

WESTERN ENVIRONMENT AND ECOLOGY, INC

March 13th, 2018

Chris Canfield
Environmental Protection Specialist
Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, Colorado 80203

Subject: Fourth Quarterly Groundwater Monitoring Summary, Smith/Ginther 1 & 2 Tank Battery (Facility # 118915) Holly Hills Subdivision, 144th Avenue and Holly Street Thornton, Colorado. Western Environment and Ecology, Inc. Project Number 82-052-01.

Dear Mr. Canfield:

Western Environment and Ecology, Inc. (Western Environment) performed the fourth and final quarterly groundwater monitoring on the above referenced property (Figure 1). These activities are described in the Colorado Oil and Gas Conservation Commission (COGCC) Form 27, Site Investigation and Remediation Work Plan (Project # 10065) approved on February 23rd, 2017.

Since the previous monitoring event (November 12th, 2017) contractors excavated and recompacted approximately twenty feet of soil beneath and adjacent to the Smith/Ginther 1 & 2 Tank Battery (see attached photos). While efforts were made to protect the remaining wells, only TH-15R and TH-16R were undamaged, see Figure 2.

On February 27th, 2018, Western Environment developed and performed water quality analysis of the two remaining wells. The following day, two 40.0 ml vials were acquired from TH-15R and TH-16R. These samples were taken, using appropriate quality assurance and quality control methods, and transported, under chain of custody controls, to Technology Laboratories in Fort Collins, Colorado. The samples were analyzed for benzene, toluene, ethyl-benzene and xylene (BTEX) and Total Volatile Petroleum Hydrocarbons (TVPH) utilizing EPA Method 8260B. The results are attached to this report and are presented on the following Table 1.

The results confirm the low concentrations for benzene, marginally above COGCC Table 910.1 values, in TH-16R and the non-detect levels in TH-15R. Therefore, based upon the four quarters of monitoring, excavation and disposal of 330 cubic yards of petroleum contaminated soil and the over excavation of adjacent soil, it is the opinion of Western Environment that these activities constitute the **FINAL RECLAMATION** for Facility #118915.

As always, do not hesitate to contact us with any questions.

Sincerely,
WESTERN ENVIRONMENT AND ECOLOGY, INC.

Greg D. Sherman, P.G.
President

att.

cc. Kent Carlson, Carlson and Associates

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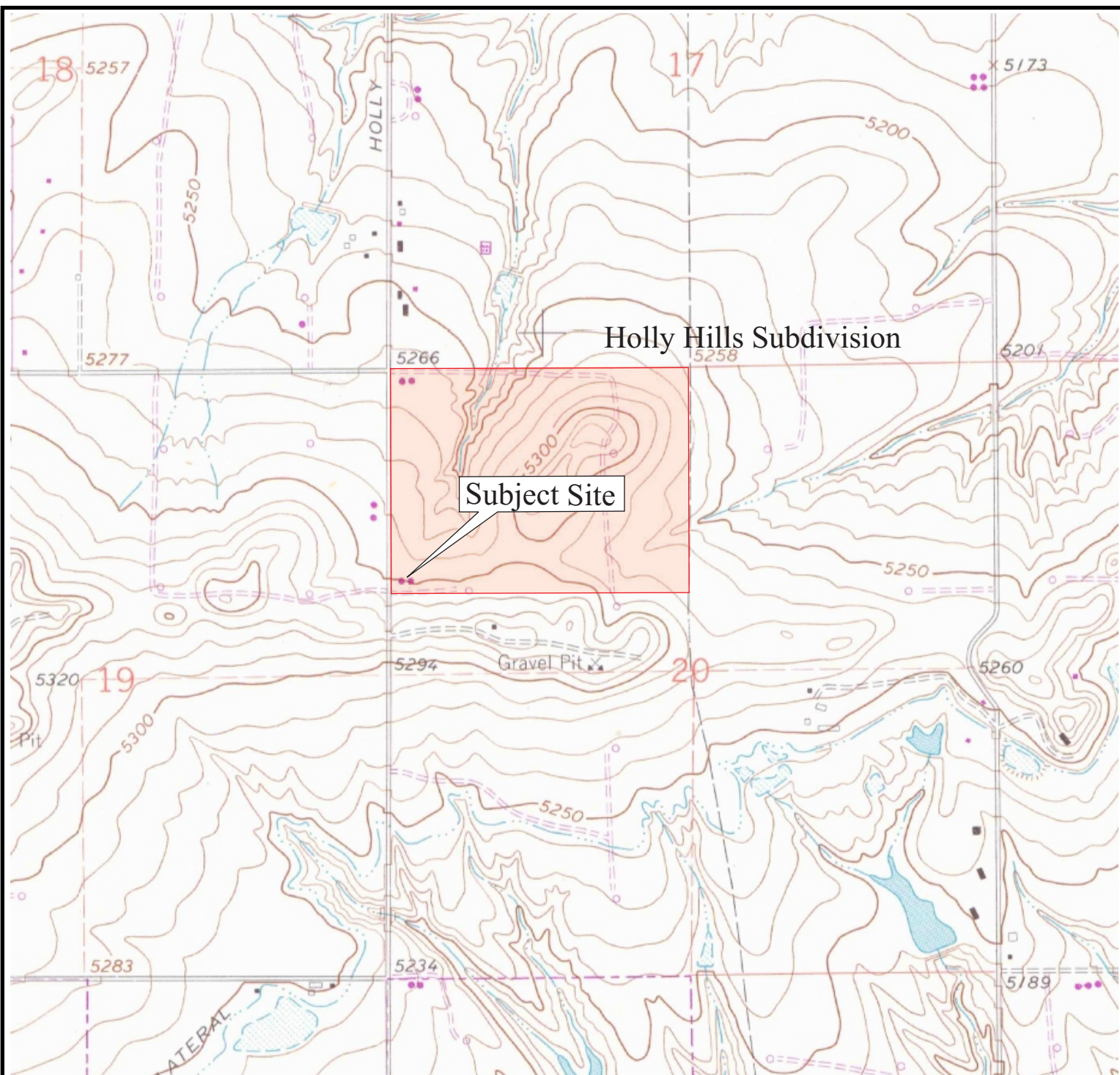
TABLE 1
Groundwater Sample Results

Sample Location	Sample Date	Sampled By	benzene (ug/L)	toluene (ug/L)	ethyl-benzene (ug/L)	xylene (ug/L)	TPH GRO (ug/L)
TH-14	8/18/2017	Western Environment	ND	ND	ND	ND	ND
TH-14R	11/12/2017	Western Environment	ND	ND	ND	ND	ND
TH-15	12/20/2016	CTL Thompson	ND	ND	ND	ND	-
	8/18/2017	Western Environment	ND	ND	ND	ND	ND
TH-15R	11/12/2017	Western Environment	ND	ND	ND	ND	ND
	2/28/2018	Western Environment	ND	ND	ND	ND	ND
TH-16	12/20/2016	CTL Thompson	55.4	4.56	62.4	295	-
	1/25/2017	Western Environment	2.0	ND	15.0	86.0	710
TH-16R	11/12/2017	Western Environment	11.0	ND	3.0	3.0	ND
	2/28/2018	Western Environment	15.0	ND	4.0	ND	ND
TH-19	1/25/2017	Western Environment	DRY	DRY	DRY	DRY	DRY
	8/18/2017	Western Environment	DRY	DRY	DRY	DRY	DRY
TH-20	1/25/2017	Western Environment	DRY	DRY	DRY	DRY	DRY
	8/18/2017	Western Environment	DRY	DRY	DRY	DRY	DRY
TH-21	1/25/2017	Western Environment	ND	1.0	ND	2.0	ND
	8/18/2017	Western Environment	11.0	ND	3.0	3.0	ND
TH-21R	11/12/2017	Western Environment	8.0	ND	1.0	1.0	ND

ND - Non-detect

DRY - Well dry at time of sample

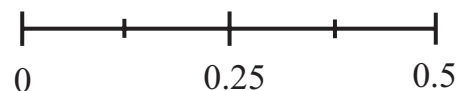
Bold - Exceeds Colorado Oil and Gas Conservation Commission Table 910-1 Concentration Levels



USGS Eastlake Qaudrangle, 7.5 Minutes Series, 1980



Approximate Scale in Miles



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Figure 1 - Site Location Map
Holly Hills Subdivision
144th Avenue and Holly Street
Thornton, Colorado



TH-21R

104.66

Benzene Concentration (mg/L)

26.17

Groundwater Depth



Approximate scale in feet

0 100 200

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Figure 2 - Replacement Well Map
Holly Hills Subdivision
144th Avenue and Holly Street
Thornton, Colorado



Location of Smith/Ginther 1&2 Tank Battery



Area Enlarged Showing Depth of Excavation and Wells TH-15R and TH 16R



TECHNOLOGY LABORATORY, INC.

CENTRE PROFESSIONAL PARK

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

CERTIFICATE OF ANALYSIS

Western Environment & Ecology
2217 W. Powers Ave
Littleton, CO 80120

Sample ID: TH-15R

Laboratory ID B6852-01

Sampled: 02/28/18

Received: 03/01/18

Project No.: 082-052-01

Matrix: Water

<u>CAS Number</u>	<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>MDL</u>	<u>Method</u>	<u>Date Analyzed</u>
71-43-2	Benzene	< 0.001	mg/L	0.001	EPA-8260B	03/02/18
108-88-3	Toluene	< 0.001	mg/L	0.001	EPA-8260B	03/02/18
100-41-4	Ethylbenzene	< 0.001	mg/L	0.001	EPA-8260B	03/02/18
1330-20-7	Total Xylenes	< 0.001	mg/L	0.001	EPA-8260B	03/02/18
N/A	GRO (TVPH)	< 0.5	mg/L	0.5	EPA-8260B	03/02/18

QA/QC SURROGATE RECOVERIES

<u>Compound</u>	<u>% Recovery</u>	<u>% Rec. Limits</u>
Dibromofluoromethane	105	68-120
Toluene-d8	100	81-128
Bromofluorobenzene	101	70-113

TECHNOLOGY LABORATORY, INC.

The results contained in this report
relate only to those items tested.



TECHNOLOGY LABORATORY, INC.

CENTRE PROFESSIONAL PARK

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Fort Collins, Colorado 80526
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CERTIFICATE OF ANALYSIS

Western Environment & Ecology
2217 W. Powers Ave
Littleton, CO 80120

Sample ID: TH-16R
Laboratory ID B6852-02

Sampled: 02/28/18
Received: 03/01/18

Project No.: 082-052-01
Matrix: Water

<u>CAS Number</u>	<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>MDL</u>	<u>Method</u>	<u>Date Analyzed</u>
71-43-2	Benzene	0.015	mg/L	0.001	EPA-8260B	03/02/18
108-88-3	Toluene	< 0.001	mg/L	0.001	EPA-8260B	03/02/18
100-41-4	Ethylbenzene	0.004	mg/L	0.001	EPA-8260B	03/02/18
1330-20-7	Total Xylenes	< 0.001	mg/L	0.001	EPA-8260B	03/02/18
N/A	GRO (TVPH)	< 0.5	mg/L	0.5	EPA-8260B	03/02/18

QA/QC SURROGATE RECOVERIES

<u>Compound</u>	<u>% Recovery</u>	<u>% Rec. Limits</u>
Dibromofluoromethane	103	68-120
Toluene-d8	101	81-128
Bromofluorobenzene	97	70-113

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The results contained in this report
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W.O. NUMBER B6852
CHAIN-OF-CUSTODY REPORT

COMPANY NAME <u>WESTERN ENVIRONMENT AND ENERGY</u>		ANALYSIS REQUESTED												OTHER	
PROJECT MANAGER <u>Greg Stegman, Brendan Colonge</u>		OIL & GREASE													
PROJECT NUMBER <u>82-052-01</u>		TEPH (DRO)													
PROJECT LOCATION OR NAME <u>144TH & HOLLY</u>		VOC 624 / 8260 (TOTAL / TCLP)													
SAMPLER'S SIGNATURE <u>[Signature]</u>		SVOC 625 / 8270 / PAH (TOTAL / TCLP)													
		pH / TSS / TDS													
		RCRA 8 METALS (TOTAL / TCLP / DISSOLVED)													
		React. / Ignite. / Corr. / Paint Filt.													
		BTEX / TVPH Emissions Vapor													
		BTEX Soil Vapor													
		TO-14 / TO-15 / TVPH Vapor													
		NITRATE / NITRITE / AMMONIA													
		BOD / COD													
		PCBs													
		HOLD AFTER ANALYSIS													
		HOLD, DON'T ANALYZE													

PAGE <u>1</u> OF <u>1</u>		DISCHARGE PERMIT? <u>YES</u> <u>NO</u>	
TURNAROUND TIME <input checked="" type="checkbox"/> Normal (≤10 Working Days) <input type="checkbox"/> 3 Day (1.5 x Normal Rates) <input type="checkbox"/> Next Day (2 x Normal Rates) <input type="checkbox"/> Same Day (4 x Normal Rates)		COMMENTS: <u>Waste Water Cell</u>	
RELINQUISHED BY: <u>[Signature]</u>		DATE: <u>3/1/18</u>	
COMPANY: <u>WEL</u>		TIME: <u>9:22</u>	
RELINQUISHED BY: <u>[Signature]</u>		DATE: <u>3-1-18</u>	
COMPANY: <u>Interstate Express</u>		TIME: <u>11:45</u>	

LOGGED IN BY: <u>[Signature]</u>	Sample Preservative: <input checked="" type="checkbox"/> 6° C <input type="checkbox"/> Acid <input type="checkbox"/> Other <input type="checkbox"/> Filtered
RECEIVED BY: <u>[Signature]</u>	DATE: <u>3-1-18</u>
COMPANY: <u>Interstate Express</u>	TIME: <u>9:25</u>
RECEIVED BY: <u>[Signature]</u>	DATE: <u>3-1-18</u>
COMPANY: <u>WEL</u>	TIME: <u>11:45</u>