCROFT 60 9636 _____
**** UN1202 ****
HAZ Dangerous
HAZ Key Train Load

069 PROX 045168 T208 L FUEL 141 8200M11 ASHCROFT 60 9636 _____
**** UN1202 ****
HAZ Dangerous
HAZ Key Train Load

070 NKCR 003677 G719 E CARS, 38 8200M11 CANADIAN 72 8480 _____

071 CP 355085 G719 E CARS, 39 8200M11 CANADIAN 71 8480 _____

072 TR 527615 G519 E CARS, 33 8200M11 MOLY-COP 58 9598 _____
Speed restricted to 50 MPH

073 TR 805415 E534 E CARS, 33 8200M11 EVRAZ DI 57 8205 _____
Speed restricted to 50 MPH

074 TR 805445 E534 E CARS, 33 8200M11 EVRAZ DI 57 8205 _____
Speed restricted to 50 MPH

075 SOO 063287 E534 E CARS, 30 8200M11 EVRAZ DI 57 8205 _____
Speed restricted to 50 MPH

076 SOO 063529 E534 E CARS, 31 8200M11 EVRAZ DI 58 8205 _____
Speed restricted to 50 MPH

077 PROX 047211 T208 L FUEL 130 8200MA1 GIBSON E 60 8589 _____

078 PROX 044447 T108 L FUEL 130 8200MA1 GIBSON E 60 8589 _____

079 CP 334160 E232 L IRON/ 88 8200M11 EVRAZ IN 49 8556 _____
Cushioned Draw Bars

080 CP 334088 E232 L IRON/ 118 8200M11 EVRAZ IN 49 8556 _____
Cushioned Draw Bars

081 CP 334081 E232 L IRON/ 99 8200M11 EVRAZ IN 49 8556 _____
Cushioned Draw Bars

082 CP 334005 E232 L IRON/ 99 8200M11 EVRAZ IN 49 8205 _____
GROSS TONS MID-POINT INDICATOR TOTAL 12625 MID-POINT 6313
Cushioned Draw Bars

083 CP 334130 E232 L IRON/ 125 8200M11 EVRAZ IN 49 8205 _____
Cushioned Draw Bars

084 GATX 286255 T109 L FUEL 141 8200M11 ASHCROFT 60 9636 _____
**** UN1202 ****
HAZ Dangerous
HAZ Key Train Load

085 PROX 041306 T108 L FUEL 130 8200M11 ASHCROFT 61 9636 _____
**** UN1202 ****
HAZ Dangerous
HAZ Key Train Load

086 PROX 045303 T208 L FUEL 141 8200M11 ASHCROFT 60 9636 _____
**** UN1202 ****
HAZ Dangerous
HAZ Key Train Load

087 PROX 043239 T108 L FUEL 130 8200M11 ASHCROFT 61 9636 _____
**** UN1202 ****
HAZ Dangerous
HAZ Key Train Load

088 PROX 045153 T208 L FUEL 141 8200M11 FEDERATE 60 7446 _____
**** UN1202 ****
HAZ Dangerous
HAZ Key Train Load

089 PROX 039974 T389 E TANK 50 8200M11 HARMATTA 68 8268 _____

090 BNSF 518626 G719 E CARS, 39 8200M11 STEEL ET 72 7704BNSF _____

091 GNTX 295445 G719 E CARS, 37 8200M11 GENERAL 71 8528 _____

092 TR 527316 G519 E CARS, 33 8200M11 EVRAZ DI 58 8205 _____
Speed restricted to 50 MPH

093 DME 080088 E534 E CARS, 34 8200M11 EVRAZ DI 58 8205 _____
Speed restricted to 50 MPH

094 GONX 320272 G516 E CARS, 35 8200M11 MOLY-COP 58 9598 _____

095 GNTX 295620 G719 E CARS, 38 8200M11 EVRAZ DI 71 8205 _____

096 GNTX 295525 G719 E CARS, 38 8200M11 EVRAZ DI 71 8205 _____

097 CP 355513 G719 E CARS, 38 8200M11 CAR MANA 72 9600 _____

098 SOO 063916 E534 E CARS, 30 8200M11 EVRAZ DI 58 8205 _____
Speed restricted to 50 MPH

099 TR 527099 E534 E CARS, 32 8200M11 EVRAZ DI 58 8205 _____
Speed restricted to 50 MPH

100 CP 334077 E232 L IRON/ 130 8200M11 EVRAZ IN 49 8556 _____
Cushioned Draw Bars

101 CP 334141 E232 L IRON/ 119 8200M11 EVRAZ IN 49 8556 _____

Cushioned Draw Bars

102 CP 334169 E232 L IRON/ 104 8200M11 EVRAZ IN 49 8556 _____

Cushioned Draw Bars

103 CP 334125 E232 L IRON/ 119 8200M11 EVRAZ IN 49 8556 _____

Cushioned Draw Bars

104 CP 334028 E232 L IRON/ 114 8200M11 EVRAZ IN 49 8556 _____

Cushioned Draw Bars

105 SRIX 023568 T106 L ASPH 123 8200M11 JEBRO IN 60 7705BNSF _____

**** UN3257 ****

HAZ Dangerous

HAZ Key Train Load

106 TEIX 025172 T107 L ASPH 130 8200M11 JEBRO IN 64 7705BNSF _____

**** UN3257 ****

HAZ Dangerous

HAZ Key Train Load

107 TEIX 025175 T107 L ASPH 130 8200M11 JEBRO IN 64 7705BNSF _____

**** UN3257 ****

HAZ Dangerous

HAZ Key Train Load

108 BRSX 001024 T107 L ASPH 131 8200M11 JEBRO IN 64 7705BNSF _____

**** UN3257 ****

HAZ Dangerous

HAZ Key Train Load

109 DBUX 250437 T107 L ASPH 130 8200M11 JEBRO IN 60 7705BNSF _____

**** UN3257 ****

HAZ Dangerous

HAZ Key Train Load

110 DBUX 250471 T107 L ASPH 130 8200M11 JEBRO IN 60 7705BNSF _____

**** UN3257 ****

HAZ Dangerous

HAZ Key Train Load

111 DBUX 250824 T107 L ASPH 130 8200M11 JEBRO IN 60 7705BNSF _____

**** UN3257 ****

HAZ Dangerous

HAZ Key Train Load

112 BRSX 001008 T107 L ASPH 131 8200M11 JEBRO IN 54 7705BNSF _____

**** UN3257 ****

HAZ Dangerous

HAZ Key Train Load

113 GATX 089539 T106 L ASPH 124 8200M11 JEBRO IN 56 7705BNSF _____

**** UN3257 ****

HAZ Dangerous

HAZ Key Train Load

114 SRIX 023599 T106 L ASPH 123 8200M11 JEBRO IN 60 7705BNSF _____

**** UN3257 ****

HAZ Dangerous

```
 HAZ              Key Train  Load

115 TILX 309577 T389 L BUTAN 124 8200M11 PLAINS L  69 7705BNSF _________________
                 **** UN1075 ****
 FG              Dangerous
 FG              Key Train Load
 FG              US HAZMAT Special Hump
 FG              Canadian Special Dangerous Commodity

116 TILX 309649 T389 L BUTAN 123 8200M11 PLAINS L  69 7705BNSF _________________
                 **** UN1075 ****
 FG              Dangerous
 FG              Key Train Load
 FG              US HAZMAT Special Hump
 FG              Canadian Special Dangerous Commodity

117 TILX 190885 T108 L FUEL   130 8200M11 SHELL CA  60 8205     _________________
                 **** UN1202 ****
 HAZ             Dangerous
 HAZ             Key Train Load

118 TILX 360445 T108 L FUEL   141 8200M11 SHELL CA  60 8205     _________________
                 **** UN1202 ****
 HAZ             Dangerous
 HAZ             Key Train Load

119 PROX 041252 T108 L FUEL   130 8200M11 SHELL CA  66 8205     _________________
                 **** UN1202 ****
 HAZ             Dangerous
 HAZ             Key Train Load

120 CP   600955 C113 L CORN, 129 8200MA1 CARGILL   59 8481     _________________
                 In Bond

121 TILX 309520 T389 E GAS P   50 8200MA1 PLAINS M  69 8518CN   _________________
                 **** UN1075 ****
                 Dangerous

122 GATX 210320 T389 E GAS P   49 8200MA1 PLAINS M  69 8518CN   _________________
                 **** UN1075 ****
                 Dangerous

123 GATX 051565 T106 E TANK    36 8200MA1 IMPERIAL  56 8528     _________________

124 GATX 050097 T104 E TANK    30 8200MA1 SHELL CA  43 8518     _________________
                 Car Length Less Than 45 Feet

125 GATX 035786 T104 E TANK    30 8200MA1 SHELL CA  43 8518     _________________
                 Car Length Less Than 45 Feet

126 GATX 065637 T104 E TANK    30 8200MA1 SHELL CA  44 8518     _________________
                 Car Length Less Than 45 Feet
                 2000 FEET FROM TAIL END OF THE TRAIN

127 GATX 219409 T389 E TANK    50 8200MA1 KEYERA P  69 8594     _________________

128 GNTX 295670 G719 E CARS,   38 8200M11 EVRAZ DI  71 8205     _________________
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130 SIOX 031003 T208 E CARS, 38 8200MA1 EVRAZ DI 71 8205 _____
**** UN1193 ****
HAZ Dangerous
HAZ Key Train Load

131 TQEX 58476 A606 E CARS, 38 8200MA1 TRENDWOO 67 8526 _____
PLTF
Cushioned Draw Bars

132 SIOX 031002 T208 T178 L ETHYL 140 0508ET1 SHELL OI 60 4544NS _____
**** UN1987 ****
HAZ Dangerous
HAZ Key Train Load

133 PROX 023251 T107 L STYRE 129 4850MA1 DART CON 57 4544NS _____
**** UN2055 ****
HAZ Dangerous
HAZ Key Train Load

134 GATX 029809 T108 L METHY 128 3173MA1 BRENNTAG 60 3203 _____
**** UN1193 ****
HAZ Dangerous
HAZ In Bond
HAZ Key Train Load

135 SMW 737513 A302 E CARS, 33 8200MA1 STORAGE 56 9540 _____

136 CP 214741 A302 E CARS, 32 8200MA1 STORAGE 56 9540 _____

137 CP 216087 A402 E CARS, 34 8200MA1 STORAGE 58 9540 _____
Cushioned Draw Bars

138 FPAX 940102 C214 L POLYV 129 8200MA1 IPEX INC 65 9720SRY _____
In Bond

139 FPAX 930032 C214 L POLYV 131 8200MA1 IPEX INC 66 9720SRY _____
In Bond

140 FPAX 890068 C214 L POLYV 129 8200MA1 IPEX INC 69 9720SRY _____
In Bond

141 FPAX 890156 C214 L POLYV 130 8200MA1 IPEX INC 65 9720SRY _____
In Bond

142 UTLX 221523 T105 L CHEM, 126 8200MA1 LIQUIDS 54 8205 _____
**** UN3267 ****
HAZ Dangerous
HAZ In Bond
HAZ Key Train Load

143 SRY 009206 A405 E CARS, 34 8200MA1 DELIVERY 59 9720SRY _____
PLTF
Cushioned Draw Bars

144 SRY 009414 A405 E CARS, 36 8200MA1 DELIVERY 59 9720SRY _____
PLTF

Cushioned Draw Bars

145 SRY 009209 A405 E CARS, 34 8200MA1 DELIVERY 59 9720SRY _____
PLTF

Cushioned Draw Bars

146 SRY 009408 A405 E CARS, 36 8200MA1 DELIVERY 59 9720SRY _____
PLTF

Cushioned Draw Bars

147 TCMX 034354 G719 L BEAMS 104 8200MA1 ARROW RE 71 8205 _____

148 TTZX 086342 F383 E CARS, 34 8526MA1 ARROW RE 81 8526 _____
Cushioned Draw Bars

Car LENGTH exceeds 80 feet

149 WCHX 030128 T108 E TANK 33 8200MA1 ALBERTA 60 8205 _____

150 ICE 067077 F423 L PLATE 129 8200MA1 RAPID SP 71 9600CN _____

Cushioned Draw Bars

151 SOO 601065 F483 E CARS, 30 8200MA1 ARROW RE 81 9592 _____
Cushioned Draw Bars

Car LENGTH exceeds 80 feet

152 CP 214157 A302 E CARS, 33 8200MA1 STORAGE 56 9540 _____

153 GNTX 297499 G719 L BEAMS 112 8200MA1 ARROW RE 72 8198 _____

In Bond

154 UTLX 203970 T108 L PETRO 127 8200MA1 LIQUIDS 60 8197 _____

In Bond

155 PROX 039789 T389 E PETRO 50 8200MA1 HARMATTA 68 8268 _____
**** UN1075 ****

Dangerous

156 PROX 696083 T389 E GAS P 50 8200MA1 HARMATTA 66 8268 _____
**** UN1075 ****

Dangerous

157 NS 120064 F483 L SECTS 126 8518MA1 ARROW RE 80 8526 _____

Cushioned Draw Bars

158 NS 120266 F483 L SECTS 126 8518MA1 ARROW RE 80 8526 _____
Cushioned Draw Bars
In Bond

Car LENGTH exceeds 80 feet

	LOADS	EMPTIES	CONTENTS	TARE	E.G.T.	LENGTH
TRAIN TOTALS:	75	83	7029	5596	12625	10056

TONNAGE TOTALS DO N O T INCLUDE OPERATIVE LOCOMOTIVES

TRAIN LENGTH EXCLUDING LEAD AND REMOTE LOCOMOTIVES 9659 FEET
TRAIN LENGTH INCLUDING LOCOMOTIVES 9806 FEET

AVERAGE WEIGHT PER CAR 82 TONS

