



Project #4433
Doc#1942702

Environmental Technologies, Inc.

2060 W. Littleton Boulevard ★ Littleton, Colorado 80120 ★ 303-795-2500 ★ Fax 303-795-7746

Mr. Rick Eggleston - Senior Advisor, TLM
Petro-Canada Resources (USA), Inc.
999 18th Street, Suite 600
Denver, Colorado 80202

SPILL CLEANUP REPORT
PETRO-CANADA RESOURCES (USA) - FAFOUTIS #17-32 TANK BATTERY SITE
TOWNSHIP 5 NORTH, RANGE 66 WEST, SECTION 17
WELD COUNTY, COLORADO

Western Project #08149

January 27, 2009

Dear Mr. Eggleston:

Western Environmental Technologies, Inc. (Western) managed and documented the cleanup of an accidental petroleum release at the subject site. The site area includes three producing oil and gas wells, gathering lines, separator equipment and a tank battery. The site is located approximately two miles west of the City of Greeley, Colorado. The wells are operated by Petro-Canada Resources (USA), Inc. (PCR).

When field crews were upgrading the tank battery systems, a leak of produced water was discovered from a buried concrete water tank. PCR personnel immediately shut in all wells and flow lines to prevent further spills. The buried concrete water pit was removed. The aboveground oil storage tank was removed from the area.

SOIL CLEANUP

PCR mobilized heavy equipment and personnel to the site to remove and dispose of petroleum soil near the leak area. Western personnel also mobilized to the spill site to direct and manage the site remediation. Western personnel performed field testing for hydrocarbons during soil removals. A calibrated Photoionization detector was used to screen subsurface soil for petroleum compounds.

J&F Services, Inc. of Fort Lupton, Colorado provided tandem trucks to haul soil. Soil was removed from the cleanup excavation using a large capacity John Deere 270C trackhoe. Each load of soil was transported and disposed using a non-hazardous waste manifest. The Exploration and Production waste was accepted for disposal at the licensed landfill. A total of 800 cubic yards of petroleum contaminated soil was removed from the site and transported to the Buffalo Ridge Landfill, located near Keenesburg, Colorado.

Western personnel performed two soil sampling events during and after the site cleanup. Soil from the cleanup excavation was sampled first on December 17, 2008. Soil removed from the excavation was a fine sandy silt with occasional clay lenses. The soil samples were submitted to Technology Laboratory, Inc. located in Fort Collins, Colorado. All samples were acquired using laboratory chain-of-custody documentation.

All samples were analyzed within allowable holding times. There were no data quality issues noted by the testing laboratory. Each soil sample was analyzed for Total Recoverable Petroleum Hydrocarbons (TRPH). EPA method #418.1 was used to prepare and analyze the samples. A total of 13 samples were obtained at the site on December 17, 2008. Rush testing was performed.

Western personnel reviewed testing results. Additional soil would have to be removed from the spill area to achieve desired cleanup goals. J&F Services removed additional petroleum contaminated soil from the west, east and south sides of the cleanup area. No further excavating could be performed on the north side of the excavation due to a buried gas line and fencing.

After additional removals on December 18, 2008, more testing was performed. Three soil samples were obtained from the new removal areas. Western then submitted these samples for testing. Technology Laboratory also performed the analyses. The final soil samples tested to be well within Colorado Oil & Gas Conservation Commission (COGCC) soil quality standards for a non-sensitive area site. Ground water did not appear to be impacted by this spill event. No ground water was observed in the soil cleanup excavation.

Clean soil was imported from the PCR land farm for use as excavation backfill. The site has been reconfigured and upgraded. A new tank and lines have been installed along with geomembrane liners. The oil and gas wells are now producing again. PCR is requesting closure for this spill event.

Please contact us with any questions which you may have.

Sincerely,



Mark H. Bailey, CHMM, REP, PG - Senior Environmental Scientist
Western Environmental Technologies, Inc,

xc: Mr. John Axelson - Colorado Oil & Gas Conservation Commission

Attachments:	Site Location And Area Topographic Map	(1 page)
	Site Features Map	(1 page)
	Sample Location Map	(1 page)
	Analytical Results Summary Tables One, Two and Three	(2 pages)
	Technology Labs Data Reports	(4 pages)

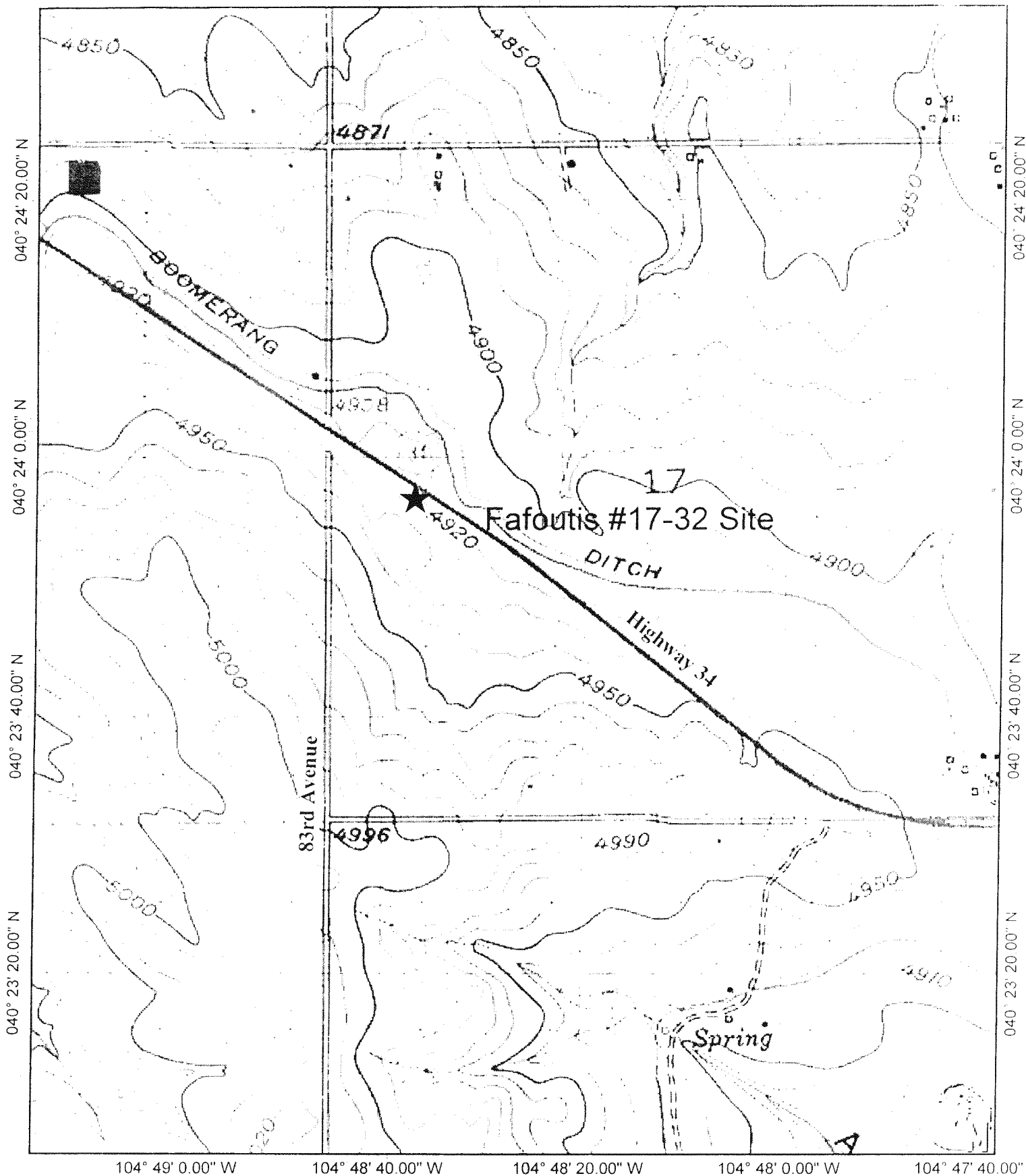
104° 49' 0.00" W

104° 48' 40.00" W

104° 48' 20.00" W

104° 48' 0.00" W

104° 47' 40.00" W



<Default> - 1 Markers, Length = 0 feet

Fafoutis #17-32 Site - 040° 23' 56.4" N, 104° 48' 36.9" W

Site Location and Area Topographic Map

Petro-Canada Resources (USA) Fafoutis 17-32 Tank Battery

Township-5 North, Range 66 West, SE/SW Section 17, Weld County, Colorado

Western Project #08149

Map Scale 1 inch = 1,000 feet

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US Highway 34

Barbed Wire Fence

Access Road (Gravel)

