Innovative Environmental Technologies, Inc.

Technology Discussion and Field Report

To

Sterling Environmental Engineering

For

The Application Of

"In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies"

At

Troy Belting and Supply Company
Colonie, NY

June 2023

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Contents

Executive Summary

On behalf of Sterling Environmental Engineering, Innovative Environmental Technologies, Inc. (IET) has prepared the following injection report. This report has been prepared to document remediation activities conducted at the site.

The injection program was implemented from June 13th to June 15th, 2023. The remedial approach employed synergistic reductive dechlorination chemistry, utilizing zero valent iron, various organic hydrogen donors, nutrients and vitamins. The integration of both abiotic and biotic remedial compounds allow for rapid dechlorination reactions and long lasting biological attenuation.

The materials introduced across one Area (PRB1) included 612 pounds of Zero Valent Iron, 120 pounds of Nutrient, 600 pounds of Calcium Propionate, 60 pounds of Sodium Sulfite, 1,200 pounds of Provect-IR, 91.7 grams of Vitamin B12, 650.2 grams of Vitamin B2, and 6,148.5 grams of Red Yeast Rice suspended in water to create approximately 1200 gallons of injectant volume. Daylighting of reagents occurred across the targeted area, in order to minimize surfacing of the injectate, additional locations were added in order to apply all the proposed reagents to the subsurface. With the exception of this field adjustment, the injection program was implemented as proposed. The point by point dosages along with instances of surfacing are also noted in the attached field logs.

Introduction

The Troy Belting site located in Colonie, NY was identified as having soils and groundwater impacted by the historical release of chlorinated solvents. The primary compounds of concern were Chlorinated Volatile Organic Compounds (CVOCs) specifically Tetrachloroethene (PCE) and Trichloroethene (TCE) and its associated daughter products such as cis 1,2 DCE and vinyl chloride. An injection program was proposed by IET for the remediation of CVOC impacts within area PRB1 utilizing direct push tooling and synergistic reductive dechlorination technologies.

Remediation Implementation

Injection Procedures

IET completed the 21 injection locations utilizing the 5-8' zone for injection. Details regarding each injection attempt are provided in the field logs in the Appendix.

FIGURE 1: AMS 9500 VTR

Direct-Push-Driven Perforated Rod Placement

An AMS DPT unit comparable to the one pictured in Figure 1, was utilized to drive the injection screen (as seen in Figure 2) to depths ranging from 5 to 8 feet below ground surface (bgs). It is at this depth that the likelihood exists of being in close proximity to the targeted waters in the more permeable layers that were identified during characterization of the site. These more permeable layers are those believed to have historically provided the preferential pathways taken by the dissolved-phase CVOCs.

Subsurface Pathway Development

Compressed nitrogen was used to propel all injectants into the subsurface. Compressed nitrogen was first injected into the subsurface at approximately 150 pounds per square inch (psi) until a significant pressure drop was observed at the injection pressure vessel. This process is referred to as pathway development. The intent of this step is to open pathways in the subsurface for the injectants to follow. These pathways are believed to be those more permeable pathways along which CVOCs are more likely to have

FIGURE 2: RETRACTABLE INJECTION SCREEN

migrated, both in the vadose and saturated zones. Liquid and liquid-entrained injectants are then delivered with pressurized gas to the pathways that were produced during the development step.

ZVI, Organic Hydrogen, Nutrient and Vitamin Injection

A colloidal suspension of 1-3 micron zero valent iron (ZVI) was immediately injected into the subsurface fractures and voids that were developed during the compressed nitrogen injection step. Immediately following, under constant pressure the injectant slurry was then introduced.

Liquid Rinse

A small amount of water was injected to clear the injection lines of the injectant and promotes mounding of groundwater into the vadose zone.

Post Injection Line Purge

Compressed nitrogen was injected to clear the lines of all material and to force the remedial components further into the formation before moving to the next injection location.