```
#
COMPRESSED WAYBILLS  023427    3375-3250  4435
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********************************************************************************
************* TRAIN IS CARRYING SPECIAL DANGEROUS COMMODITIES      *************
********************************************************************************


**************************** DANGEROUS COMMODITIES *****************************


|                                                    PAGE    1 OF  1             |
|                                                                                |
|UTLX672906                 WB 469820 05/27/18  NET MASS   80379 KG 046 FM ENG.|
|PROX075570                 WB 469822 05/27/18  NET MASS   81095 KG 047 FM ENG.|
|PROX074622                 WB 469651 05/27/18  NET MASS   81061 KG 048 FM ENG.|
|PROX071523                 WB 469818 05/27/18  NET MASS   80442 KG 049 FM ENG.|
|PROX072845                 WB 469709 05/27/18  NET MASS   80579 KG 050 FM ENG.|
|PROX071604                 WB 469824 05/27/18  NET MASS   80545 KG 051 FM ENG.|
|PROX071395                 WB 469710 05/27/18  NET MASS   80407 KG 052 FM ENG.|
|PROX071607                 WB 469650 05/27/18  NET MASS   80717 KG 053 FM ENG.|
|                                                                                |
|CANADIAN PACIFIC                                                                |
|7550 OGDEN DALE ROAD SE                                                         |
|CALGARY        AB                                                               |
|T2C4X9         CA                                                               |
|                                                                                |
|SHIPMENT DESTINATION :                          SHIPMENT ORIGIN :               |
|                                                                                |
|                                                                                |
|TO:                                             FROM:                           |
|                                                                                |
|                                                                                |
|                                                                                |
|                                                                                |
|                                                                                |
|8 TANK CARS                              STCC 4961619                           |
|UN 3257                                  EMERGENCY 24-HOUR NUMBER 800-555-9999  |
|ELEVATED TEMPERATURE                     CONTRACT HOLDER: CONTRACT 2-M-0136     |
|LIQUID, N.O.S.                                                                  |
|(ASPHALT)                                                                       |
|CLASS 9                                                                         |
|PG  III                                                                         |
|BROKER: AN DERINGER INC                                                         |
|                                                                                |
|I HEREBY DECLARE THAT THE CONTENTS OF THIS CONSIGNMENT ARE FULLY AND            |
|ACCURATELY DESCRIBED ABOVE BY THE PROPER SHIPPING NAME,AND ARE CLASSIFIED,      |
|PACKAGED, MARKED AND LABELLED/PLACARDED, AND ARE IN ALL RESPECTS IN PROPER      |
|CONDITION FOR TRANSPORT ACCORIDING TO APPLICABLE  INTERNATIONAL AND NATIONAL    |
|GOVERNMENT REGULATIONS.                                                         |
|(DAVE MAY)                                                                      |
|                                                                                |
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********** DANGEROUS COMMODITIES **********

PAGE 1 OF 1

PROX045197 WB 461886 05/26/18 NET MASS 94569 KG 068 FM ENG.
PROX045168 WB 461885 05/26/18 NET MASS 94914 KG 069 FM ENG.

CANADIAN PACIFIC
7550 OGDEN DALE ROAD SE
CALGARY AB
T2C4X9 CA

SHIPMENT DESTINATION :

SHIPMENT ORIGIN :

TO:

FROM:

2 TANK CARS
UN 1202
DIESEL FUEL
CLASS 3
PG III

STCC 4912210
EMERGENCY 24-HOUR NUMBER 800-555-9999
CONTRACT HOLDER:
CONSUMERS COOP REFINERY
ERP NO 2-1933-008
ERP PHONE 1-800-555-9999

I HEREBY DECLARE THAT THE CONTENTS OF THIS CONSIGNMENT ARE FULLY AND ACCURATELY DESCRIBED ABOVE BY THE PROPER SHIPPING NAME,AND ARE CLASSIFIED, PACKAGED, MARKED AND LABELLED/PLACARDED, AND ARE IN ALL RESPECTS IN PROPER CONDITION FOR TRANSPORT ACCORIDING TO APPLICABLE INTERNATIONAL AND NATIONAL GOVERNMENT REGULATIONS.
(WHITNEY TREFIAK)

********** DANGEROUS COMMODITIES **********

PAGE 1 OF 1

GATX286255	WB	454970	05/25/18	NET MASS	94581 KG 084 FM ENG.
PROX041306	WB	454959	05/25/18	NET MASS	88058 KG 085 FM ENG.
PROX045303	WB	454927	05/25/18	NET MASS	94560 KG 086 FM ENG.
PROX043239	WB	454923	05/25/18	NET MASS	88329 KG 087 FM ENG.

CANADIAN PACIFIC
7550 OGDEN DALE ROAD SE
CALGARY AB
T2C4X9 CA

SHIPMENT DESTINATION :

TO:

SHIPMENT ORIGIN :

FROM:

4 TANK CARS
UN 1202
DIESEL FUEL
CLASS 3
PG III

STCC 4912210
EMERGENCY 24-HOUR NUMBER 800-555-9999
CONTRACT HOLDER:
CONSUMERS COOP REFINERY
ERP NO 2-1933-008
ERP PHONE 1-800-555-9999

I HEREBY DECLARE THAT THE CONTENTS OF THIS CONSIGNMENT ARE FULLY AND ACCURATELY DESCRIBED ABOVE BY THE PROPER SHIPPING NAME,AND ARE CLASSIFIED, PACKAGED, MARKED AND LABELLED/PLACARDED, AND ARE IN ALL RESPECTS IN PROPER CONDITION FOR TRANSPORT ACCORIDING TO APPLICABLE INTERNATIONAL AND NATIONAL GOVERNMENT REGULATIONS.
(WHITNEY TREFIAK)

********** DANGEROUS COMMODITIES **********

PAGE 1 OF 1

PROX045153 WB 454916 05/25/18 NET MASS 94708 KG 088 FM ENG.

CANADIAN PACIFIC
7550 OGDEN DALE ROAD SE
CALGARY AB
T2C4X9 CA

SHIPMENT DESTINATION :

SHIPMENT ORIGIN :

TO:

FROM:

1 TANK CAR
UN 1202
DIESEL FUEL
CLASS 3
PG III

STCC 4912210
EMERGENCY 24-HOUR NUMBER 800-555-9999
CONTRACT HOLDER:
CONSUMERS COOP REFINERY
ERP NO 2-1933-008
ERP PHONE 1-800-555-9999

I HEREBY DECLARE THAT THE CONTENTS OF THIS CONSIGNMENT ARE FULLY AND ACCURATELY DESCRIBED ABOVE BY THE PROPER SHIPPING NAME,AND ARE CLASSIFIED, PACKAGED, MARKED AND LABELLED/PLACARDED, AND ARE IN ALL RESPECTS IN PROPER CONDITION FOR TRANSPORT ACCORIDING TO APPLICABLE INTERNATIONAL AND NATIONAL GOVERNMENT REGULATIONS.
(WHITNEY TREFIAK)

********** DANGEROUS COMMODITIES **********

SRIX023568	WB	441071	05/24/18	NET MASS	78841	KG 105 FM ENG.
TEIX025172	WB	441165	05/24/18	NET MASS	84983	KG 106 FM ENG.
TEIX025175	WB	441215	05/24/18	NET MASS	85331	KG 107 FM ENG.
BRSX001024	WB	441081	05/24/18	NET MASS	85158	KG 108 FM ENG.
DBUX250437	WB	441155	05/24/18	NET MASS	84033	KG 109 FM ENG.
DBUX250471	WB	441067	05/24/18	NET MASS	83527	KG 110 FM ENG.
DBUX250824	WB	441068	05/24/18	NET MASS	84269	KG 111 FM ENG.
BRSX001008	WB	441157	05/24/18	NET MASS	84830	KG 112 FM ENG.
GATX089539	WB	441069	05/24/18	NET MASS	79476	KG 113 FM ENG.
SRIX023599	WB	441162	05/24/18	NET MASS	78754	KG 114 FM ENG.