Separator
Meter House

Flare

Cleanup
Excavation

Fafoutis 17-32
Well Head

819n:Stem:aps:Petro:Fafoutis1.cdr

SITE FEATURES MAP

Petro Canada Resources (USA), Inc.
FAFOUTIS 17-32, 17-33, 17-34 Location
T.5N, R.66W, SE-SW, Sec 17
Weld County, Colorado

Project No. 08149	Prepared By CCC	WESTERN Energy Services, Inc.
Date 01/02/09	Reviewed By MHB	

Map Scale
1" = 20 ft.



US Highway 34

Barbed Wire Fence

Access Road (Gravel)

Separator
Meter House

Flare

Concrete Produced Water Tank (Removed)

Cleanup Excavation

Removed Soil Stockpile

Fafoutis 17-32 Well Head

REW-26'

REE-19-26'

REE-26'

REF-28'

REW-25'

REWA-26'

RES-27'

RESA-28'

SS1

SS2

SS3

SS4

SS5


SS6

SS7

SS8

81591.Location:PetroProd1.ctb

SAMPLE LOCATION MAP
 Petro Canada Resources (USA), Inc.
 FAFOUTIS 17-32, 17-33, 17-34 Location
 T5N, R66W, SE-SW, Sec 17
 Weld County, Colorado

Project No. 08149	Prepared By CCC	Reviewed By MHB	 WESTERN <small>AN IRVING-CLOUD COMPANY</small>
Date 01/02/09			

Map Scale
1" = 20 ft.

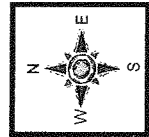


TABLE ONE - DECEMBER, 2008
CLEANUP EXCAVATION SOIL TEST RESULTS SUMMARY TABLE
PETRO-CANADA RESOURCES (USA) FAFOUTIS 17-32 TANK BATTERY SITE
TOWNSHIP 5 NORTH, RANGE 66 WEST, SECTION 17, WELD COUNTY, COLORADO

Sample Number	Sample Date	Location of Sample	TRPH in mg/Kg
REN-26'	12/17/08	Soil from floor of north side of cleanup excavation	517
REE-26'	12/17/08	Soil from bottom of east side of cleanup excavation	5,847
REW-25'	12/17/08	Soil from bottom of excavation on west side	1,259
RES-27'	12/17/088	Soil from floor of excavation on the south side	12,929

TABLE TWO - DECEMBER, 2008
PETROLEUM SOIL STOCKPILES TEST RESULTS SUMMARY TABLE
PETRO-CANADA RESOURCES (USA) FAFOUTIS 17-32 TANK BATTERY SITE
TOWNSHIP 5 NORTH, RANGE 66 WEST, SECTION 17, WELD COUNTY, COLORADO

Sample Number	Sample Date	Location of Sample	TRPH in mg/Kg
SS1	12/17/08	Northwest corner of stockpiles	7,801
SS2	12/17/08	Southwest corner of stockpiles	4,823
SS3	12/17/08	Northwest center of soil stockpiles	3,914
SS4	12/17/08	Southwest center of soil stockpiles	2,109
SS5	12/17/08	Northeast center of stockpiles	2,519
SS6	12/17/08	Southeast center of stockpiles	547
SS7	12/17/08	Northeast corner of stockpiles	2,361
SS8	12/17/08	Southeast corner of stockpiles	1,489

TABLE THREE - DECEMBER, 2008
 FINAL SAMPLES FROM REMOVAL EXCAVATION SUMMARY TABLE
 PETRO-CANADA RESOURCES (USA) FAFOUTIS 17-32 TANK BATTERY SITE
 TOWNSHIP 5 NORTH, RANGE 66 WEST, SECTION 17, WELD COUNTY, COLORADO

Sample Number	Sample Date	Location of Sample	TRPH in mg/Kg
REWA-26'	12/18/08	West wall of excavation after soil removals	36.7
RESA-28'	12/18/08	South wall of excavation after all removals	ND*
REEA-26'	12/18/08	East wall of excavation after excavating	ND

ND* = Compound analyzed for but not detected in soil sample.