Site Maps

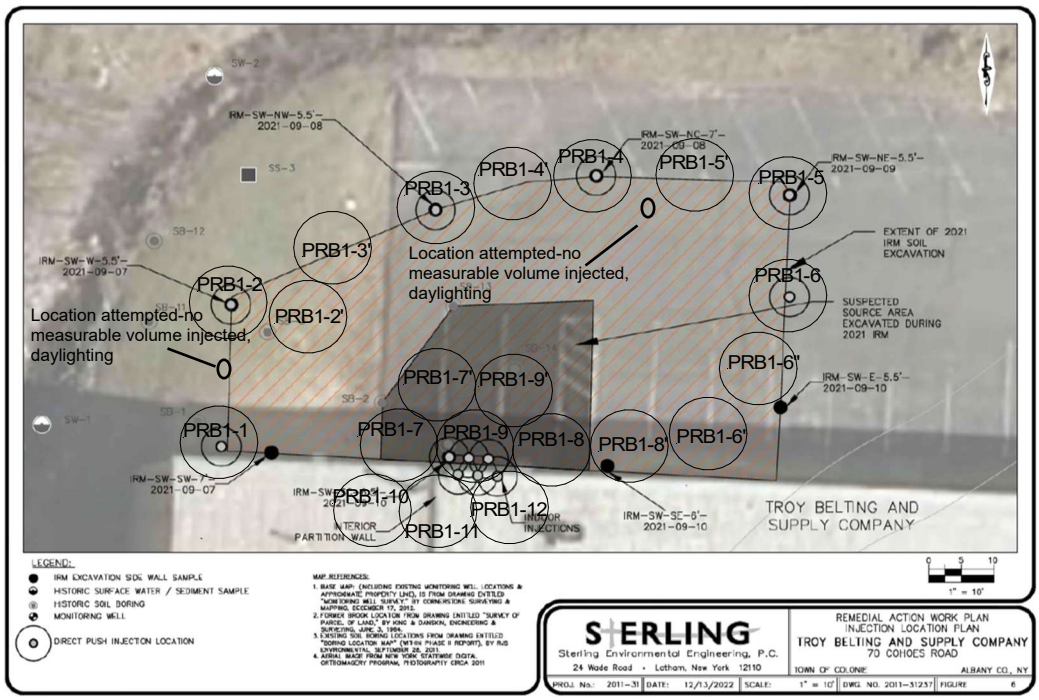


FIGURE 3: GENERAL INJECTION IMPLEMENTATION – PRB1

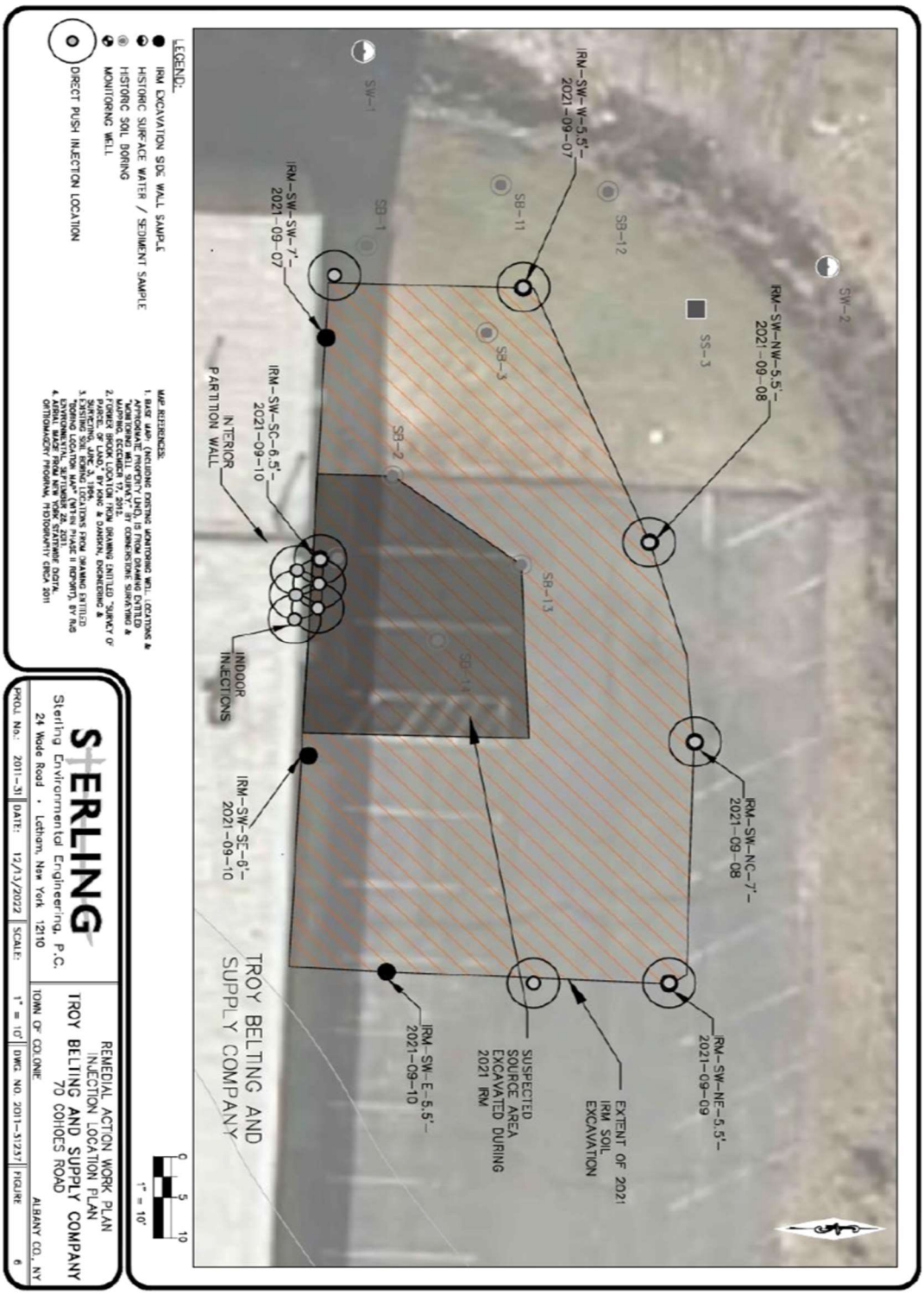
PRB1

Area PRB1 was implemented based off of the original design, however field adjustments were required due to daylighting of injected reagent occurring during attempts along the edges of the former excavated area. Nine additional injection locations were required to apply the proposed reagent and avoid excessive daylighting in the area outside the building. In total 21 locations were attempted across PRB1 area and injections depths varied from 3-8' bgs depending on where DPT refusal was encountered.

Conclusion

The injection program at the Troy Belting site was implemented based on the proposed design with some field modifications, each location and any location specific adjustments are documented in the attached field logs. It is expected that the injection event will yield positive results in the targeted area. IET looks forward the assessing the data following future sampling events and following up with any additional work required at the Troy Belting site.

Appendix A – Site Map



Appendix B – Injection Logs

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/13/2023

PRB-1-1

Start Time: 9:35

Stop Time 9:43

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**5-7'**	**5-8'**
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**150**	
Depth of Injection (ft)	**5**	
Grams B2/inj	**27.09**	**54.18**
Grams RYR/inj	**256.185**	**512.37**
Pounds of Provect-IR/inj	**50**	**100**
Pounds of ZVI/inj	**25.5**	**51**
Pounds of Sulfite/inj	**2.5**	**5**
Pounds of Nutrient/inj	**5**	**10**
Pounds of Propionate/inj	**25**	**50**
Grams of B12/inj	**3.9**	**7.8**
Estimated Gallons of Slurry	**50**	**100**
Pressure of Post-injection pathway development (PSI)	**100**	

FIELD OBSERVATIONS/COMMENTS:

Daylighting occurred from building edge.