CANADIAN PACIFIC
7550 OGDEN DALE ROAD SE
CALGARY AB
T2C4X9 CA

SHIPMENT DESTINATION :

TO:

SHIPMENT ORIGIN :

FROM:

10 TANK CARS
UN 3257
ELEVATED TEMPERATURE
LIQUID, N.O.S.
(ASPHALT)
CLASS 9
PG III

STCC 4961619
EMERGENCY 24-HOUR NUMBER 800-555-9999
CONTRACT HOLDER: COOP REFINERY

BROKER: CN CUSTOMS BROKERAGE SERVICES

I HEREBY DECLARE THAT THE CONTENTS OF THIS CONSIGNMENT ARE FULLY AND ACCURATELY DESCRIBED ABOVE BY THE PROPER SHIPPING NAME,AND ARE CLASSIFIED, PACKAGED, MARKED AND LABELLED/PLACARDED, AND ARE IN ALL RESPECTS IN PROPER CONDITION FOR TRANSPORT ACCORIDING TO APPLICABLE INTERNATIONAL AND NATIONAL GOVERNMENT REGULATIONS.
(NICOLE SHEWCHUK)

********** SPECIAL DANGEROUS COMMODITIES **********

PAGE 1 OF 1

TILX309577 WB 441791 05/24/18 NET MASS 66490 KG 115 FM ENG.
TILX309649 WB 441381 05/24/18 NET MASS 66364 KG 116 FM ENG.

CANADIAN PACIFIC
7550 OGDEN DALE ROAD SE
CALGARY AB
T2C4X9 CA

****
* SPECIAL COMMODITY *
****

SHIPMENT DESTINATION :

SHIPMENT ORIGIN :

TO:

FROM:

2 TANK CARS
UN 1075
LIQUEFIED PETROLEUM GAS
(BUTANE)
CLASS 2.1
BROKER: AN DERINGER INC

STCC 4905424
EMERGENCY 24-HOUR NUMBER 800-555-9999
CONTRACT HOLDER: CO OP REFINERY
ERP NO 2-1933-008
ERP PHONE 800-555-9999

I HEREBY DECLARE THAT THE CONTENTS OF THIS CONSIGNMENT ARE FULLY AND ACCURATELY DESCRIBED ABOVE BY THE PROPER SHIPPING NAME,AND ARE CLASSIFIED, PACKAGED, MARKED AND LABELLED/PLACARDED, AND ARE IN ALL RESPECTS IN PROPER CONDITION FOR TRANSPORT ACCORIDING TO APPLICABLE INTERNATIONAL AND NATIONAL GOVERNMENT REGULATIONS.
(KAHLA GORRILL)

********** DANGEROUS COMMODITIES **********

PAGE 1 OF 1

TILX190885	WB 441407 05/24/18	NET MASS	87755 KG	117 FM ENG.
TILX360445	WB 441412 05/24/18	NET MASS	86755 KG	118 FM ENG.
PROX041252	WB 441415 05/24/18	NET MASS	85329 KG	119 FM ENG.

CANADIAN PACIFIC
7550 OGDEN DALE ROAD SE
CALGARY AB
T2C4X9 CA

SHIPMENT DESTINATION :

TO:

SHIPMENT ORIGIN :

FROM:

3 TANK CARS
UN 1202
DIESEL FUEL
CLASS 3
PG III

STCC 4912210
EMERGENCY 24-HOUR NUMBER 800-555-9999
CONTRACT HOLDER:
CONSUMERS COOP REFINERY
ERP NO 2-1933-008
ERP PHONE 1-800-555-9999

I HEREBY DECLARE THAT THE CONTENTS OF THIS CONSIGNMENT ARE FULLY AND ACCURATELY DESCRIBED ABOVE BY THE PROPER SHIPPING NAME,AND ARE CLASSIFIED, PACKAGED, MARKED AND LABELLED/PLACARDED, AND ARE IN ALL RESPECTS IN PROPER CONDITION FOR TRANSPORT ACCORIDING TO APPLICABLE INTERNATIONAL AND NATIONAL GOVERNMENT REGULATIONS.
(WHITNEY TREFIAK)

********** RESIDUE CARS **********

PAGE 1 OF 1

TILX309520	WB 444459 05/24/18 NET MASS	0 LB 121 FM ENG.
GATX210320	WB 444458 05/24/18 NET MASS	0 LB 122 FM ENG.

CANADIAN PACIFIC
7550 OGDEN DALE ROAD SE
CALGARY AB
T2C4X9 CA

SHIPMENT DESTINATION :

TO:

SHIPMENT ORIGIN :

FROM:

2 TANK CARS
RESIDUE LAST CONTAINED
UN 1075
LIQUEFIED PETROLEUM GAS
(PROPANE)
CLASS 2.1

STCC 4905419
EMERGENCY 24-HOUR NUMBER 800-555-9999
CONTRACT HOLDER: CHEMTREC CCN23163
ERP NO 2-0010-059
ERP PHONE 800-555-9999

********** DANGEROUS COMMODITIES **********

PAGE 1 OF 1

PROX637183 WB 385584 05/18/18 NET MASS 86889 KG 129 FM ENG.

CANADIAN PACIFIC
7550 OGDEN DALE ROAD SE
CALGARY AB
T2C4X9 CA

SHIPMENT DESTINATION :

SHIPMENT ORIGIN :

TO:

FROM:

1 TANK CAR
UN 1202
DIESEL FUEL
CLASS 3
PG III

STCC 4912210
EMERGENCY 24-HOUR NUMBER 800-555-9999
CONTRACT HOLDER:
CONSUMERS COOP REFINERY
ERP NO 2-1933-008
ERP PHONE 1-800-555-9999

I HEREBY DECLARE THAT THE CONTENTS OF THIS CONSIGNMENT ARE FULLY AND ACCURATELY DESCRIBED ABOVE BY THE PROPER SHIPPING NAME,AND ARE CLASSIFIED, PACKAGED, MARKED AND LABELLED/PLACARDED, AND ARE IN ALL RESPECTS IN PROPER CONDITION FOR TRANSPORT ACCORIDING TO APPLICABLE INTERNATIONAL AND NATIONAL GOVERNMENT REGULATIONS.
(WHITNEY TREFIAK)

********** DANGEROUS COMMODITIES **********

PAGE 1 OF 1

UTLX221523 WB 164000 05/16/18 NET MASS 180507 LB 139 FM ENG.

CANADIAN PACIFIC
7550 OGDEN DALE ROAD SE
CALGARY AB
T2C4X9 CA

SHIPMENT DESTINATION :

SHIPMENT ORIGIN :

TO:

FROM:

1 TANK CAR
UN 3267
CORROSIVE LIQUID, BASIC,
ORGANIC, N.O.S.
(ACQ-C2)
CLASS 8
PG III
BROKER: JB ELLIS & COMPANY LTD

STCC 4935263
EMERGENCY 24-HOUR NUMBER 800-555-9999
CONTRACT HOLDER: CHEMTREC/4541

********** RESIDUE CARS **********

PAGE 1 OF 1

PROX039789 WB 925761 05/15/18 NET MASS 0 LB 152 FM ENG.

CANADIAN PACIFIC
7550 OGDEN DALE ROAD SE
CALGARY AB
T2C4X9 CA

SHIPMENT DESTINATION :

SHIPMENT ORIGIN :

TO:

FROM:

1 TANK CAR
RESIDUE LAST CONTAINED
UN 1075
LIQUEFIED PETROLEUM GAS
CLASS 2.1
(NON-ODORIZED, NON- CORROSIVE)
TN: (PROPANE, NON-ODORIZE

STCC 4905752
EMERGENCY 24-HOUR NUMBER 800-555-9999
CONTRACT HOLDER: CNN624201
ERP NO 2-0010-134
ERP PHONE 800-555-9999

********** RESIDUE CARS **********

PAGE 1 OF 1

PROX696083 WB 930400 05/06/18 NET MASS 0 KG 153 FM ENG.

CANADIAN PACIFIC
7550 OGDEN DALE ROAD SE
CALGARY AB
T2C4X9 CA

SHIPMENT DESTINATION :

SHIPMENT ORIGIN :

TO:

FROM:

1 TANK CAR
RESIDUE LAST CONTAINED
UN 1075
LIQUEFIED PETROLEUM GAS
(PROPANE)
CLASS 2.1

STCC 4905419
EMERGENCY 24-HOUR NUMBER 1-800-555-9999
CONTRACT HOLDER:
CONSIGNOR: HARMATTAN GAS PROCESSING
EMERGENCY 24-HOUR NUMBER 1-800-555-9999
CONTRACT HOLDER:
CHEMTREC CONTRACT NO. CCN 223612
ERP NO 2-0010-134
ERP PHONE 800-555-9999

********** DANGEROUS COMMODITIES **********

PAGE 1 OF 1

SIOX031003 WB 784245 NET MASS 190368 LB 154 FM ENG.

CANADIAN PACIFIC
7550 OGDEN DALE ROAD SE
CALGARY AB
T2C4X9 CA

SHIPMENT DESTINATION :

TO:

SHIPMENT ORIGIN :

FROM:

1 TANK CAR
UN 1193
Methyl Ethyl Ketone
CLASS 3
PG II
(ALCOHOLS, N.O.S.)

STCC 4909152
EMERGENCY 24-HOUR NUMBER 800-555-9999
CONTRACT HOLDER:
ERP NO 2-1933-054
ERP PHONE 800-555-9999

********** DANGEROUS COMMODITIES **********

PAGE 1 OF 1

SIOX031002 WB 786245 01/11/18 NET MASS 190368 LB 154 FM ENG.

CANADIAN PACIFIC
7550 OGDEN DALE ROAD SE
CALGARY AB
T2C4X9 CA

SHIPMENT DESTINATION :

SHIPMENT ORIGIN :

TO:

FROM:

1 TANK CAR
UN 1987
ALCOHOLS, N.O.S.
CLASS 3
PG II
(ALCOHOLS, N.O.S.)

STCC 4909152
EMERGENCY 24-HOUR NUMBER 800-555-9999
CONTRACT HOLDER: RPMG INC
ERP NO 2-1933-054
ERP PHONE 800-555-9999

********** DANGEROUS COMMODITIES **********

PAGE 1 OF 1

PROX023251 WB 791135 01/11/18 NET MASS 84445 KG 155 FM ENG.