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COMPANY NAME

Western Environmental Tech, Inc

PROJECT MANAGER

Wark Bailey

PROJECT NUMBER

5480

PROJECT LOCATION OR NAME

Project Location or Name
Atlantic Canada Enfantis 17-3ZS12-15N-R66W-5ESW Sec 17

SAMPLERS SIGNATURE

SAMPLE ID

DATE/TIME SAMPLED

1	SSI	12-17-08	1320	S	1	X
2	SS2	12-17-08	1340	S	1	X
3	SS3	12-17-08	1330	S	1	X
4	SS4	12-17-08	1345	S	1	X
5	SS5	12-17-08	1355	S	1	X
6	SS6	12-17-08	1410	S	1	X
7	REN-26'	12-17-08	1430	S	1	X
8	REF-28'	12-17-08	1445	S	1	X
9	REW-25'	12-17-08	1450	S	1	X
10	REE-26'	12-17-08	1500	S	1	X
11	RES-27'	12-17-08	1505	S	1	X
12	SS7	12-17-08	1515	S	1	X
13	SS8	12-17-08	1520	S	1	X

PAGE 1 OF 1

TURNAROUND TIME

☐ NORMAL (5-10 working days)☒ 24 hr (100% Surcharge)☐ 3 day (50% Surcharge)

COMMENTS: Please call with results!

RELINQUISHED BY:

COMPANY:

RELINQUISHED BY:

COMPANY:

LOGGED IN BY:

Sample Preservative:

RECEIVED BY:

COMPANY:

RECEIVED BY:

COMPANY: _____

DATE: 12-17-08

TIME: 1600

DATE:

TIME: _____

☒ 4°C ☐ None ☐ Other☐ Acid

Yana G. Ward

7

4

[illegible]



TECHNOLOGY LABORATORY, INC.

CENTRE PROFESSIONAL PARK

1012 Centre Avenue
Fort Collins, Colorado 80526
(970) 490-1414

CERTIFICATE OF ANALYSIS

Western Environmental Technologies, Inc.
2060 West Littleton Blvd
Littleton, CO 80120

Date Received: 12/17/08

Matrix: Soil

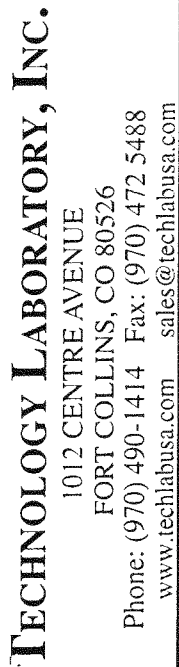
Project No.: 08149

<u>Lab ID</u>	<u>Sample ID</u>	<u>Date Sampled</u>	<u>Date Analyzed</u>	<u>TRPH mg/Kg</u>
7509-01	SS1	12/17/08	12/18/08	7801
7509-02	SS2	12/17/08	12/18/08	4823
7509-03	SS3	12/17/08	12/18/08	3914
7509-04	SS4	12/17/08	12/18/08	2109
7509-05	SS5	12/17/08	12/18/08	2519
7509-06	SS6	12/17/08	12/18/08	547
7509-07	REN-26'	12/17/08	12/18/08	517
7509-08	REF-28'	12/17/08	12/18/08	198
7509-09	REW-25'	12/17/08	12/18/08	1259
7509-10	REE-26'	12/17/08	12/18/08	5847
7509-11	RES-27'	12/17/08	12/18/08	12929
7509-12	SS7	12/17/08	12/18/08	2361
7509-13	SS8	12/17/08	12/18/08	1489

TRPH Method:

EPA-418.1

Bill Emery



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W.O. NUMBER 7516

CHAIN-OF-CUSTODY REPORT

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CERTIFICATE OF ANALYSIS

Western Environmental Technologies, Inc.
2060 West Littleton Blvd
Littleton, CO 80120

Date Received: 12/18/08

Matrix: Soil

Project No.: 08149

<u>Lab ID</u>	<u>Sample ID</u>	<u>Date Sampled</u>	<u>Date Analyzed</u>	<u>TRPH mg/Kg</u>
7516-01	REWA-26'	12/18/08	12/18/08	36.7
7516-02	RESA-28'	12/18/08	12/18/08	< 5.0
7516-03	REEA-26'	12/18/08	12/18/08	< 5.0

TRPH Method:

EPA-418.1

Bill Emery