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/13/2023

PRB-1-2

Start Time: 10:04

Stop Time 10:14

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**4-6'**	**5-8'**
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**125**	
Depth of Injection (ft)	**4**	
Grams B2/inj	**27.09**	**54.18**
Grams RYR/inj	**256.185**	**512.37**
Pounds of Provect-IR/inj	**50**	**100**
Pounds of ZVI/inj	**25.5**	**51**
Pounds of Sulfite/inj	**2.5**	**5**
Pounds of Nutrient/inj	**5**	**10**
Pounds of Propionate/inj	**25**	**50**
Grams of B12/inj	**3.9**	**7.8**
Estimated Gallons of Slurry	**50**	**100**
Pressure of Post-injection pathway development (PSI)	**75**	

FIELD OBSERVATIONS/COMMENTS:

DPT refusal 6', Daylighing occurred weeds

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/13/2023

PRB-1-2'

Start Time: 12:25

Stop Time 12:30

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**3-5'**	
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**125**	
Depth of Injection (ft)	**3**	
Grams B2/inj	**13.545**	
Grams RYR/inj	**128.0925**	
Pounds of Provect-IR/inj	**25**	
Pounds of ZVI/inj	**12.75**	
Pounds of Sulfite/inj	**1.25**	
Pounds of Nutrient/inj	**2.5**	
Pounds of Propionate/inj	**12.5**	
Grams of B12/inj	**1.95**	
Estimated Gallons of Slurry	**25**	
Pressure of Post-injection pathway development (PSI)	**50**	

FIELD OBSERVATIONS/COMMENTS:

Added location, 10' E of PRB1-2. DPT refusal 5', daylighting

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/13/2023

PRB-1-3

Start Time: 10:25

Stop Time 10:35

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**5-7'**	**5-8'**
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**150**	
Depth of Injection (ft)	**5**	
Grams B2/inj	**27.09**	**54.18**
Grams RYR/inj	**256.185**	**512.37**
Pounds of Provect-IR/inj	**50**	**100**
Pounds of ZVI/inj	**25.5**	**51**
Pounds of Sulfite/inj	**2.5**	**5**
Pounds of Nutrient/inj	**5**	**10**
Pounds of Propionate/inj	**25**	**50**
Grams of B12/inj	**3.9**	**7.8**
Estimated Gallons of Slurry	**50**	**100**
Pressure of Post-injection pathway development (PSI)	**100**	

FIELD OBSERVATIONS/COMMENTS:

Daylighting occurred.

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/13/2023

PRB-1-3'

Start Time: 11:14

Stop Time 11:20

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**3-5'**	
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**120**	
Depth of Injection (ft)	**3**	
Grams B2/inj	**13.545**	
Grams RYR/inj	**128.0925**	
Pounds of Provect-IR/inj	**25**	
Pounds of ZVI/inj	**12.75**	
Pounds of Sulfite/inj	**1.25**	
Pounds of Nutrient/inj	**2.5**	
Pounds of Propionate/inj	**12.5**	
Grams of B12/inj	**1.95**	
Estimated Gallons of Slurry	**25**	
Pressure of Post-injection pathway development (PSI)	**100**	

FIELD OBSERVATIONS/COMMENTS:

Added location, bt 2-3. DPT refusal 5', daylighting

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/13/2023

PRB-1-4

Start Time: 11:37

Stop Time 11:46

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**5-7'**	**5-8'**
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**150**	
Depth of Injection (ft)	**5**	
Grams B2/inj	**27.09**	**54.18**
Grams RYR/inj	**256.185**	**512.37**
Pounds of Provect-IR/inj	**50**	**100**
Pounds of ZVI/inj	**25.5**	**51**
Pounds of Sulfite/inj	**2.5**	**5**
Pounds of Nutrient/inj	**5**	**10**
Pounds of Propionate/inj	**25**	**50**
Grams of B12/inj	**3.9**	**7.8**
Estimated Gallons of Slurry	**50**	**100**
Pressure of Post-injection pathway development (PSI)	**50**	

FIELD OBSERVATIONS/COMMENTS:

Daylighting -edge of former excavation

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/13/2023

PRB-1-4'

Start Time: 11:57

Stop Time 12:05

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**5-7'**	
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**150**	
Depth of Injection (ft)	**5**	
Grams B2/inj	**13.545**	
Grams RYR/inj	**128.0925**	
Pounds of Provect-IR/inj	**25**	
Pounds of ZVI/inj	**12.75**	
Pounds of Sulfite/inj	**1.25**	
Pounds of Nutrient/inj	**2.5**	
Pounds of Propionate/inj	**12.5**	
Grams of B12/inj	**1.95**	
Estimated Gallons of Slurry	**25**	
Pressure of Post-injection pathway development (PSI)	**50**	