CANADIAN PACIFIC
7550 OGDEN DALE ROAD SE
CALGARY AB
T2C4X9 CA

SHIPMENT DESTINATION :

SHIPMENT ORIGIN :

TO:

FROM:

1 TANK CAR
UN 2055
STYRENE MONOMER,
STABILIZED
CLASS 3
PG III
EXPECTED DELIVERY (0125 0000)

STCC 4907265
EMERGENCY 24-HOUR NUMBER 1 800-555-9999
CONTRACT HOLDER: SHELL CHEMICALS CANADA

I HEREBY DECLARE THAT THE CONTENTS OF THIS CONSIGNMENT ARE FULLY AND ACCURATELY DESCRIBED ABOVE BY THE PROPER SHIPPING NAME,AND ARE CLASSIFIED, PACKAGED, MARKED AND LABELLED/PLACARDED, AND ARE IN ALL RESPECTS IN PROPER CONDITION FOR TRANSPORT ACCORIDING TO APPLICABLE INTERNATIONAL AND NATIONAL GOVERNMENT REGULATIONS.
(FREDERIC MCQUISTON)

********** DANGEROUS COMMODITIES **********

PAGE 1 OF 1

GATX029809 WB 352327 12/15/17 NET MASS 180000 LB 156 FM ENG.

CANADIAN PACIFIC
7550 OGDEN DALE ROAD SE
CALGARY AB
T2C4X9 CA

SHIPMENT DESTINATION :

SHIPMENT ORIGIN :

TO:

FROM:

1 TANK CAR
UN 1193
ETHYL METHYL KETONE
CLASS 3
PG II
RQ (METHYL ETHYL KETONE)
SWITCH SERVICE
BROKER: LIVINGSTON INTERNATIONAL INC

STCC 4909243
EMERGENCY 24-HOUR NUMBER 800-555-9999
CONTRACT HOLDER: SHELL CHEMICAL CO.

Inject 3
Product Waybills

********** DANGEROUS COMMODITIES **********

PAGE 1 OF 1

SIOX031002 WB 786245 01/11/18 NET MASS 190368 LB 154 FM ENG.

CANADIAN PACIFIC
7550 OGDEN DALE ROAD SE
CALGARY AB
T2C4X9 CA

SHIPMENT DESTINATION :

TO:
GLOBAL COMPANIES LLC
800 SOUTH ST
WALTHAM MA
02454 US

SHIPMENT ORIGIN :

FROM:
RENEWABLE PRODUCTS MARKETING G
1157 VALLEY PARK DR STE 100
SHAKOPEE MN
553791900 US

1 TANK CAR
UN 1987
ALCOHOLS, N.O.S.
CLASS 3
PG II
(ALCOHOLS, N.O.S.)

STCC 4909152
EMERGENCY 24-HOUR NUMBER 8005559999
CONTRACT HOLDER: RPMG INC
ERP NO 2-1933-054
ERP PHONE 8005559999

If interested in a full scale exercise, contact your local DGO/HMO

Inject 4
Safety Data Sheets (SDS)

1. IDENTIFICATION

Product Identifier	Denatured Fuel Grade Ethanol
Synonyms:	Denatured alcohol, alcohol with gasoline
Intended use of the product:	Fuel Additive
Contact:	Global Companies LLC Water Mill Center 800 South St. Waltham, MA 02454-9161 www.globalp.com
Contact Information:	EMERGENCY TELEPHONE NUMBER (24 hrs): CHEMTREC (800) 424-9300 COMPANY CONTACT (business hours): 800-542-0778

2. HAZARD IDENTIFICATION

According to OSHA 29 CFR 1910.1200 HCS

Classification of the Substance or Mixture

Classification (GHS-US):

Flammable Liquid	Category 2	H225
Eye Irritation	Category 2	H319
Aspiration Hazard	Category 1	H304

Labeling Elements

Signal Word (GHS-US):	**Danger**
Hazard Statements (GHS-US):	H225 – Highly flammable liquid and vapor H319 – Causes serious eye irritation H304 – May be fatal if swallowed and enters airways.
Precautionary Statements (GHS-US):	P201 - Obtain special instructions before use. P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P233 - Keep container tightly closed. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P303+361+353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse with water. P403 - Store in a well-ventilated place. Keep cool. P405 - Store locked up. P501 – Dispose of contents/container in accordance with local/regional/national/international regulation.

Other information:

NFPA 704
Health:1
Fire: 3
Reactivity: 0

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Composition Information

Name	Product Identifier (CAS#)	% (w/w)	Classification
Gasoline	8006-61-9	2	Carc 1B, H350; Irr. H319 Flam Liq 2 H225 Aspiration H304
Ethyl Alcohol (Ethanol)	64-17-5	98-100	Flam Liq 2 H225

Additional Formulation Information

Also see Section 15 for list of SARA Section 313 toxic chemicals.

4. FIRST AID MEASURES

Route	Measures
Inhalation	Remove person to fresh air. If person is not breathing, ensure an open airway and provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.
Ingestion	Aspiration Hazard. DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.
Eye Contact	If present, remove contact lenses. In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 minutes. Hold eyelids open to ensure adequate flushing. Seek medical attention.
Skin Contact	Remove contaminated clothing and shoes. Wash contaminated areas thoroughly with soap and water or waterless hand cleanser. Obtain medical attention if irritation or redness develops.
Absorption	As with skin contact, remove contaminated clothing and flush with copious amounts of water. Flush affected area for at least 15 minutes to minimize potential for further absorption. Seek medical attention if significant portions of skin have been exposed.

Most Important Symptoms

Contact may cause eye, skin and mucous membrane irritation. Harmful if absorbed through the skin. Avoid prolonged breathing of vapors or mists. Inhalation may cause irritation, anesthetic effects (dizziness, nausea, headache, intoxication), and respiratory system effects.

Long-term exposure may cause effects to specific organs, such as to the liver, kidneys, blood, nervous system, and skin. Contains benzene, which can cause blood disease, including anemia and leukemia.

Immediate Medical Attention and Special Treatment

If ingested, do NOT induce vomiting, as this may cause chemical pneumonia (fluid in the lungs).

Application of epinephrine may cause cardiac arrhythmia in persons exposed to large quantities of hydrocarbon vapor or due to skin absorption. Observe for development of symptoms leading to cardiac arrhythmia.

Contaminated clothing, including shoes may present a fire hazard and should be discarded

Medical Conditions Aggravated by Exposure
Irritation from skin exposure may aggravate existing open wounds, skin disorders, and dermatitis (rash). Chronic respiratory disease, liver or kidney dysfunction, or pre-existing central nervous system disorders may be aggravated by exposure.

5. FIRE-FIGHTING MEASURES

Extinguishing Media
SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, C02, water spray, fire fighting foam, or Halon.

LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

Specific Hazards / Products of Combustion
Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. Flowing product may be ignited by self-generated static electricity. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard. Alcohol flames may not be visible.

Combustion may produce smoke, carbon monoxide and other products of incomplete combustion.

Special Precautions and Protective Equipment for Firefighters
Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other firefighting equipment.

Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full face piece and full protective clothing.

Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

See Section 9 for fire properties of this chemical including flash point, autoignition temperature, and explosive limits

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

ACTIVATE FACILITY SPCC, SPILL CONTINGENCY or EMERGENCY PLAN.

Depending on the size of the spill, downwind receptors may need to be notified.

Evacuate nonessential personnel and remove or secure all ignition sources (flame, spark, hot work, hot metal, etc.). Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Do not touch or walk-through spilled material.

Highly flammable material, even small spills may pose a fire danger for emergency responders. Due to high vapor density, flammable / toxic vapors may be present in low lying areas, dikes, pits, drains, or trenches. Ventilate the area. Use of non-sparking tools and intrinsically safe equipment is recommended. Potential for flammable atmosphere should be monitored using a combustible gas indicator positioned down wind of the spill area. See Sections 2 and 7 for further hazard warnings and handling instructions.

Use appropriate personal protective equipment to prevent eye/skin contact and absorption. Use NIOSH approved respiratory protection, if warranted, to prevent exposures above permissible limits (see Section 8). Contaminated clothing should not be near sources of ignition.

Environmental Precautions
Stop the spill to prevent environmental release if it can be done safely. Product may be toxic to aquatic life. Take action to isolate environmental receptors including drains, storm sewers and natural water bodies. Keep on impervious surface if at all possible. Use water sparingly to prevent product from spreading. Foam and absorbents may be used to reduce / prevent

airborne release.

Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Follow federal, state or local requirements for reporting environmental release where necessary (see Section 15 for further information)

Containment and Clean-Up Methods
Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Take up with dry earth, sand or other non-combustible, inert absorbing materials. Carefully shovel, scoop or sweep up into a waste container with clean, non-sparking tools for reclamation or disposal. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

7. HANDLING AND STORAGE

Handling Precautions
USE ONLY AS A MOTOR FUEL ADDITVE
DO NOT SIPHON BY MOUTH

Handle as a flammable liquid. Keep away from heat, sparks, and open flame. No smoking. Electrical equipment should be approved for classified area. Bond and ground containers during product transfer pursuant to NFPA 70 and API RP 2003 to reduce the possibility of static-initiated fire or explosion. Follow precautions to prevent static initiated fire.

Use good personal hygiene practices. Use only with protective equipment specified in Section 8. Avoid repeated and/or prolonged skin exposure. Use only outdoors or in well ventilated areas. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves. Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure.

Vapors are heavier than air and can accumulate in low lying areas (e.g., tanks, pits, vaults, dikes, drains, etc.) Follow specific procedures for confined space entry in areas where product may be present pursuant to OSHA requirements in 29 CFR 1910.146. Atmospheric testing using a combustible gas indicator may be necessary in confined areas where product may be present.

Storage
Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Label all secondary containers that this material is transferred into with the chemical name and associated hazard(s). Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition. Separate from incompatible materials (see Section 10) by distance or secondary containment.

Store in a well-ventilated area. Protect containers from damage and vehicular traffic. Post “No Smoking” signs in product storage areas. This storage area should comply with NFPA 30 “Flammable and Combustible Liquid Code”. Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 “Cleaning Mobile Tanks In Flammable and Combustible Liquid Service” and API RP 2015 “Cleaning Petroleum Storage Tanks”.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits

Component	CAS #	List	Value
Gasoline	8006-61-9	ACGIH TWA ACGIH STEL	300 ppm 500 ppm
Ethyl Alcohol (Ethanol)	64-17-5	ACGIH STEL OSHA PEL	1000 ppm 1000 ppm

*Skin designation indicates the chemical is skin absorbable

Engineering Controls

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces. Intrinsically safe equipment and non-sparking tools shall be used in circumstances where concentrations may exceed lower flammable limits. Grounding and bonding shall be used to prevent accumulation and discharge of static electricity.

Emergency shower and eyewash should be provided in proximity to handling areas in the event of exposure to decontaminate.

Personal Protective Equipment

Exposure	Equipment
Eye / Face	Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.
Skin	Gloves constructed of nitrile or neoprene are recommended when handling this material. If contact with the body is expected, chemical protective clothing such as of E.I. DuPont Tychem ®, Barricade®, or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.
Respiratory	A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection and limitations. Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection. Specific requirements under the OSHA occupational exposure to Benzene may apply if concentrations exceed the action level or permissible limits. Consult 29 CFR 1910.1028 for further information)
Thermal	Product is stored at ambient temperature. No thermal protection is required except for emergency operations involving actual or potential for fire.