FIELD OBSERVATIONS/COMMENTS:

Added location, bt 3-4, daylighting

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/13/2023

PRB-1-5

Start Time: 2:50

Stop Time 2:56

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**4-6'**	**5-8'**
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**125**	
Depth of Injection (ft)	**4**	
Grams B2/inj	**27.09**	**54.18**
Grams RYR/inj	**256.185**	**512.37**
Pounds of Provect-IR/inj	**50**	**100**
Pounds of ZVI/inj	**25.5**	**51**
Pounds of Sulfite/inj	**2.5**	**5**
Pounds of Nutrient/inj	**5**	**10**
Pounds of Propionate/inj	**25**	**50**
Grams of B12/inj	**3.9**	**7.8**
Estimated Gallons of Slurry	**50**	**100**
Pressure of Post-injection pathway development (PSI)	**50**	

FIELD OBSERVATIONS/COMMENTS:

DPT refusal 6', Daylighting-edge of former excavation

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/13/2023

PRB-1-5'

Start Time: 1:57

Stop Time 2:03

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**5-7'**	
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**125**	
Depth of Injection (ft)	**4**	
Grams B2/inj	**13.545**	
Grams RYR/inj	**128.0925**	
Pounds of Provect-IR/inj	**25**	
Pounds of ZVI/inj	**12.75**	
Pounds of Sulfite/inj	**1.25**	
Pounds of Nutrient/inj	**2.5**	
Pounds of Propionate/inj	**12.5**	
Grams of B12/inj	**1.95**	
Estimated Gallons of Slurry	**25**	
Pressure of Post-injection pathway development (PSI)	**50**	

FIELD OBSERVATIONS/COMMENTS:

Added location, bt 4-5, daylighting

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/13/2023

PRB-1-6

Start Time: 3:07

Stop Time 3:11

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**3-5'**	**5-8'**
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**100**	
Depth of Injection (ft)	**3**	
Grams B2/inj	**27.09**	**54.18**
Grams RYR/inj	**256.185**	**512.37**
Pounds of Provect-IR/inj	**50**	**100**
Pounds of ZVI/inj	**25.5**	**51**
Pounds of Sulfite/inj	**2.5**	**5**
Pounds of Nutrient/inj	**5**	**10**
Pounds of Propionate/inj	**25**	**50**
Grams of B12/inj	**3.9**	**7.8**
Estimated Gallons of Slurry	**50**	**100**
Pressure of Post-injection pathway development (PSI)	**50**	

FIELD OBSERVATIONS/COMMENTS:

DPT refusal 5', Daylighting

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/15/2023

PRB-1-6'

Start Time: 8:30

Stop Time 8:35

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**5-7'**	
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**100**	
Depth of Injection (ft)	**3**	
Grams B2/inj	**17.879**	
Grams RYR/inj	**169.082**	
Pounds of Provect-IR/inj	**33**	
Pounds of ZVI/inj	**16.83**	
Pounds of Sulfite/inj	**1.65**	
Pounds of Nutrient/inj	**3.3**	
Pounds of Propionate/inj	**16.5**	
Grams of B12/inj	**2.754**	
Estimated Gallons of Slurry	**33**	
Pressure of Post-injection pathway development (PSI)	**50**	

FIELD OBSERVATIONS/COMMENTS:

Added point, daylighting.

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/15/2023

PRB-1-6"

Start Time: 8:46

Stop Time 8:54

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**5-7'**	
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**100**	
Depth of Injection (ft)	**3**	
Grams B2/inj	**35.758**	
Grams RYR/inj	**338.164**	
Pounds of Provect-IR/inj	**66**	
Pounds of ZVI/inj	**33.66**	
Pounds of Sulfite/inj	**3.3**	
Pounds of Nutrient/inj	**6.6**	
Pounds of Propionate/inj	**33**	
Grams of B12/inj	**5.148**	
Estimated Gallons of Slurry	**66**	
Pressure of Post-injection pathway development (PSI)	**50**	

FIELD OBSERVATIONS/COMMENTS:

Added location bt 6-6'.

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/13/2023

PRB-1-7

Start Time: 3:24

Stop Time 3:30

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	6-8'	5-8'
Duration of Fracture (seconds):	2	
Pressure of Pre-injection pathway development	150	
Depth of Injection (ft)	6	
Grams B2/inj	27.09	54.18
Grams RYR/inj	256.185	512.37
Pounds of Provect-IR/inj	50	100
Pounds of ZVI/inj	25.5	51
Pounds of Sulfite/inj	2.5	5
Pounds of Nutrient/inj	5	10
Pounds of Propionate/inj	25	50
Grams of B12/inj	3.9	7.8
Estimated Gallons of Slurry	50	100
Pressure of Post-injection pathway development (PSI)	50	

FIELD OBSERVATIONS/COMMENTS:

Daylighting -edge of building

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/14/2023

PRB-1-7'

Start Time: 3:28

Stop Time 3:36

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**6-8'**	
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**150**	
Depth of Injection (ft)	**6**	
Grams B2/inj	**17.879**	
Grams RYR/inj	**169.08**	
Pounds of Provect-IR/inj	**33**	
Pounds of ZVI/inj	**16.83**	
Pounds of Sulfite/inj	**1.65**	
Pounds of Nutrient/inj	**3.3**	
Pounds of Propionate/inj	**16.5**	
Grams of B12/inj	**2.574**	
Estimated Gallons of Slurry	**33**	
Pressure of Post-injection pathway development (PSI)	**50**	

FIELD OBSERVATIONS/COMMENTS:

Added location b/t 7-9, Daylighting

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/13/2023

PRB-1-8

Start Time: 3:45

Stop Time 4:01

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**6-8'**	**5-8'**
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**150**	
Depth of Injection (ft)	**6**	
Grams B2/inj	**54.18**	**54.18**
Grams RYR/inj	**512.37**	**512.37**
Pounds of Provect-IR/inj	**100**	**100**
Pounds of ZVI/inj	**51**	**51**
Pounds of Sulfite/inj	**5**	**5**
Pounds of Nutrient/inj	**10**	**10**
Pounds of Propionate/inj	**50**	**50**
Grams of B12/inj	**7.8**	**7.8**
Estimated Gallons of Slurry	**100**	**100**
Pressure of Post-injection pathway development (PSI)	**50**	

FIELD OBSERVATIONS/COMMENTS:

Daylighting pipd.

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/14/2023

PRB-1-8'

Start Time: 4:10

Stop Time 4:16

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**6-8'**	
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**150**	
Depth of Injection (ft)	**6**	
Grams B2/inj	**17.879**	
Grams RYR/inj	**169.08**	
Pounds of Provect-IR/inj	**33**	
Pounds of ZVI/inj	**16.83**	
Pounds of Sulfite/inj	**1.65**	
Pounds of Nutrient/inj	**3.3**	
Pounds of Propionate/inj	**16.5**	
Grams of B12/inj	**2.574**	
Estimated Gallons of Slurry	**33**	
Pressure of Post-injection pathway development (PSI)	**50**	

FIELD OBSERVATIONS/COMMENTS:

Added location East of 8, Daylighting

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/13, 6/14/23

PRB-1-9

Start Time: 4:18, 8:10

Stop Time 4:25, 8:15

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**6-8'**	**5-8'**
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**150**	
Depth of Injection (ft)	**6**	
Grams B2/inj	**54.18**	**54.18**
Grams RYR/inj	**512.37**	**512.37**
Pounds of Provect-IR/inj	**100**	**100**
Pounds of ZVI/inj	**51**	**51**
Pounds of Sulfite/inj	**5**	**5**
Pounds of Nutrient/inj	**10**	**10**
Pounds of Propionate/inj	**50**	**50**
Grams of B12/inj	**7.8**	**7.8**
Estimated Gallons of Slurry	**100**	**100**
Pressure of Post-injection pathway development (PSI)	**50**	

FIELD OBSERVATIONS/COMMENTS:

Daylighting-edge of former excavation.