9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Value	Comments
Appearance	A clear, water-like liquid	
Odor	Alcohol or Gasoline-like	
Odor Threshold	See table below	

Parameter	Odor Detection	Odor Recognition
Non-oxygenated gasoline	0.5-0.6 ppm	0.8-1.1 ppm
Ethanol	0.2-0.3 ppm	0.4-0.7 ppm

Property	Value	Comments
pH	Not available	
Melting / Freeze Point	> -30 ˚F	
Boiling Point And Range	160-171 ^{0}F (71 to 77 ^{0}C) (based on Gasoline)	
Flash Point	44.5 ^{0}F (7 ^{0}C) (Based on Gasoline)	
Evaporation Rate	4-8	(n-butyl acetate = 1)
Flammability	Flammable liquid	
Flammability Limits	3-23%	(est)
Vapor Pressure	45 mm Hg @ 70 ºF (21 ºC)	
Vapor Density	1.6	
Specific Gravity	0.76-0.9	(water =1)
Solubility	Non-oxygenated gasoline-negligible (<0.1% @77 ^{0}F). Gasoline with 10% Ethanol has greater solubility than other oxygenates	
Partition Coefficient	<1	as Log P
Autoignition Temperature	highly variable; >530 ^{0}F (>280 C)	
Decomposition Temperature	Evaporation or ignition likely before decomposition will occur	
Viscosity	<1 cSt	
Percent Volatiles	100%	

10. STABILITY AND REACTIVITY

Reactivity
Material is not self reacting, flammable concentrations may be present in air.

Stability
Normally stable unless mixed with incompatibles or fire in presence of an ignition source. Material is flammable liquid.

Reactions / Polymerization
Stable. Hazardous polymerization will not occur.

Conditions to Avoid
Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources

Incompatible Materials
Keep away from strong acids and oxidizers.

Hazardous Decomposition Products
Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke). Contact with nitric and sulfuric acids will form nitrocresols that can decompose violently.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:

Acute Toxicity (Inhalation LC50)

Gasoline (8006-61-9)

LC50 Inhalation Human 2000 ppm/1 hr

Ethanol (64-17-5)

LC50 Inhalation Rat >20,000 ppm/10 hr

Ethanol (64-17-5)

LD50 Oral Rat 7060 mg/kg

Acute Toxicity (Dermal LD50)

Gasoline (8006-61-9)

LD50 Dermal Rabbit >5 mL/kg

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: May cause genetic defects.

Carcinogenicity: OSHA: NO IARC: YES - 2B NTP: NO ACGIH: YES (A3)

IARC has determined that gasoline and gasoline exhaust are possibly carcinogenic in humans. Inhalation exposure to completely vaporized unleaded gasoline caused kidney cancers in male rats and liver tumors in female mice. EPA has determined that the male kidney tumors are species-specific and are irrelevant for human health risk assessment. The significance of the tumors seen in female mice is not known. Exposure to light hydrocarbons in the same boiling range as this product has been associated in animal studies with effects to the central and peripheral nervous systems, liver, and kidneys. The significance of these animal models to predict similar human response to gasoline is uncertain.

The IARC has determined that there is sufficient evidence indicating that alcoholic beverages (ethanol) are carcinogenic in humans (Group 1). They have determined that there is inadequate evidence that gasoline is carcinogenic in humans and limited evidence that it is carcinogenic in animals. However, IARC has designated MATERIAL SAFETY DATA SHEET Denatured Fuel Grade Ethanol Page 5 of 6 Revision 04/03/2012 gasoline as possibly carcinogenic to humans (Group 2B) due to the fact that gasoline contains benzene.

This product contains benzene. Human health studies indicate that prolonged and/or repeated overexposure to benzene may cause damage to the blood-forming system (particularly bone marrow), and serious blood disorders such as aplastic anemia and leukemia. The NTP, ARC, OSHA and ACGIH list benzene as a human carcinogen.

Reproductive Toxicity: May damage/Suspected of damaging fertility or the unborn child.

Teratogenicity: Not available

Specific Target Organ Toxicity (Repeated Exposure): Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

Specific Target Organ Toxicity (Single Exposure): Single over-exposure likely to cause central nervous system effects (dizziness and drowsiness), excessive exposure could cause paralysis or cardiac arrhythmia.

Aspiration Hazard: This chemical is considered to be an aspiration hazard. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

Potential Health Effects: Vapor irritating to eyes, nose, and throat. Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur. Inhalation at high concentrations in confined spaces with less than 16% oxygen needed to sustain life, skin and /or eye contact (liquid).

Chronic effects: Human inhalation (chronic) >500 ppm (approx. 1.8 mg/L)/ day. Effects: May cause vomiting, diarrhea, insomnia, headache dizziness, anemia, muscle & neurological symptoms.

WARNING: the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

12. ECOLOGICAL INFORMATION

Toxicity
Material is toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

EC50 Daphnia	30 mmol/m3 (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish	7.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas)

Persistence and Degradation: Not expected to persist in the environment.

Bioaccumulative Potential: Not available

Mobility in Soil: Not available

Other Adverse Effects: None known

Other Information: Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS

Consult federal, state and local waste regulations to determine appropriate disposal options. May be considered a hazardous waste if disposed. Direct solid waste (landfill) or incineration at a solid waste facility is not permissible. Do not discharge to sanitary or storm sewer. Personnel handling waste containers should follow precautions provided in this document.

Shipping containers must be DOT authorized packages. Follow licensure and regulations for transport of hazardous material and hazardous waste as applicable.

14. TRANSPORT INFORMATION

US DOT

UN Identification Number	NA 1987
Proper Shipping Name	Denatured alcohol
Hazard Class and Packing Group	3, PG II
Shipping Label	Flammable Liquid
Placard / Bulk Package	Flammable
Emergency Response Guidebook Guide Number	128

IATA Cargo

UN Identification Number	UN 1987
Shipping Name / Description	Alcohols, n.o.s.
Hazard Class and Packing Group	3, PG II
ICAO Label	Ethanol and Gasoline
Packing Instructions Cargo	364, Y341
Max Quantity Per Package Cargo	60 L

IATA Passenger

UN Identification Number	UN 1987
Shipping Name / Description	Alcohols, n.o.s.
Hazard Class and Packing Group	3, PG II
ICAO Label	3
Packing Instructions Passenger	353, Y341
Max Quantity Per Package	5 L

IMDG

UN Identification Number	UN 1987
Shipping Name / Description	Alcohols, n.o.s.
Hazard Class and Packing Group	3, PG II
IMDG Label	3
EmS Number	F-E S-E
Marine Pollutant	Yes

15. REGULATORY INFORMATION

U.S. Federal, State, and Local Regulatory Information
Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal, state and/or local reporting requirements. This product and/or its constituents may also be subject to other federal, state, or local regulations; consult those regulations applicable to your facility/operation.

OSHA Hazard Communication Standard
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	Yes
Fire Hazard	Yes
Reactive Hazard	No
Sudden Release of Pressure Hazard	No

Clean Water Act (Oil Spills)
Any spill or release of this product to “navigable waters” (essentially any surface water, including certain wetlands) or adjoining shorelines sufficient to cause a visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Response Center (1-800-424-8802) or, if not practical, the U.S. Coast Guard with follow-up to the National Response Center, as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

CERCLA Section 103 and SARA Section 304 (Release to the Environment)
The CERCLA definition of hazardous substances contains a “petroleum exclusion” clause which exempts crude oil, refined, and unrefined petroleum products and any indigenous components of such. However, other federal reporting requirements (e.g., SARA Section 304 as well as the Clean Water Act if the spill occurs on navigable waters) may still apply.

SARA Section 313- Supplier Notification
This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372.

- Benzene (71-43-2)
- Benzene (71-43-2) for reformulated gasoline
- Ethyl benzene (100-41-4)
- n-Hexane (110-54-3)
- Toluene (108-88-3)
- 1,2,4- Trimethylbenzene (95-63-6)
- Xylene, mixed isomers (1330-20-7)

Information on each ingredient’s concentration can be found in Section 3

Information on each ingredient’s exposure limits can be found in Section 8

EPA Notification (Oil Spills)
If the there is a discharge of more than 1,000-gallons of oil (2%) into or upon navigable waters of the United States, or if it is the second spill event of 42 gallons or more of oil into water within a twelve (12) month period, a written report must be submitted to the Regional Administrator of the EPA within sixty days of the event.

Pennsylvania Right to Know Hazardous Substance list:
The following product components are cited in the Pennsylvania Special Hazardous Substance List, and are present at levels which require reporting.

Component	CAS	Amount
Benzene	71-43-2	Trace
Xylene	1330-20-7	Trace
Toluene	108-88-3	Trace
1,2,4-Trimethylbenzene	95-63-6	Trace
Ethyl Benzene	100-41-4	Trace
Ethyl Alcohol	64-17-5	98%

New Jersey Right to Know Hazardous Substance list:
The following product components are cited in the New Jersey Right to Know Hazardous Substance List, and are present at levels which require reporting.

Component	CAS	Amount
Gasoline	8006-61-9	2%
Benzene	71-43-2	Trace
Xylene	1330-20-7	Trace
Toluene	108-88-3	Trace
1,2,4-Trimethylbenzene	95-63-6	Trace
Ethyl Benzene	100-41-4	Trace
Ethyl Alcohol	64-17-5	98%

California Prop. 65
WARNING: This product contains chemicals known to the State of California to cause Cancer or Reproductive Toxicity.

Component	CAS	Amount
Benzene	71-43-2	<0.1%
Toluene	108-88-3	<0.1%
Ethyl Benzene	100-41-4	<0.1%
Ethyl Alcohol	64-17-5	98%

U.S. Toxic Substances Control Act
All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30.

CEPA - Domestic Substances List (DSL)
All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

Canadian Regulatory Information (WHMIS)
Class B, Division 2 (Flammable Liquid)
Class D, Division 2A (Very toxic by other means) and Class D, Division 2B (Toxic by other means)

16. OTHER INFORMATION

Version	3.0
Issue Date	May 2015
Prior Issue Date	April 2012

Description of Revisions
Revised to meet Globally Harmonized System for chemical hazard communication requirements pursuant to OSHA regulatory revisions 77 FR 17884, March 26, 2012.

Abbreviations

˚F	Degrees fahrenheit (temperature)	>	Greater than
<	Less than	AP	Approximately
=	Equal to	C	Centigrade (temperature)

kg	Kilogram
L	Liter
mg	Milligrams
mL	Milliliter
mm^2	Square millimeters
mmHg	Millimeters of mercury (pressure)
ppm	Parts per million
sec	Second
ug	Micrograms

Acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
AIHA	American Industrial Hygiene Association
AL	Action Level
ANSI	American National Standards Institute
API	American Petroleum Institute
CAS	Chemical Abstract Service
CERCLA	Comprehensive Emergency Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation
EC50	Ecological concentration 50%
EPA	U.S. Environmental Protection Agency
ERPG	Emergency Response Planning Guideline
GHS	Global Harmonized System
HMIS	Hazardous Materials Information System
IARC	International Agency for Research On Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
Koc	Soil Organic Carbon
LC50	Lethal concentration 50%
LD50	Lethal dose 50%
MSHA	Mine Safety and Health Administration
NFPA	National Fire Protection Association
NIOSH	National Institute of Occupational Safety and Health
NOIC	Notice of Intended Change
NTP	National Toxicology Program
OPA	Oil Pollution Act of 1990
OSHA	U.S. Occupational Safety & Health Administration
PEL	Permissible Exposure Limit (OSHA)
RCRA	Resource Conservation and Recovery Act Reauthorization Act of 1986 Title III
REL	Recommended Exposure Limit (NIOSH)
RVP	Reid Vapor Pressure
SARA	Superfund Amendments and
SCBA	Self Contained Breathing Apparatus
SPCC	Spill Prevention, Control, and Countermeasures
STEL	Short-Term Exposure Limit (generally 15 minutes)
TLV	Threshold Limit Value (ACGIH)
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average (8 hr.)
UN	United Nations
UNECE	United Nations Economic Commission for Europe
WEEL	Workplace Environmental Exposure Level (AIHA)
WHMIS	Canadian Workplace Hazardous Materials Information System

Disclaimer of Expressed and Implied Warranties

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

** End of Safety Data Sheet **

Inject 5
CP Damage Assessment Forms

Scott Croome, CPR

Subject: FW: [2421 - NEW] CPPS Service Alert

From: CP Alerting Services <CP_Alert@cpr.ca<mailto:CP_Alert@cpr.ca>>
Time:
To: Scott Croome <Scott_Croome@cpr.ca<mailto:Scott_Croome@cpr.ca>>
Subject: [2421 - NEW] CPPS Service Alert

Subject: Collision Train Inv

Location -
Date of occurrence:
Time of occurrence:

Call source: RTC
Type of Incident: Collision Train Inv
Train #:

DGs involved, leak spills, waterways: Yes

Injuries: Unknown

Emergency Services Informed: Yes

Other CP Personnel Advised: ESR

Name: scott lavery

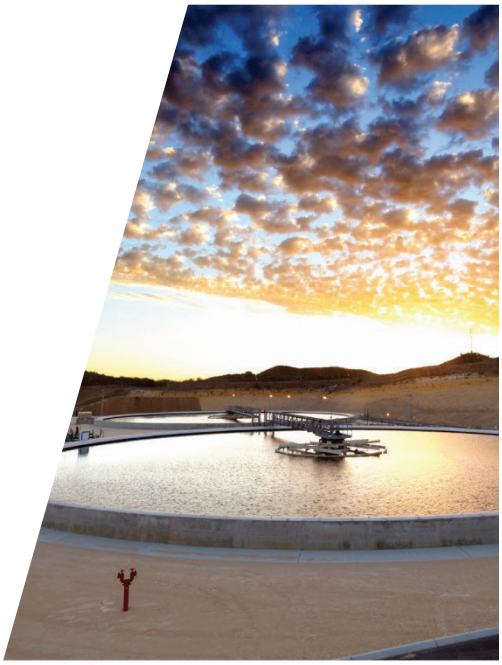
Adjacent To or On First Nations Land: No

Current situation/Incident description: Police communications have been notified train has derailed. PCPPS en rte.

Communications Officer: D502/H105

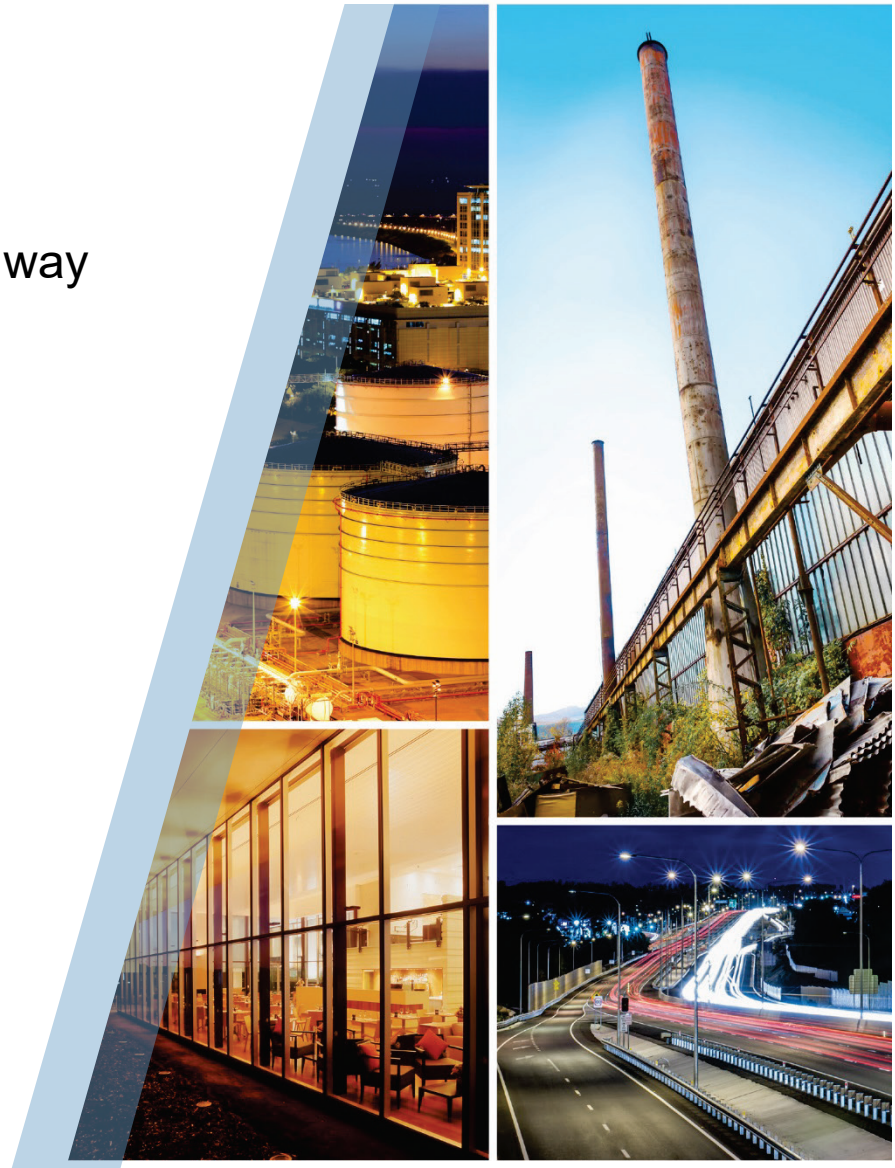
Inject 6
UAV Arial Imagery

Inject 7
Air Monitoring Plan



Air Monitoring Plan

Canadian Pacific Railway
Release Exercise



Canadian Pacific Railway

Table of Contents

Table Index

1. Introduction and Objectives

GHD was notified of a Canadian Pacific Railway (CP) freight train derailment at approximately 09:00 EST (Site). This Air Monitoring Plan (AMP) was prepared to address response activities for the derailment. According to the United Nations (UN) number and chemical information provided by CP representatives, the product involved in the derailment is ethanol. In addition, benzene may be present in ethanol. These two compounds will be the constituents of interest (COI) based on the provided Safety Data Sheets (SDS).

To help ensure that CP and contracted employees working at the Site are adequately protected from exposure to potential air contaminants, GHD has developed this air monitoring plan (AMP).

The elements of the AMP include:

- Air monitoring for benzene, ethanol, and combustible gases measured as lower explosive limit (LEL), at the derailment Site.
- Establish and implement procedures to ensure an appropriate response to elevated levels of each COI. This may include identifying areas requiring respiratory protection, or arranging for a timely evacuation of the Site in the event that hazardous concentrations are detected.
- Communicate the hazards associated with exposures to COIs to affected workers, members of the neighboring community, and other potential receptors.
- Provide recommendations for controlling Site exposures, respiratory protection and other personal protective equipment (PPE) to on-Site personnel.

2. Occupational Exposure Limits and Guidelines

Railroads are regulated by Federal occupational health and safety legislation. The Labour Code references threshold limit values (TLVs) recommended by the American Conference of Governmental Industrial Hygienists (ACGIH) as occupational exposure Limits (OELs). ACGIH recommends TLVs based on time weight average (TWA) exposures, short term exposure limits (STEL), and ceiling exposures.

The TLV-TWA is based on a conventional 8-hour workday and a 40-hour workweek, to which it is believed that nearly all workers may be repeatedly exposed, day after day, for a working lifetime without adverse effect.

The TLV-STEL is a 15-minute TWA concentration that nearly all workers can be exposed to continuously for a short period of time without suffering adverse effects. A worker can be exposed up to 4 times a day with a minimum of 60 minutes between each exposure.

The TLV-Ceiling is a maximum concentration that should never be exceeded.

Additionally, the National Institute of Occupational Safety and Health (NIOSH) has established immediately dangerous to life and health (IDLH) limits for various chemicals indicating

concentrations of various COIs that may cause death or immediate or delayed permanent adverse effects or prevent escape from a toxic environment.

Table 1 summarizes ACGIH TLVs and NIOSH IDLH levels for the COIs.

Table 1 Occupational Exposure Limits and Guidelines

COIs	ACGIH Guidelines		NIOSH - IDLH	Units
	TWA	STEL		
Benzene	0.5	2.5	500	ppm
Ethanol	NE	1,000	3,300	ppm

Notes:
COI – Constituent of Interest
STEL – Short-term exposure limit
TWA – Time-weighted average
NE – Not established
ppm – parts per million
ACGIH – American Conference of Governmental Industrial Hygienists
NIOSH – National Institute of Occupational Safety and Health
IDLH – Immediately dangerous to life and health

2.1 Combustible Gases measured as LEL

In addition to the exposure limits, chemicals may have a flammable range. The flammable range has a LEL and upper explosive limit (UEL). The LEL is the lowest percentage of vapours required to create an explosive atmosphere, below which the vapour mixture would be too lean to ignite. The UEL is the maximum percentage of vapours required to create an explosive atmosphere, above which the mixture would be too rich to ignite. If the COI vapours are within the explosive range, an adequate supply of oxygen is present, and an ignition source is introduced, an explosion or fire will occur. With operations involving flammable gases or vapors it is critical that concentrations do not exceed the LEL to prevent a flash fire or explosion.

In gas/vapor detection systems, the amount of a particular gas/vapor present in an atmosphere is measured as a percentage of the LEL. For comparison, an instrument reading of 0% LEL indicates an atmosphere free of a combustible gas/vapor; while a measurement of 100% LEL denotes an atmosphere that is at the LEL for that gas/vapor. The relationship between the percentage of LEL and percentage of the gas/vapor by volume differs among combustible gases/vapors. NIOSH has established a safety factor to prevent workers from entering an explosive atmosphere. NIOSH considers an environment to be hazardous if a combustible gas/vapor is detected at 10% of its established LEL.

Calibration of a combustible gas/vapor detection systems is typically completed using methane gas. Different chemicals will not correspond directly to the methane calibration curve and will therefore provide a biased high or low measurements. For this reason the combustible gases measured as LEL action level is conservatively selected.

3. Action Levels

3.1 Worker Action Levels and Description of Action

Action levels have been established to facilitate a timely and appropriate response to the detection of airborne hazards associated with benzene, ethanol, and combustible gases measured as LEL. Action levels have been set at levels lower than the established exposure limits and guidelines to ensure that if these levels are detected, they are effectively communicated to appropriate Site personnel and/or off-Site receptors so that appropriate action can be taken.

The Site-specific action levels for the Site are listed in Table 2.

Table 2 Real-Time Air Monitoring Action Levels

COIs	Action Level [1]	Description of Action
Benzene	<0.5 ppm	Action Level 1 – No action required.
	≥0.5 ppm	Action Level 2 – Communicate air monitoring reading to Site officials. Confirm air monitoring reading with a duplicate instrument. If confirmatory air monitoring indicates benzene concentrations above the action level recommend initiating SWA. If air monitoring readings continue to indicate benzene concentrations above the action levels consult with a GHD CIH/ROH, Toxicologist, or qualified individuals to recommend a course of action that maintains operational effectiveness and reduces potential exposures to acceptable levels.
Combustible gases as LEL (measured as methane) [2]	<1 %	Action Level 1 – No action required.
	≥1 %	Action Level 2 – Communicate air monitoring reading to Site officials. Confirm air monitoring reading with a duplicate instrument. If confirmatory air monitoring indicates combustible gases concentrations above the action level recommend initiating SWA. If air monitoring readings continue to indicate combustible gases concentrations above the action limit consult with a GHD CIH/ROH, Toxicologist, or qualified individuals to recommend a course of action that maintains operational effectiveness and reduces potential exposures to acceptable levels.
Ethanol	<500 ppm	Action Level 1 – No action required.
	≥500 ppm	Action Level 2 – Communicate air monitoring reading to Site officials. Confirm air monitoring reading with a duplicate instrument. If confirmatory air monitoring indicates ethanol concentrations above the action level recommend initiating SWA. If air monitoring readings continue to indicate ethanol concentrations above the action limit consult with a GHD CIH/ROH, Toxicologist, or qualified individuals to recommend a course of action that maintains operational effectiveness and reduces potential exposures to acceptable levels.

Notes:
1 – Action levels are based on a one minute average.
COI – Chemical of interest
ppm – parts per million
SWA – Stop work authority
CIH – Certified Industrial Hygienist
ROH – Registered Occupational Hygienist

3.2 Instrument Correction Factors

If electrochemical sensors for COIs are not available, and a photoionization detector (PID) must be used for air monitoring and gas detection, correction factors must be applied. All chemicals have individual ionization potentials, for a PID to measure a chemical the voltage of the lamp must be greater than the ionization potential of the chemical. A PID can be equipped with three different lamps; 9.8 electron-volts (eV), 10.6 eV, and 11.7 eV.

A PID does not respond to all chemicals in the same way, so correction factors need to be applied to the PID measurements to determine the correct concentration of the COI in the air. Correction factors are specific to each chemical and each lamp.

Correction factors for the COIs on Site are provided in Table 3.

Table 3 Correction Factors for COI

COIs	Ionization Potential	Correction Factor for 10.6 eV Lamp
Benzene	9.25	0.47
Ethanol	10.47	7.9

Notes:
COI – Constituent of interest
eV – electron-volts
NA – The COI has no available correction factor for a 10.6 eV lamp, an electrochemical sensor must be used, or an 11.7 eV lamp with a correction factor of 1.0

3.3 Assessment of Action Levels

This AMP is intended to address potential airborne hazards associated with the identified COIs at concentrations that may require modification of work practices and/or control measures to mitigate potential worker exposures.

Some indicators of the need to reassess work practices are:

- Change in weather conditions (i.e., during high wind conditions)
- Temperature extremes
- Change in qualitative levels of chemicals as observed by field personnel
- Change in work scope, which affects the degree of contact with areas of potentially-elevated chemical presence

If airborne concentrations of COI listed in Table 2 are detected above an action level, it is recommended that SWA be implemented and Site personnel are notified. A GHD CIH and/or ROH should be notified and after reviewing the change in conditions, appropriate actions will be recommended and implemented.

4. Community Exposure

4.1 Community Action Levels

Community monitoring will be conducted using real-time air monitoring techniques described below in Section 5. The community action levels will be the same as the worker action levels listed in

Section 3 as they are more conservative than the ambient air quality criteria and protective of human health. If detectable concentrations of a COI is present at the perimeter of the work Site, integrated air sampling will be conducted to aid in quantification of the COI, if required. The concentrations listed by the AEGLs are intended to be used in an emergency situation.

Monitoring of properties potentially impacted will be conducted using real-time air monitoring techniques described below, on an as-needed basis, as determined by Site personnel. Additionally, many of the standards or guidelines are intended to protect the general public and sensitive community members from lifetime exposures to each COI. Emergency exposures are generally much shorter and therefore different community standards are warranted for action levels at community locations.

The above action levels in Table 2 should provide adequate control to prevent off-Site migration of COIs. However, if work area air monitoring data indicates that the surrounding community may be impacted, then appropriate community action levels and responses will be developed and this AMP will be revised.

4.2 Assessment of Action Levels

This AMP is intended to address potential airborne hazards associated with the identified COIs at concentrations that may require modification of work practices and/or control measures to mitigate potential worker exposures.

Some indicators of the need for re-assessment are:

- Change in weather conditions (i.e., during high wind conditions)
- Temperature extremes
- Change in qualitative levels of chemicals as observed by field personnel
- Change in work scope, which affects the degree of contact with areas of potentially-elevated chemical presence

If airborne concentrations of any COI listed in Table 2 are detected above an action level, it is recommended that SWA be implemented and Site personnel are notified. A GHD CIH and/or ROH should be notified and after reviewing the change in conditions, appropriate actions will be recommended and implemented.

5. Real-Time Air Monitoring Instrumentation and Implementation

5.1 Real-Time Air Monitoring Instrumentation

Table 4 summarizes the air monitoring instruments that will be used on Site, detection methods, and instrument detection limits.

Table 4 Real-Time Air Monitoring Instrumentation

Instrument	Detection Method	COI	Instrument Detection Limit
AreaRAE and MultiRAE	Catalytic Bead Sensor	Combustible Gases	1%
	Electrochemical Sensor	Oxygen	0.1%
	Electrochemical Sensor	Hydrogen Sulphide	0.1 ppm
	Electrochemical Sensor	Carbon Monoxide	0.1 ppm
	Electrochemical Sensor	Chlorine	0.1 ppm
	PID	Benzene, Ethanol	0.1
Piston Hand Pump with Colorimetric Detection Tubes	Acid-base reaction resulting in color change	Benzene, Ethanol	Variable

Notes:
ppm – Parts per million
PID – Photoionization detector
N/A – Not applicable

Instruments will be calibrated and operated in general accordance with the manufacturer's specifications or applicable test/method specifications.

5.2 Real-Time Air Monitoring Implementation

Real-time air monitoring for COI will be performed at the following locations:

- Worker Site
- Site perimeter
- Potential off-Site receptors in the surrounding community.

Air sampling instrumentation, as outlined in Table 5, will be placed at the abovementioned locations and will monitor and log concentrations of the COIs, as required.

Using radio telemetry, continuously logged readings for each AreaRAE will be transmitted to a single host computer at the Site, allowing GHD personnel to simultaneously monitor the airborne concentrations at AreaRAE stations from a central location. If airborne concentrations of COI listed in Table 2 are detected above action levels, it is recommended that SWA be implemented and designated Site personnel, GHD personnel, and GHD CIH/ROH be notified, and appropriate actions will be recommended and implemented, as required.

MultiRAE monitors will be used to monitor the airborne concentrations of COIs at the abovementioned locations. If airborne concentrations of the COIs listed in Table 2 are detected above the Site-specific Action Level, it is recommended that designated Site personnel, GHD personnel, and GHD CIH/ROH be notified and appropriate actions will be taken to assist the health and safety of the potentially affected individuals.

6. Integrated Air Sampling

Based on Site conditions, integrated air sampling may be used to characterize potential exposures to COIs and qualify results of air monitoring instrumentation. Personal and/or area air samples may be collected from the breathing zones of on-Site workers, or in breathing zone height in works areas to evaluate potential exposures to COIs.

A similar exposure group (SEG) analysis will be conducted prior to integrated air sampling to determine the number of samples that should be collected to represent the various job tasks conducted during the project. SEGs are groups of workers having the same general exposure profile because of the similarities and frequency of the tasks they perform, the materials or processes in which they work, and the similarity of the way they perform the tasks. GHD personnel will identify and continuously observe work activities with potential for exposures to determine SEGs.

The air samples will be shipped, under a chain-of-custody protocol, to a laboratory that is accredited by the American Industrial Hygiene Association's Laboratory Accreditation Program (AIHA) or Canadian Association for Laboratory Accreditation Inc. (CALA) for analysis.

Samples will be collected and analyzed in accordance with established analytical methods. Field blanks will be collected and provided to the laboratory for quality control purposes.

The integrated air sampling methods for the COIs are summarized in Table 5.

Table 5 Integrated Air Sampling Method

Analyte	Sample Media	Flow Rate
Benzene	3M 3520	NA
Ethanol	3M 3520	NA

Notes:
3M 3520 - 3M Passive Sampling Badge for VOCs

7. Respiratory Protection Plan

7.1 Respiratory Protection

This AMP is intended to address potential airborne hazards associated with the COIs at concentrations that might require the use respiratory protection.

If airborne concentrations of the COI listed in Table 3, are detected above the action levels established, SWA will be implemented and designated Site personnel, GHD personnel, GHD CIH/ROH, and affected workers will be notified.

Site personnel needing respiratory protection are required to have fit-tested respiratory protection available.

Respirator usage will be upgraded or downgraded based upon a change in Site conditions and/or the review of the results of ongoing air monitoring efforts. After reviewing the change in conditions, appropriate actions will be taken.

7.2 Reassessment of Respiratory Protection

When a significant change occurs, they will be documented and subsequently re-assessed. Some indicators of the need for reassessment are:

- Change in weather conditions (i.e., during high wind conditions)
- Temperature extremes or individual medical considerations limit the effectiveness of personal protective equipment (PPE)
- Change in qualitative levels of chemicals as observed by Site personnel
- Change in work scope, which affects the degree of contact with areas of potentially-elevated chemical presence
- Any changes in level of physical changes noted by Site personnel

All proposed changes to respiratory protection, as well as other PPE requirements, will be reviewed by designated Site personnel, GHD personnel, and GHD CIH/ROH, for approval, prior to implementation.

8. Quality Assurance/Quality Control (QA/QC) and Reporting

Real-time data collected will be stored in an on-Site electronic archive. Manually-collected real-time data and integrated sampling information will be reviewed to ensure accuracy and completeness. The manually-collected monitoring/sampling data will be entered into an electronic database (spreadsheet or equivalent), and will undergo a quality assurance and quality control (QA/QC) review. Data entry forms and field notes will be kept on-Site and retained for reference upon completion of the project. If necessary, full laboratory analysis data packages will be provided, and associated data validation processes will be arranged.

During the project, interim reporting of results may be required. This may include data summaries, maps, or other presentations of preliminary monitoring and sampling results. For example, a data summary will be provided to CP every 24 hours, once data have undergone an initial QA/QC. Such reporting will be considered preliminary, as a final QA/QC of the data will not be complete. At the completion of the project, a report will be prepared in which data collected through real-time monitoring and integrated sampling analyses will be compiled, summarized, and reported to CP. Data contained in the final report will have been through QA/QC processes, reviewed by a CIH/ROH, and will be considered final.

As additional information becomes available, this AMP may be revised as necessary and appropriate to meet the objectives as previously stated.

about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

Jason Blenkarn
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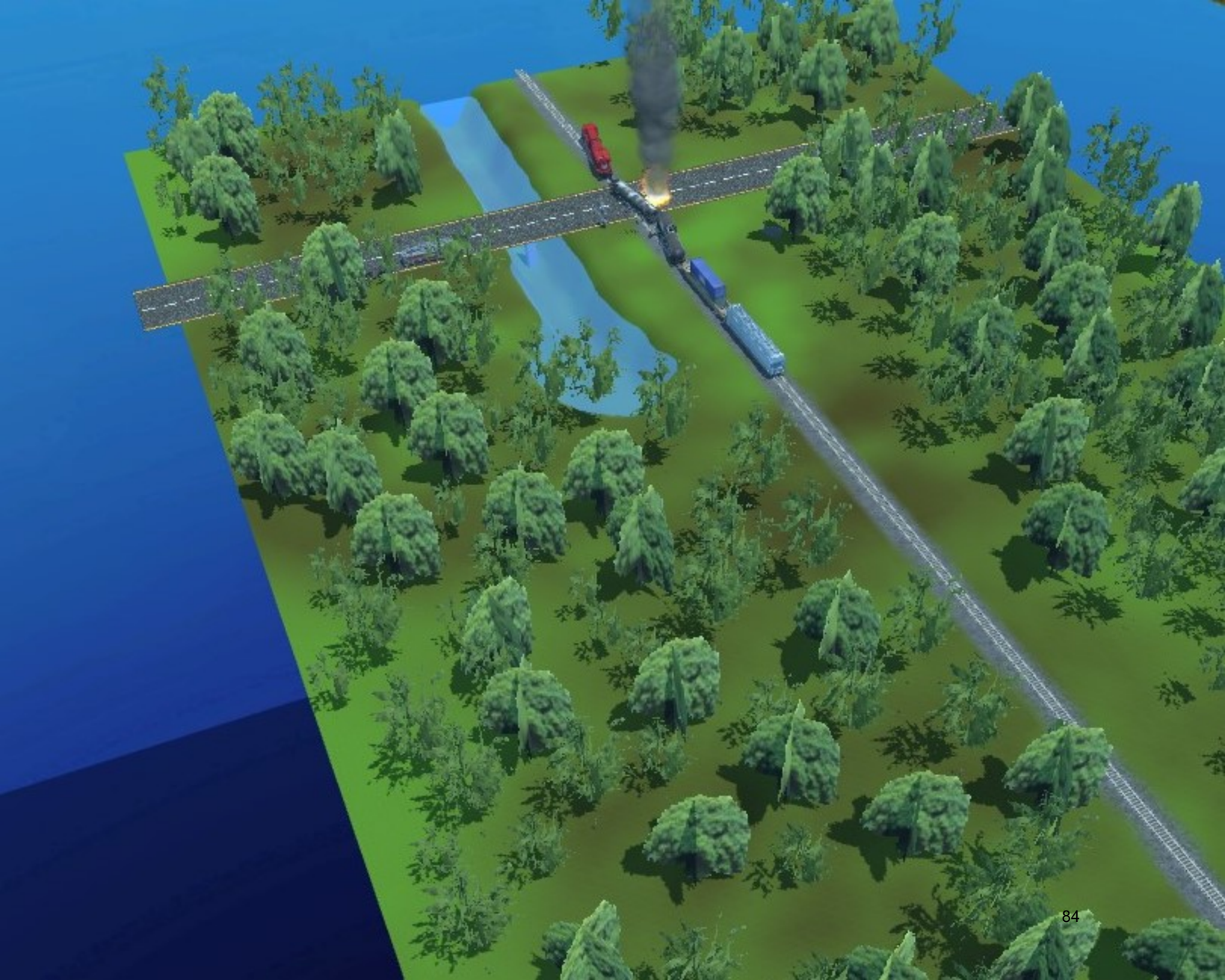
www.ghd.com

Inject 8
Imagery from Site



Inject 9
Air Monitoring Memo

Memorandum

To:	Canadian Pacific, DGO	Ref. No.:	11205945
From:	GHD/aj/1	Tel:	519-884-0510

Subject: Summary of Air Monitoring/Sampling Results for OP1

The purpose of this memorandum is to provide Canadian Pacific Railway (CP) Site management a summary of the air monitoring activities, results, and observations from the air monitoring being performed at the release Site. This summary memorandum summarizes the AreaRAE air monitoring data collected from operation period 1 (OP1) and the manually logged data from the same period recorded from within the Site work area. Real-time air monitoring was used as a screening tool to quickly indicate the presence of airborne concentrations of Compounds of Interest (COI) for the purpose of evaluating conditions at the perimeter of the Site. All air monitoring activities were conducted in accordance with the Air Monitoring Plan.

Manually Logged Real-time Data

The purpose of the manually logged data was to characterize (in real time) potential vapors and gases related to the release. Data was collected using handheld monitoring instruments equipped with a PID (10.6 eV lamp) for monitoring volatile organic compounds (VOCs) and chemical specific electrochemical sensors specific for carbon monoxide (CO), hydrogen sulfide (H_2S), and flammability (LEL). The data collected using these instruments was logged into an electronic handheld data collection device and stored in a secure GHD database. Manually logged VOC data is summarized in Attachment 1.

AreaRAE Real-time Data

GHD personnel deployed five (5) AreaRAE 5 gas monitors in order to continuously monitor work area and perimeter locations. During this operational period GHD has collected approximately 2,520 AreaRAE real-time readings in the work zone and perimeter areas using the real-time air monitoring instruments. No perimeter action level exceedances were noted during the reporting period. AreaRAE data is summarized in Attachment 2.

Next Operational Period

Site activities during the next operational period will include heavy equipment operations, remedial excavation, product recovery, environmental monitoring, and Site management activities. Air monitoring will continue to be conducted in accordance with the approved Air Monitoring Plan.

GHD
9452 51st Avenue Suite 202 Edmonton Alberta T6E 5A6 Canada
T 780 705 7055 **W** www.ghd.com

Attachment 1

Manually Logged Real-Time Data Summary							
Monitoring Period– OP1							
WORK AREA MONITORING							
Parameter	Number of Readings Collected	Number of Detectable Readings	Detectable Reading Minimum	Detectable Reading Average	Detectable Reading Maximum	Units	Comments
VOC	34	10	0.1	1.02	90*	ppm	*The maximum detected readings were collected within the active work area at the source zone, workers donning respiratory protection
Notes: VOC = Volatile Organic Compounds ppm = Parts Per Million							

Attachment 2

Unit ID: 292-504501						
Location Description: AreaRAE North ~200m from Site						
Monitoring Period: OP1						
Parameter	Monitoring Period Summary		Detected Measurements Summary			
	Total # of Readings	TWA Concentration	Total # of Detections	Average Concentration of Detections	Total # of Readings Above Action Level	Maximum Airborne Concentration
VOCs	510	0.0 ppm	0	0.0 ppm	0	0.0 ppm
CO	510	0.0 ppm	0	0.0 ppm	0	0.0 ppm
H2S	510	0.0 ppm	0	0.0 ppm	0	0.0 ppm
LEL	510	0%	0	0%	0	0%

Unit ID: 292-504503						
Location Description: AreaRAE South ~200m from Site						
Monitoring Period: OP1						
Parameter	Monitoring Period Summary		Detected Measurements Summary			
	Total # of Readings	TWA Concentration	Total # of Detections	Average Concentration of Detections	Total # of Readings Above Action Level	Maximum Airborne Concentration
VOCs	526	0.00 ppm	0	0.0 ppm	0	0.0 ppm
CO	526	0.00 ppm	0	0.0 ppm	0	0.0 ppm
H2S	526	0.00 ppm	0	0.0 ppm	0	0.0 ppm
LEL	526	0 %	0	0%	0	0%

Attachment 2

Unit ID: 292-504504						
Location Description: AreaRAE West ~ 200m from Site						
Monitoring Period: OP1						
Parameter	Monitoring Period Summary		Detected Measurements Summary			
	Total # of Readings	TWA Concentration	Total # of Detections	Average Concentration of Detections	Total # of Readings Above Action Level	Maximum Airborne Concentration
VOCs	498	0.0 ppm	0	0.0 ppm	0	0.0 ppm
CO	498	0.0 ppm	0	0.0 ppm	0	0.0 ppm
H2S	498	0.0 ppm	0	0.0 ppm	0	0.0 ppm
LEL	498	0%	0	0%	0	0%

Unit ID: W01A00000457						
Location Description: AreaRAE East ~ 200m from Site						
Monitoring Period: OP1						
Parameter	Monitoring Period Summary		Detected Measurements Summary			
	Total # of Readings	TWA Concentration	Total # of Detections	Average Concentration of Detections	Total # of Readings Above Action Level	Maximum Airborne Concentration
VOCs	519	0.3 ppm	94	0.3 ppm	0	1.9 ppm
CO	519	0.00 ppm	0	0.0 ppm	0	0.0 ppm
H2S	519	0.00 ppm	0	0.0 ppm	0	0.0 ppm
LEL	519	0%	0	0%	0	0%

Unit ID: 292-504502						
Location Description: AreaRAE at the work Site						
Monitoring Period: OP1						
Parameter	Monitoring Period Summary		Detected Measurements Summary			
	Total # of Readings	TWA Concentration	Total # of Detections	Average Concentration of Detections	Total # of Readings Above Action Level	Maximum Airborne Concentration
VOCs	467	1.7 ppm	411	1.7 ppm	8	29.9 ppm
CO	467	0.0 ppm	0	0.0 ppm	0	0 ppm
H2S	467	0.0 ppm	0	0.0 ppm	0	0.0 ppm
LEL	467	0%	0	0%	0	0%