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/14/2023

PRB-1-9'

Start Time: 3:50

Stop Time 3:55

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**5-7'**	
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**150**	
Depth of Injection (ft)	**6**	
Grams B2/inj	**17.879**	
Grams RYR/inj	**169.08**	
Pounds of Provect-IR/inj	**33**	
Pounds of ZVI/inj	**16.83**	
Pounds of Sulfite/inj	**1.65**	
Pounds of Nutrient/inj	**3.3**	
Pounds of Propionate/inj	**16.5**	
Grams of B12/inj	**2.574**	
Estimated Gallons of Slurry	**33**	
Pressure of Post-injection pathway development (PSI)	**50**	

FIELD OBSERVATIONS/COMMENTS:

Added location bt 8 and 9, Daylighting

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/14/2023

PRB-1-10

Start Time: 11:08

Stop Time 11:42

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**6-8'**	**5-8'**
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**150**	
Depth of Injection (ft)	**6**	
Grams B2/inj	**81.27**	**54.18**
Grams RYR/inj	**768.555**	**512.37**
Pounds of Provect-IR/inj	**150**	**100**
Pounds of ZVI/inj	**76.5**	**51**
Pounds of Sulfite/inj	**7.5**	**5**
Pounds of Nutrient/inj	**15**	**10**
Pounds of Propionate/inj	**75**	**50**
Grams of B12/inj	**11.7**	**7.8**
Estimated Gallons of Slurry	**150**	**100**
Pressure of Post-injection pathway development (PSI)	**50**	

FIELD OBSERVATIONS/COMMENTS:

inside location, reagent from PRB1-1 added here.

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/14/2023

PRB-1-11

Start Time: 1:25

Stop Time 1:40

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	**4-6'**	**5-8'**
Duration of Fracture (seconds):	**2**	
Pressure of Pre-injection pathway development	**150**	
Depth of Injection (ft)	**4**	
Grams B2/inj	**54.18**	**54.18**
Grams RYR/inj	**512.37**	**512.37**
Pounds of Provect-IR/inj	**100**	**100**
Pounds of ZVI/inj	**51**	**51**
Pounds of Sulfite/inj	**5**	**5**
Pounds of Nutrient/inj	**10**	**10**
Pounds of Propionate/inj	**50**	**50**
Grams of B12/inj	**7.8**	**7.8**
Estimated Gallons of Slurry	**100**	**100**
Pressure of Post-injection pathway development (PSI)	**50**	

FIELD OBSERVATIONS/COMMENTS:

inside location, DPT refusal 6'

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

	Sterling-Troy Belting	In-Situ Reductive

Injection Date: 6/14/2023

PRB-1-12

Start Time: 2:29

Stop Time 2:39

	Summary	
Summary	**Actual**	**Proposed**
Injection Zone	6-8'	5-8'
Duration of Fracture (seconds):	2	
Pressure of Pre-injection pathway development	150	
Depth of Injection (ft)	6	
Grams B2/inj	54.18	54.18
Grams RYR/inj	512.37	512.37
Pounds of Provect-IR/inj	100	100
Pounds of ZVI/inj	51	51
Pounds of Sulfite/inj	5	5
Pounds of Nutrient/inj	10	10
Pounds of Propionate/inj	50	50
Grams of B12/inj	7.8	7.8
Estimated Gallons of Slurry	100	100
Pressure of Post-injection pathway development (PSI)	50	

FIELD OBSERVATIONS/COMMENTS:

inside location.

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Sterling-Troy Belting	In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

PRB 1	Point Summary	PRB Summary
Number of Points	21	12
Grams B2/pt	650.2	650.2
Grams RYR/pt	6148.5	6148.5
Pounds Provect-IR/pt	1200	1200
Pounds of ZVI/pt	612	612
Pounds of Sulfite/pt	60	60
Pounds of Nutrient/pt	120	120
Pounds of Propionate/pt	600	600
Grams of B12/pt	91.7	91.7
Gallons of Slurry	1200	1200

Comments: