

Appendices

Appendix A

Photographs of Drilling Location



PHOTOGRAPHIC LOG

Client Name: DuPont		Site Location: Montague Michigan	Project No. 18984840
Photo No. 1	Date: 10/01/2013		
Direction Photo Taken: ~North			
Description: Viewing rig being set up at 2013SBBP-01.			

Photo No. 2	Date: 10/01/2013	
Direction Photo Taken: Northeast		
Description: Viewing rig being set up at 2013SBBP-01.		

Client Name: DuPont		Site Location: Montague Michigan	Project No. 18984840
Photo No. 3	Date: 10/02/2013		
Direction Photo Taken: Northwest			
Description: Viewing rig at 2013SBBP-01.			

Photo No. 4	Date: 10/02/2013	
Direction Photo Taken: Southwest		
Description: Viewing rig at 2013SBBP-01.		

Appendix B

Boring Logs – Existing Monitoring Wells



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

**LOG OF BORING
2013SBBP-01**

SHEET 1 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 654.0 ft msl	Coordinates (N,E): 699105.8, 12579705.7
Drilling Company: Cascade		Date Started: 09/30/13	Date Finished: 10/01/13
Drilling Equipment: Rotosonic with 10' x 6" ID		Refusal Depth (ft bgs):	Rock Depth (ft bgs): Completion Depth (ft bgs): 107.0
Drilling Method: rotosonic		Water Level (ft bgs)	
Drill Bit Type/Diameter: 6" ID x 10' rotosonic		First Encount.:	At Completion:
Sampler Type/Diameter:		Driller:	Field Logger: George Gregory
Boring Location Description: SW corner of the Bury Pit Landfill, just off access road		Reviewed by: Heather Herr	

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
		SILTY SAND (SM), brown; topsoil; slightly damp.					
		SAND (SP), orangish tan; medium grained sand; loose; slightly damp.					
652			2		0.2		
650			4				
648			6		NR		
646		SAND (SP), tan; fine to medium grained sand; very loose; damp to moist.	8		0.1		
644			10				
					0.1		



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING 2013SBBP-01

SHEET 2 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 654.0 ft msl	Coordinates (N,E): 699105.8, 12579705.7

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
640			14		0.2		12 ft Collected 2013SBBP-01-012
638			16				
636			18		2.5		
634			20				20 ft Collected 2013SBBP-01-020
632			22		1.0		
630			24		1.0		
628			26				

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LOG OF BORING 2013SBBP-01

SHEET 3 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 654.0 ft msl	Coordinates (N,E): 699105.8, 12579705.7

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
626			28				
624			30		2.8		
622			32				
620			34		2.2		35 ft Collected 2013SBBP-01-035
618			36				
616		At 37' becomes wet.	38		0.3		
614		SILTY SAND (SM), tan; very fine grained sand; loose; wet; silty.	40		1.2		



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING 2013SBBP-01

SHEET 4 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 654.0 ft msl	Coordinates (N,E): 699105.8, 12579705.7

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
612			42				
610			44		0.2		
608			46				
606		SAND (SP), tan; medium grained sand; wet; loose.	48		0.3		
604			50		0.3		
602			52				
600			54				

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CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING 2013SBBP-01

SHEET 5 OF 8

Project:	DuPont - Montague	Project No.:	18984840
Location:	Montague, MI	Elevation:	654.0 ft msl
		Coordinates (N,E):	699105.8, 12579705.7

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
598		From 55' to 57' contains occasional slightly rounded pebbles and clay nodules.	56		0.5		
596			58				
594			60		0.1		
592			62				
590			64				
588			66		0.2		65 ft Collected 2013SBBP-01-065
586			68				
		From 68' to 91' small white sand grains (possible shell fragments??).					

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CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING 2013SBBP-01

SHEET 6 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 654.0 ft msl	Coordinates (N,E): 699105.8, 12579705.7

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
584			70		0.1		
582			72		0.1		
580			74		0.1		
578			76		0.1		
576			78		0.1		
574			80		0.1		
572			82				

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CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING 2013SBBP-01

SHEET 7 OF 8

Project:	DuPont - Montague	Project No.:	18984840
Location:	Montague, MI	Elevation:	654.0 ft msl
		Coordinates (N,E):	699105.8, 12579705.7

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
570		At 84.5' - 8" thick zone of orangish tan sand.	84		0.1		
568			86				
566			88		0.4		
564			90		0.3		
562		CLAYEY SILT (MLC), tan; very moist; slightly plastic; firm.	92				
560		SANDY CLAY (CLS), reddish tan; very hard; with coarse sand; one 2" moderately rounded gravel clast.	94				
		SILT (ML), tan; damp; no cohesion; friable.			0.3		
558			96				
		SILTY SAND (MLS), tan; fine grained sand; very moist; slightly loose.					

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CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING 2013SBBP-01

SHEET 8 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 654.0 ft msl	Coordinates (N,E): 699105.8, 12579705.7

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
556		SAND (SP), tan; medium grained; loose; wet.	98				
		CLAY (CL), tan; firm; moist; silty; one layer of firm plastic clay at 103'.			0.3		
554			100				
					0.3		
552			102				
		SAND (SP), tan; medium grained sand; loose; wet.			0.4		
550			104				
		CLAY (CL), tan and reddish tan clay with sandy clay; hard; occasional ochre-colored clay layers.			0.3		
548			106				

End of Boring at 107 ft BGS.

Borehole backfilled with bentonite grout



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LOG OF BORING

BP-002-100

SHEET 1 OF 8

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Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 656.0 ft msl	Coordinates (N,E): 699124.8, 12579837.8
Drilling Company: Walkerville Well Drilling & Supply Co. Inc.		Date Started:	Date Finished: 01/04/89
Drilling Equipment: Hollowstem Auger Rig		Refusal Depth (ft bgs):	Rock Depth (ft bgs): Completion Depth (ft bgs): 100.0
Drilling Method: Hollow stem Auger		Water Level (ft bgs)	
Drill Bit Type/Diameter: 10" X 6.25" Hollowstem Auger		First Encount.:	At Completion:
Sampler Type/Diameter: 2' length split spoon		Well Installed? No	Dist.: 18
Boring Location Description: Bury Pit		Driller: Fred Walker	Field Logger:
		Reviewed by: George Gregory	

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
654		No lithology present on log. Consider blind drilled to 55 ft BGS..	2				
652			4				
650			6				
648			8				
646			10				



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING
BP-002-100
SHEET 2 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 656.0 ft msl	Coordinates (N,E): 699124.8, 12579837.8

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
642			14				
640			16				
638			18				
636			20				
634			22				
632			24				
630			26				

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CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-002-100

SHEET 3 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 656.0 ft msl	Coordinates (N,E): 699124.8, 12579837.8

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
628			28				
626			30				
624			32				
622			34				
620			36				
618			38				
616			40				

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CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-002-100

SHEET 4 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 656.0 ft msl	Coordinates (N,E): 699124.8, 12579837.8

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
614			42				
612			44				
610			46				
608			48				
606			50				
604			52				
602			54				

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CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-002-100

SHEET 5 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 656.0 ft msl	Coordinates (N,E): 699124.8, 12579837.8

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
600		SAND (SP), brown, medium to coarse grained. At 56 ft BGS becomes wet.	56				
598			58				
596			60				
594			62				
592			64				
590			66				
588			68				

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-002-100

SHEET 6 OF 8

Project:	DuPont - Montague	Project No.:	18984840
Location:	Montague, MI	Elevation:	656.0 ft msl
		Coordinates (N,E):	699124.8, 12579837.8

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
586		SILTY SAND (SM), brown, medium grained, wet, some silt.	70				
584			72				
582			74				
580		SAND (SP), brown, medium to coarse grained, wet.	76				
578		SILTY SAND (SM), brown, medium grained, wet, some silt.	78				
576		SAND (SP), brown, coarse grained, wet.	80				
574			82				

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CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-002-100

SHEET 7 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 656.0 ft msl	Coordinates (N,E): 699124.8, 12579837.8

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
572			84				
570			86				
568			88				
566			90				
564			92				
562			94				
		CLAY (CL), gray.					
560			96				

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template: URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-002-100

SHEET 8 OF 8

Project: DuPont - Montague				Project No.: 18984840			
Location: Montague, MI				Elevation: 656.0 ft msl		Coordinates (N,E): 699124.8, 12579837.8	
ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
558			98				
			100				

End of Boring at 100 ft BGS.



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-003-070

SHEET 1 OF 5

Report: URS-CHICAGO - Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template: URS-CHICAGO.GDT Printed: 12/17/13

Project:	DuPont - Montague	Project No.: 18984840					
Location:	Montague, MI	Elevation: 656.8 ft msl		Coordinates (N,E): 699041.9, 12579406.9			
Drilling Company:	Walkerville Well Drilling & Supply Co. Inc.	Date Started: 11/21/88			Date Finished: 12/15/88		
Drilling Equipment:	Hollowstem Auger Rig	Refusal Depth (ft bgs):		Rock Depth (ft bgs):		Completion Depth (ft bgs): 65.0	
Drilling Method:	Hollow stem Auger	Water Level (ft bgs)			Number of Samples		
Drill Bit Type/Diameter:	10" X 6.25" Hollowstem Auger	First Encount.:	At Completion:	Well Installed? No	Dist.: 30	Undist.: 0	Core: 0
Sampler Type/Diameter:	2' length split spoon	Driller: Fred Walker			Field Logger:		
Boring Location Description:	Bury Pit	Reviewed by: George Gregory					

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
656		SAND (SP), brown, medium grained, with organic material.					
		SAND (SP), brown, fine to medium grained.	2				
654							
		SAND (SP), tan, fine to medium grained.	4				
652							
			6				
650							
			8				
648							
			10				
646		SAND WITH GRAVEL (SPG), tan, fine to medium grained sand, some gravel.					



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-003-070

SHEET 2 OF 5

Project:	DuPont - Montague	Project No.:	18984840
Location:	Montague, MI	Elevation:	656.8 ft msl
		Coordinates (N,E):	699041.9, 12579406.9

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ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
644		SAND (SP), tan, fine to medium grained.					
			14				
642							
			16				
640							
			18				
638							
			20				
636							
			22				
634			24				
632			26				



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-003-070

SHEET 3 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 656.8 ft msl	Coordinates (N,E): 699041.9, 12579406.9

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
630		SILTY SAND (SP-SM), tan, fine to medium sand with silt layers.					
		SAND (SP), tan, fine to medium grained.	28				
628							
		SILTY SAND (SP-SM), tan, fine to medium grained sand with layers of very fine silty sand.	30				
626							
			32				
624							
		SAND (SP), tan, fine to medium grained.	34				
622							
			36				
620							
			38				
618							
			40				

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CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-003-070

SHEET 4 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 656.8 ft msl	Coordinates (N,E): 699041.9, 12579406.9

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
616							
614							
612							
610							
608							
606							
604							
602							

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CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-003-070

SHEET 5 OF 5

Project:	DuPont - Montague	Project No.: 18984840	
Location:	Montague, MI	Elevation: 656.8 ft msl	Coordinates (N,E): 699041.9, 12579406.9

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
600		At 57 ft BGS, water table encountered. (SP), No sample recovery from 58 ft BGS to 65 ft BGS. Inferred lithology as above..	56				
			58				
598			60				
596			62				
594			64				
592							

End of boring at 65 ft BGS..



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-004-070

SHEET 1 OF 5

Project:	DuPont - Montague	Project No.:	18984840		
Location:	Montague, MI	Elevation:	652.4 ft msl	Coordinates (N,E):	699594.6, 12579670.6
Drilling Company:	Walkerville Well Drilling & Supply Co. Inc.	Date Started:		Date Finished:	12/20/88
Drilling Equipment:	Hollowstem Auger Rig	Refusal Depth (ft bgs):		Rock Depth (ft bgs):	Completion Depth (ft bgs): 60.0
Drilling Method:	Hollow stem Auger	Water Level (ft bgs)		Number of Samples	
Drill Bit Type/Diameter:	10" X 6.25" Hollowstem Auger	First Encount.:	At Completion:	Well Installed?	Dist.: 30
Sampler Type/Diameter:	2' length split spoon	Driller:	Fred Walker	Field Logger:	Undist.: 0
Boring Location Description:	Bury Pit	Reviewed by:	George Gregory	Core:	0

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
652		TOPSOIL (OL), brown.					
		SAND (SP), brown, fine to medium grained.					
650		SAND (SP), tan, fine to medium grained.	2				
			4				
648			6				
			8				
646			10				
644							
642		SILTY SAND (SM), tan, fine to medium sand with silty sand layers.					

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-004-070

SHEET 2 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 652.4 ft msl	Coordinates (N,E): 699594.6, 12579670.6

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
640							
638		SAND (SP), tan, fine to medium grained.	14				
636			16				
634			18				
632			20				
630			22				
628			24				
			26				

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-004-070

SHEET 3 OF 5

Project:	DuPont - Montague	Project No.:	18984840
Location:	Montague, MI	Elevation:	652.4 ft msl
		Coordinates (N,E):	699594.6, 12579670.6

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
626							
624							
622							
620							
618		SAND (SP), tan, fine to medium grained with 1" clay lense.					
616		SILTY SAND (SM), tan, very fine grained.					
614		SAND (SP), tan, very fine grained.					
612							

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-004-070

SHEET 4 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 652.4 ft msl	Coordinates (N,E): 699594.6, 12579670.6

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
610			42				
608			44				
		SILTY SAND (SM), tan, very fine grained.					
606			46				
		SAND (SP), tan, very fine grained.					
604			48				
602			50				
		At 51 ft BGS, encountered water table.					
600			52				
			54				
598							

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-004-070

SHEET 5 OF 5

Project:	DuPont - Montague	Project No.:	18984840
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Location:	Montague, MI	Elevation:	652.4 ft msl	Coordinates (N,E):	699594.6, 12579670.6
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ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
596			56				
594			58				
			60				

End of boring at 60 ft BGS..



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-005-070

SHEET 1 OF 5

Report: URS-CHICAGO - Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ - Data Template:URS-CHICAGO.GDT Printed: 12/17/13

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.9 ft msl	Coordinates (N,E): 699136.1, 12580019.7
Drilling Company: Walkerville Well Drilling & Supply Co. Inc.		Date Started:	Date Finished:
Drilling Equipment: Hollowstem Auger Rig		Refusal Depth (ft bgs):	Rock Depth (ft bgs): Completion Depth (ft bgs): 65.0
Drilling Method: Hollow stem Auger		Water Level (ft bgs)	
Drill Bit Type/Diameter: 10" X 6.25" Hollowstem Auger		First Encount.:	At Completion:
Sampler Type/Diameter: 2' length split spoon		Well Installed? No	Dist.: 30
Boring Location Description: Bury Pit		Driller: Fred Walker	Field Logger:
		Reviewed by: George Gregory	Undist.: 0
			Core: 0

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
		Fill: FILL "FILL", Black top and brown fine to medium sand.					
654		SAND (SP), light brown, dry, fine to medium grained.	2				
652			4				
650			6				
648			8				
646			10				
644							



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-005-070

SHEET 2 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.9 ft msl	Coordinates (N,E): 699136.1, 12580019.7

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
642			14				
640		SAND (SP), purple, dry, fine grained, gravel, no odor.	16				
638			18				
636			20				
634			22				
632			24				
630			26				

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-005-070

SHEET 3 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.9 ft msl	Coordinates (N,E): 699136.1, 12580019.7

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
628			28				
626			30				
624			32				
622			34				
620		SAND (SP), black.	36				
618		SAND (SP), light brown, moist, fine to medium grained.	38				
616			40				

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-005-070

SHEET 4 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.9 ft msl	Coordinates (N,E): 699136.1, 12580019.7

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
614			42				
612			44				
610			46				
608			48				
606			50				
604			52				
602			54				

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-005-070

SHEET 5 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.9 ft msl	Coordinates (N,E): 699136.1, 12580019.7

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
600		(SP), Inferred as above. No recovery from below 56 ft BGS.	56				
			58				
598			60				
596			62				
594			64				
592							

End of boring at 65 ft BGS..

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



LOG OF BORING
BP-006-058
SHEET 1 OF 5

Project:	DuPont - Montague	Project No.: 18984840					
Location:	Montague, MI	Elevation: 652.2 ft msl		Coordinates (N,E): 698900.0, 12579838.6			
Drilling Company:	Walkerville Well Drilling & Supply Co. Inc.	Date Started: 05/24/90			Date Finished: 05/29/90		
Drilling Equipment:	Hollowstem Auger Rig	Refusal Depth (ft bgs):		Rock Depth (ft bgs):		Completion Depth (ft bgs): 58.0	
Drilling Method:	Hollow stem Auger	Water Level (ft bgs)			Number of Samples		
Drill Bit Type/Diameter:		First Encount.:	At Completion:	Well Installed? No	Dist.: 0	Undist.: 0	
Sampler Type/Diameter:		Driller:			Field Logger:		
Boring Location Description:	100' South of Bury Pit	Reviewed by: George Gregory					

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
652		SAND (SP), light orange red, medium grained.					
650				2			
648				4			
646				6			
644				8			
642				10			



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-006-058

SHEET 2 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 652.2 ft msl	Coordinates (N,E): 698900.0, 12579838.6

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
640							
638			14				
636			16				
634			18				
632			20				
630			22				
628			24				
626			26				

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-006-058

SHEET 3 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 652.2 ft msl	Coordinates (N,E): 698900.0, 12579838.6

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template: URS-CHICAGO.GDT Printed: 12/17/13

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
624			28				
622			30				
620			32				
618			34				
616			36				
614			38				
612			40				



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-006-058

SHEET 4 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 652.2 ft msl	Coordinates (N,E): 698900.0, 12579838.6

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
610			42				
608			44				
606			46				
604		End of boring at 48 ft BGS..	48				
602			50				
600			52				
598			54				

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-006-058

SHEET 5 OF 5

Project: DuPont - Montague				Project No.: 18984840			
Location: Montague, MI				Elevation: 652.2 ft msl		Coordinates (N,E): 698900.0, 12579838.6	
ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
596			56				
			58				



LOG OF BORING
BP-006-090
SHEET 1 OF 7

Project:	DuPont - Montague	Project No.: 18984840						
Location:	Montague, MI	Elevation: 650.4 ft msl			Coordinates (N,E): 698893.6, 12579838.1			
Drilling Company:	Walkerville Well Drilling & Supply Co. Inc.	Date Started: 05/24/90			Date Finished: 05/29/90			
Drilling Equipment:	Hollowstem Auger Rig	Refusal Depth (ft bgs):		Rock Depth (ft bgs):		Completion Depth (ft bgs): 90.0		
Drilling Method:	Hollow stem Auger	Water Level (ft bgs)			Number of Samples			
Drill Bit Type/Diameter:		First Encount.:	At Completion:	Well Installed? No	Dist.: 0	Undist.: 0	Core: 0	
Sampler Type/Diameter:		Driller:			Field Logger:			
Boring Location Description:	100' South of Bury Pit	Reviewed by: George Gregory						

ELEV		DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
650		SAND (SP), light orange red, medium grained.					
648			2				
646			4				
644			6				
642			8				
640			10				



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-006-090

SHEET 2 OF 7

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 650.4 ft msl	Coordinates (N,E): 698893.6, 12579838.1

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
638							
636			14				
634			16				
632			18				
630			20				
628			22				
626			24				
			26				



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-006-090

SHEET 3 OF 7

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 650.4 ft msl	Coordinates (N,E): 698893.6, 12579838.1

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
622			28				
620			30				
618			32				
616			34				
614			36				
612			38				
610			40				



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-006-090

SHEET 4 OF 7

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 650.4 ft msl	Coordinates (N,E): 698893.6, 12579838.1

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
608			42				
606			44				
604			46				
602			48				
600			50				
598			52				
596			54				

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-006-090

SHEET 5 OF 7

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 650.4 ft msl	Coordinates (N,E): 698893.6, 12579838.1

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
594			56				
592			58				
590			60				
588			62				
586			64				
584			66				
582			68				

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-006-090

SHEET 6 OF 7

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 650.4 ft msl	Coordinates (N,E): 698893.6, 12579838.1

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
580			70				
578			72				
576			74				
574			76				
572			78				
570			80				
568			82				



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-006-090

SHEET 7 OF 7

Project: DuPont - Montague Project No.: 18984840

Location: Montague, MI Elevation: 650.4 ft msl Coordinates (N,E): 698893.6, 12579838.1

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
566			84				
564			86				
562			88				
			90				

End of boring at 90 ft BGS..



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-007-065

SHEET 1 OF 5

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13

Project: DuPont - Montague		Project No.: 18984840			
Location: Montague, MI		Elevation: 653.3 ft msl		Coordinates (N,E): 699008.8, 12579991.5	
Drilling Company: Walkerville Well Drilling & Supply Co. Inc.		Date Started: 05/23/90		Date Finished: 05/25/90	
Drilling Equipment: Hollowstem Auger Rig		Refusal Depth (ft bgs):		Rock Depth (ft bgs):	
Drilling Method: Hollow stem Auger		Water Level (ft bgs)		Completion Depth (ft bgs): 65.0	
Drill Bit Type/Diameter:		First Encount.:		At Completion:	
Sampler Type/Diameter:		Driller:		Field Logger:	
Boring Location Description: 100' South-east of Bury Pit		Reviewed by: George Gregory		Well Installed? No	
				Dist.: 0	
				Undist.: 0	
				Core: 0	

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
652		SAND (SP), light orange red, medium grained.					
			2				
650							
			4				
648							
			6				
646							
			8				
644							
			10				
642							



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-007-065

SHEET 2 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 653.3 ft msl	Coordinates (N,E): 699008.8, 12579991.5

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
640			14				
638			16				
636			18				
634			20				
632			22				
630			24				
628			26				

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-007-065

SHEET 3 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 653.3 ft msl	Coordinates (N,E): 699008.8, 12579991.5

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
626							
			28				
624							
			30				
622							
			32				
620							
			34				
618							
			36				
616							
			38				
614							
			40				

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-007-065

SHEET 4 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 653.3 ft msl	Coordinates (N,E): 699008.8, 12579991.5

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
612							
			42				
610							
			44				
608							
			46				
606							
			48				
604							
			50				
602							
			52				
600							
			54				



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-007-065

SHEET 5 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 653.3 ft msl	Coordinates (N,E): 699008.8, 12579991.5

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
598							
			56				
596							
			58				
594							
			60				
592							
			62				
590							
			64				

End of Boring at 65 ft BGS..



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-007-093

SHEET 1 OF 7

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template: URS-CHICAGO.GDT Printed: 12/17/13

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 653.7 ft msl	Coordinates (N,E): 699002.7, 12579990.3
Drilling Company: Walkerville Well Drilling & Supply Co. Inc.		Date Started: 05/23/90	Date Finished: 05/25/90
Drilling Equipment: Hollowstem Auger Rig		Refusal Depth (ft bgs):	Rock Depth (ft bgs): Completion Depth (ft bgs): 95.0
Drilling Method: Hollow stem Auger		Water Level (ft bgs)	
Drill Bit Type/Diameter:		First Encount.:	At Completion:
Sampler Type/Diameter: 2' length split spoon		Driller:	Field Logger:
Boring Location Description: 100' South-east of Bury Pit		Reviewed by: George Gregory	

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
652		SAND (SP), light orange red, medium grained.	2				
650			4				
648			6				
646			8				
644			10				
642							



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-007-093

SHEET 2 OF 7

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 653.7 ft msl	Coordinates (N,E): 699002.7, 12579990.3

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
640			14				
638			16				
636			18				
634			20				
632			22				
630			24				
628			26				

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-007-093

SHEET 3 OF 7

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 653.7 ft msl	Coordinates (N,E): 699002.7, 12579990.3

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
626			28				
624			30				
622			32				
620			34				
618			36				
616			38				
614			40				

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-007-093

SHEET 4 OF 7

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 653.7 ft msl	Coordinates (N,E): 699002.7, 12579990.3

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
612			42				
610			44				
608			46				
606			48				
604			50				
602			52				
600			54				



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-007-093

SHEET 5 OF 7

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 653.7 ft msl	Coordinates (N,E): 699002.7, 12579990.3

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
598			56				
596			58				
594			60				
592			62				
590			64				
588			66				
586			68				

Report: URS-CHICAGO; Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-007-093

SHEET 6 OF 7

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 653.7 ft msl	Coordinates (N,E): 699002.7, 12579990.3

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
584			70				
582			72				
580			74				
578			76				
576			78				
574			80				
572			82				

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-007-093

SHEET 7 OF 7

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 653.7 ft msl	Coordinates (N,E): 699002.7, 12579990.3

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
570			84				
568			86				
566			88				
564			90				
562			92				
		SAND (SP), light brown, medium grained.		1.5			
560		SAND (SP), dark brown, medium grained.					
		CLAYEY SAND (SC), light brown.	94				
		SANDY CLAY (CLS), gray, stiff.					

End of boring at 95 ft BGS..



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-008-060

SHEET 1 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 652.5 ft msl	Coordinates (N,E): 699674.1, 12580001.6
Drilling Company: Walkerville Well Drilling & Supply Co. Inc.		Date Started: 05/29/90	Date Finished: 05/30/90
Drilling Equipment: ATV - Hollowstem Auger Rig		Refusal Depth (ft bgs):	Rock Depth (ft bgs): Completion Depth (ft bgs): 60.0
Drilling Method: Hollow stem Auger		Water Level (ft bgs) Number of Samples	
Drill Bit Type/Diameter:		First Encount.: At Completion: Well Installed? No	Dist.: 0 Undist.: 0 Core: 0
Sampler Type/Diameter:		Driller:	Field Logger:
Boring Location Description: 50' North of Bury Pit		Reviewed by: George Gregory	

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
652		SAND (SP), red brown, medium grained.					
			2				
650							
			4				
648							
			6				
646							
			8				
644							
			10				
642							

Report: URS-CHICAGO; Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



BP-008-060

SHEET 2 OF 5

Project No.:	18984840
--------------	----------

Elevation:	652.5 ft msl
------------	--------------

Coordinates (N,E):	699674.1, 12580001.6
--------------------	----------------------

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
640							
638			14				
			16				
636							
			18				
634							
			20				
632							
	22						
630							
	24						
628							
	26						

Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEORPENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT
 Project: URS-CHICAGO; Report: URS-CHICAGO; HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEORPENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT
 Printed: 12/17/13



BP-008-060

SHEET 3 OF 5

Project No.:	18984840
--------------	----------

Elevation:	652.5 ft msl
------------	--------------

Coordinates (N,E):	699674.1, 12580001.6
--------------------	----------------------

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
626							
624							

Report: URS-CHICAGO; Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE; MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template: URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-008-060

SHEET 4 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 652.5 ft msl	Coordinates (N,E): 699674.1, 12580001.6

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
610			42				
608			44				
606			46				
604			48				
602			50				
600			52				
598			54				

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BP-008-060

SHEET 5 OF 5

Project: DuPont - Montague **Project No.:** 18984840

Location: Montague, MI **Elevation:** 652.5 ft msl **Coordinates (N,E):** 699674.1, 12580001.6

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
596			56				
594			58				
			60				

End of boring at 60 ft BGS..



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BPL-009-060

SHEET 1 OF 5

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.4 ft msl	Coordinates (N,E): 699261.2, 12579588.0
Drilling Company: Boart Longyear		Date Started: 12/19/96	Date Finished: 12/19/96
Drilling Equipment: Hollowstem Auger		Refusal Depth (ft bgs):	Rock Depth (ft bgs): Completion Depth (ft bgs): 65.0
Drilling Method: Hollowstem Auger		Water Level (ft bgs) Number of Samples	
Drill Bit Type/Diameter:		First Encount.: At Completion: Well Installed? No	Dist.: 0 Undist.: 0 Core: 0
Sampler Type/Diameter:		Driller: Field Logger:	
Boring Location Description: Bury Pit		Reviewed by: George Gregory	

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
654		SAND (SP).					
			2				
652							
			4				
650							
			6				
648							
			8				
646							
			10				
644							



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING BPL-009-060

SHEET 2 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.4 ft msl	Coordinates (N,E): 699261.2, 12579588.0

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
642			14				
640			16				
638			18				
636			20				
634			22				
632			24				
630			26				



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING BPL-009-060

SHEET 3 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.4 ft msl	Coordinates (N,E): 699261.2, 12579588.0

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
628			28				
626			30				
624			32				
622			34				
620			36				
618			38				
616			40				



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BPL-009-060

SHEET 4 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.4 ft msl	Coordinates (N,E): 699261.2, 12579588.0

Report: URS-CHICAGO; Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
614							
			42				
612							
			44				
610							
			46				
608							
			48				
606							
			50				
604							
			52				
602							
			54				



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING BPL-009-060

SHEET 5 OF 5

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.4 ft msl	Coordinates (N,E): 699261.2, 12579588.0

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
600							
			56				
598							
			58				
596							
			60				
594							
			62				
592							
			64				

End of boring at 65 ft BGS..



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BPL-009-085

SHEET 1 OF 8

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.5 ft msl	Coordinates (N,E): 699266.7, 12579587.3
Drilling Company: Boart Longyear		Date Started: 12/19/96	Date Finished: 12/19/96
Drilling Equipment: Hollowstem Auger		Refusal Depth (ft bgs):	Rock Depth (ft bgs): Completion Depth (ft bgs): 110.0
Drilling Method: Hollowstem Auger		Water Level (ft bgs) Number of Samples	
Drill Bit Type/Diameter:		First Encount.: At Completion: Well Installed? No	Dist.: 0 Undist.: 0 Core: 0
Sampler Type/Diameter:		Driller:	Field Logger:
Boring Location Description: Bury Pit		Reviewed by: George Gregory	

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
654		SAND (SP), brown.	2				
652			4				
650			6				
648			8				
646			10				
644							



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING BPL-009-085

SHEET 2 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.5 ft msl	Coordinates (N,E): 699266.7, 12579587.3

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
642			14				
640			16				
638			18				
636			20				
634			22				
632			24				
630			26				



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING BPL-009-085

SHEET 3 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.5 ft msl	Coordinates (N,E): 699266.7, 12579587.3

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
628			28				
626			30				
624			32				
622			34				
620			36				
618			38				
616			40				



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING BPL-009-085

SHEET 4 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.5 ft msl	Coordinates (N,E): 699266.7, 12579587.3

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
614			42				
612			44				
610			46				
608			48				
606			50				
604			52				
602			54				
		At 54' BGS, encountered water table.					

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING BPL-009-085

SHEET 5 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.5 ft msl	Coordinates (N,E): 699266.7, 12579587.3

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
600							
			56				
598							
			58				
596							
			60				
594							
			62				
592							
			64				
590							
			66				
588							
			68				



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING BPL-009-085

SHEET 6 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.5 ft msl	Coordinates (N,E): 699266.7, 12579587.3

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
586							
			70				
584							
			72				
582							
			74				
580							
			76				
578							
			78				
576							
			80				
574							
			82				
572							

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template:URS-CHICAGO.GDT Printed: 12/17/13



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING

BPL-009-085

SHEET 7 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.5 ft msl	Coordinates (N,E): 699266.7, 12579587.3

Report: URS-CHICAGO: Project File: C:\USERS\HEATHER_HERR\DESKTOP\FILES TO SORT\DUPOINT\DUPOINT - MONTAGUE, MINEOPRENE LANDFILL BORINGS 2013.GPJ; Data Template: URS-CHICAGO.GDT Printed: 12/17/13

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
570			84				
			86				
568			88				
			90				
566			92				
			94				
564							
562							
560			96				
558							



CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

LOG OF BORING BPL-009-085

SHEET 8 OF 8

Project: DuPont - Montague		Project No.: 18984840	
Location: Montague, MI		Elevation: 655.5 ft msl	Coordinates (N,E): 699266.7, 12579587.3

ELEV	Graphic	DESCRIPTION	SAMPLES		PID Direct (ppm)	PID Head space (ppm)	REMARKS
			DEPTH	Rec (ft)			
556			98				
			100				
554			102				
552			104				
550		CLAY (CL), light brown.	106				
548			108				
546			110				

End of Boring at 110 ft BGS.

Well Completion Report

SITE #: 18984840 COUNTY: Muskegon WELL #: BP-002-100

SITE NAME: DuPont - Montague BOREHOLE #: BP-002-100

STATE _____ PLANE COORDINATE: X 12579837.750 Y 699124.780 (or) LATITUDE _____ ° _____ ' _____ " LONGITUDE _____ ° _____ ' _____ "

SURVEYED BY: _____ REGISTRATION #: _____

DRILLING CONTRACTOR: Walkerville Well Drilling and Supply Co. Inc DRILLER: Fred Walker

CONSULTING FIRM: URS Corporation GEOLOGIST: _____

DRILLING METHOD: Hollowstem Auger DRILLING FLUIDS (TYPE): _____

LOGGED BY: _____ DATE STARTED: _____ DATE FINISHED: 1/4/89

REPORT FORM COMPLETED BY: _____ DATE: _____

ANNULAR SPACE DETAILS

ELEVATIONS DEPTHS
(MSL)* (BGS) (.01 ft)

		N/A		TOP OF PROTECTIVE CASING
		659.03	-3.00	TOP OF RISER PIPE
TYPE OF SURFACE SEAL: <u>Bentonite Grout</u>		656.03	0.00	GROUND SURFACE
TYPE OF ANNULAR SEALANT: <u>Bentonite Grout</u>		N/A	0.00	TOP OF ANNULAR SEALANT
INSTALLATION METHOD: <u>Tremme</u>				
SETTING TIME: _____		600.20	55.83	STATIC WATER LEVEL (AFTER COMPLETION)
TYPE OF BENTONITE SEAL - GRANULAR ☒ PELLET ☐ SLURRY (CIRCLE ONE)				
INSTALLATION METHOD: <u>Gravity</u>		573.03	83.00	TOP OF SEAL
SETTING TIME: _____		571.03	85.00	TOP OF SANDPACK
TYPE OF SAND PACK: _____				
GRAIN SIZE: _____ (SIEVE SIZE)		569.03	87.00	TOP OF SCREEN
INSTALLATION METHOD: <u>Gravity</u>				
TYPE OF BACKFILL MATERIAL: _____ (IF APPLICABLE)		559.03	97.00	BOTTOM OF SCREEN
INSTALLATION METHOD: _____		559.03	97.00	BOTTOM OF WELL
		556.03	100.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS (CIRCLE ONE)

PROTECTIVE CASING	☒ SS304	☐ SS316	☐ PTFE	☐ PVC	OTHER:
RISER PIPE ABOVE W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
RISER PIPE BELOW W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
SCREEN	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE	(in)	10.00
ID OF RISER PIPE	(in)	4.00
PROTECTIVE CASING LENGTH	(ft)	5.00
RISER PIPE LENGTH	(ft)	90
BOTTOM OF SCREEN TO END CAP	(ft)	
SCREEN LENGTH (1st SLOT TO LAST SLOT)	(ft)	10.00
TOTAL LENGTH OF CASING	(ft)	
SCREEN SLOT SIZE	** (in)	0.01

Well Completion Report

SITE #: 18984840 COUNTY: Muskegon WELL #: BP-003-070

SITE NAME: DuPont - Montague BOREHOLE #: BP-003-070

STATE _____ PLANE COORDINATE: X 12579406.886 Y 699041.885 (or) LATITUDE _____ ° _____ ' _____ " LONGITUDE _____ ° _____ ' _____ "

SURVEYED BY: _____ REGISTRATION #: _____

DRILLING CONTRACTOR: Walkerville Well Drilling and Supply Co. Inc DRILLER: Fred Walker

CONSULTING FIRM: URS Corporation GEOLOGIST: _____

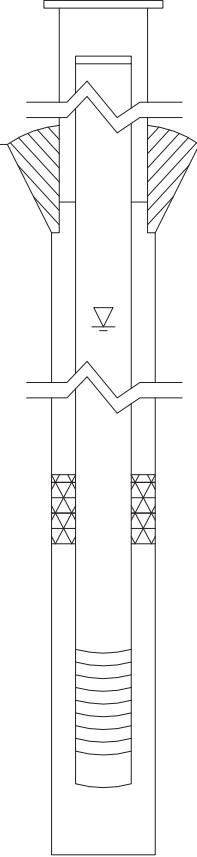
DRILLING METHOD: Hollowstem Auger DRILLING FLUIDS (TYPE): _____

LOGGED BY: _____ DATE STARTED: 11/21/88 DATE FINISHED: 12/15/88

REPORT FORM COMPLETED BY: _____ DATE: _____

ANNULAR SPACE DETAILS

ELEVATIONS DEPTHS
(MSL)* (BGS) (.01 ft)

		<u>N/A</u>		TOP OF PROTECTIVE CASING
		<u>659.81</u>	<u>-3.00</u>	TOP OF RISER PIPE
TYPE OF SURFACE SEAL: <u>Bentonite Grout</u>		<u>656.81</u>	<u>0.00</u>	GROUND SURFACE
TYPE OF ANNULAR SEALANT: <u>Bentonite Grout</u>		<u>N/A</u>	<u>0.00</u>	TOP OF ANNULAR SEALANT
INSTALLATION METHOD: <u>Tremme</u>		<u>599.23</u>	<u>57.58</u>	STATIC WATER LEVEL (AFTER COMPLETION)
SETTING TIME: _____				
TYPE OF BENTONITE SEAL - GRANULAR ☒ PELLET ☐ SLURRY (CIRCLE ONE)		<u>608.81</u>	<u>48.00</u>	TOP OF SEAL
INSTALLATION METHOD: <u>Gravity</u>		<u>606.81</u>	<u>50.00</u>	TOP OF SANDPACK
SETTING TIME: _____				
TYPE OF SAND PACK: _____		<u>601.81</u>	<u>55.00</u>	TOP OF SCREEN
GRAIN SIZE: _____ (SIEVE SIZE)		<u>591.81</u>	<u>65.00</u>	BOTTOM OF SCREEN
INSTALLATION METHOD: <u>Gravity</u>		<u>591.81</u>	<u>65.00</u>	BOTTOM OF WELL
TYPE OF BACKFILL MATERIAL: _____ (IF APPLICABLE)		<u>591.81</u>	<u>65.00</u>	BOTTOM OF BOREHOLE
INSTALLATION METHOD: _____				

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS (CIRCLE ONE)

PROTECTIVE CASING	☒ SS304	☐ SS316	☐ PTFE	☐ PVC	OTHER:
RISER PIPE ABOVE W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
RISER PIPE BELOW W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
SCREEN	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE	(in)	10.00
ID OF RISER PIPE	(in)	4.00
PROTECTIVE CASING LENGTH	(ft)	5.00
RISER PIPE LENGTH	(ft)	55
BOTTOM OF SCREEN TO END CAP	(ft)	
SCREEN LENGTH (1st SLOT TO LAST SLOT)	(ft)	10.00
TOTAL LENGTH OF CASING	(ft)	
SCREEN SLOT SIZE	** (in)	0.01

Well Completion Report

SITE #: 18984840 COUNTY: Muskegon WELL #: BP-004-070

SITE NAME: DuPont - Montague BOREHOLE #: BP-004-070

STATE _____ PLANE COORDINATE: X 12579670.608 Y 699594.552 (or) LATITUDE _____ ° _____ ' _____ " LONGITUDE _____ ° _____ ' _____ "

SURVEYED BY: _____ REGISTRATION #: _____

DRILLING CONTRACTOR: Walkerville Well Drilling and Supply Co. Inc DRILLER: Fred Walker

CONSULTING FIRM: URS Corporation GEOLOGIST: _____

DRILLING METHOD: Hollowstem Auger DRILLING FLUIDS (TYPE): _____

LOGGED BY: _____ DATE STARTED: _____ DATE FINISHED: 12/20/88

REPORT FORM COMPLETED BY: _____ DATE: _____

ANNULAR SPACE DETAILS

ELEVATIONS DEPTHS
(MSL)* (BGS) (.01 ft)

		N/A		TOP OF PROTECTIVE CASING
		655.39	-3.00	TOP OF RISER PIPE
TYPE OF SURFACE SEAL: <u>Bentonite Grout</u>		652.39	0.00	GROUND SURFACE
TYPE OF ANNULAR SEALANT: <u>Bentonite Grout</u>		N/A	0.00	TOP OF ANNULAR SEALANT
INSTALLATION METHOD: <u>Tremme</u>				
SETTING TIME: _____		600.64	51.75	STATIC WATER LEVEL (AFTER COMPLETION)
TYPE OF BENTONITE SEAL - GRANULAR ☒ PELLET ☐ SLURRY (CIRCLE ONE)				
INSTALLATION METHOD: <u>Gravity</u>		608.39	44.00	TOP OF SEAL
SETTING TIME: _____		606.39	46.00	TOP OF SANDPACK
TYPE OF SAND PACK: _____				
GRAIN SIZE: _____ (SIEVE SIZE)		604.39	48.00	TOP OF SCREEN
INSTALLATION METHOD: <u>Gravity</u>		594.39	58.00	BOTTOM OF SCREEN
TYPE OF BACKFILL MATERIAL: _____ (IF APPLICABLE)		594.39	58.00	BOTTOM OF WELL
INSTALLATION METHOD: _____		592.39	60.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS (CIRCLE ONE)

PROTECTIVE CASING	☒ SS304	☐ SS316	☐ PTFE	☐ PVC	OTHER: _____
RISER PIPE ABOVE W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER: _____
RISER PIPE BELOW W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER: _____
SCREEN	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER: _____

CASING MEASUREMENTS

DIAMETER OF BOREHOLE	(in)	10.00
ID OF RISER PIPE	(in)	4.00
PROTECTIVE CASING LENGTH	(ft)	5.00
RISER PIPE LENGTH	(ft)	50
BOTTOM OF SCREEN TO END CAP	(ft)	
SCREEN LENGTH (1st SLOT TO LAST SLOT)	(ft)	10.00
TOTAL LENGTH OF CASING	(ft)	
SCREEN SLOT SIZE	** (in)	0.01

Well Completion Report

SITE #: 18984840 COUNTY: Muskegon WELL #: BP-005-070

SITE NAME: DuPont - Montague BOREHOLE #: BP-005-070

STATE _____
 PLANE COORDINATE: X 12580019.712 Y 699136.090 (or) LATITUDE _____ ° _____ ' _____ " LONGITUDE _____ ° _____ ' _____ "

SURVEYED BY: Sandel Surveying REGISTRATION #: _____

DRILLING CONTRACTOR: Walkerville Well Drilling and Supply Co. Inc DRILLER: Fred Walker

CONSULTING FIRM: URS Corporation GEOLOGIST: _____

DRILLING METHOD: Hollowstem Auger DRILLING FLUIDS (TYPE): _____

LOGGED BY: _____ DATE STARTED: _____ DATE FINISHED: _____

REPORT FORM COMPLETED BY: _____ DATE: _____

ANNULAR SPACE DETAILS

ELEVATIONS DEPTHS
(MSL)* (BGS) (.01 ft)

		N/A		TOP OF PROTECTIVE CASING
		658.85	-3.00	TOP OF RISER PIPE
TYPE OF SURFACE SEAL: <u>Bentonite Grout</u>		655.85	0.00	GROUND SURFACE
TYPE OF ANNULAR SEALANT: <u>Bentonite Grout</u>		N/A	0.00	TOP OF ANNULAR SEALANT
INSTALLATION METHOD: <u>Tremme</u>				
SETTING TIME: _____		599.85	56.00	STATIC WATER LEVEL (AFTER COMPLETION)
TYPE OF BENTONITE SEAL - GRANULAR ☒ PELLET ☐ SLURRY (CIRCLE ONE)				
INSTALLATION METHOD: <u>Gravity</u>		608.85	47.00	TOP OF SEAL
SETTING TIME: _____		606.85	49.00	TOP OF SANDPACK
TYPE OF SAND PACK: _____				
GRAIN SIZE: _____ (SIEVE SIZE)		600.85	55.00	TOP OF SCREEN
INSTALLATION METHOD: <u>Gravity</u>				
TYPE OF BACKFILL MATERIAL: _____ (IF APPLICABLE)		590.85	65.00	BOTTOM OF SCREEN
INSTALLATION METHOD: _____		590.85	65.00	BOTTOM OF WELL
		590.85	65.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS (CIRCLE ONE)

PROTECTIVE CASING	☒ SS304	☐ SS316	☐ PTFE	☐ PVC	OTHER:
RISER PIPE ABOVE W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
RISER PIPE BELOW W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
SCREEN	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE	(in)	10.00
ID OF RISER PIPE	(in)	4.00
PROTECTIVE CASING LENGTH	(ft)	5.00
RISER PIPE LENGTH	(ft)	58
BOTTOM OF SCREEN TO END CAP	(ft)	
SCREEN LENGTH (1st SLOT TO LAST SLOT)	(ft)	10.00
TOTAL LENGTH OF CASING	(ft)	
SCREEN SLOT SIZE	** (in)	0.01

Well Completion Report

SITE #: 18984840 COUNTY: Muskegon WELL #: BP-006-058

SITE NAME: DuPont - Montague BOREHOLE #: BP-006-058

STATE _____ PLANE COORDINATE: X 12579838.602 Y 698900.014 (or) LATITUDE _____ ° _____ ' _____ " LONGITUDE _____ ° _____ ' _____ "

SURVEYED BY: Sandel Surveying REGISTRATION #: _____

DRILLING CONTRACTOR: Walkerville Well Drilling and Supply Co. Inc DRILLER: _____

CONSULTING FIRM: URS Corporation GEOLOGIST: _____

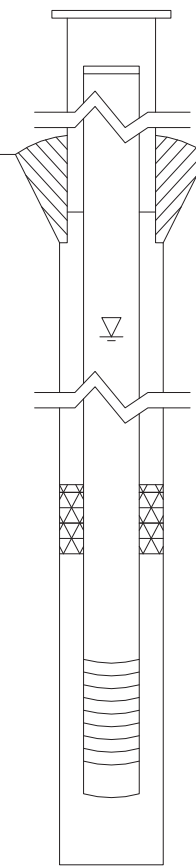
DRILLING METHOD: Hollowstem Auger DRILLING FLUIDS (TYPE): _____

LOGGED BY: _____ DATE STARTED: 5/24/90 DATE FINISHED: 5/29/90

REPORT FORM COMPLETED BY: _____ DATE: _____

ANNULAR SPACE DETAILS

ELEVATIONS (MSL)* DEPTHS (BGS) (.01 ft)

		<u>N/A</u>		TOP OF PROTECTIVE CASING
				TOP OF RISER PIPE
TYPE OF SURFACE SEAL: <u>Bentonite</u>		<u>652.21</u>	<u>0.00</u>	GROUND SURFACE
		<u>N/A</u>	<u>0.00</u>	TOP OF ANNULAR SEALANT
TYPE OF ANNULAR SEALANT: <u>Bentonite</u>				
INSTALLATION METHOD: <u>Bentonite</u>				
SETTING TIME: _____		<u>N/A</u>		STATIC WATER LEVEL (AFTER COMPLETION)
TYPE OF BENTONITE SEAL - GRANULAR ☒ PELLET ☐ SLURRY (CIRCLE ONE)				
INSTALLATION METHOD: <u>Gravity</u>		<u>652.21</u>	<u>0.00</u>	TOP OF SEAL
SETTING TIME: _____		<u>611.21</u>	<u>41.00</u>	TOP OF SANDPACK
TYPE OF SAND PACK: <u>Ottawa</u>				
GRAIN SIZE: <u>Medium grained</u> (SIEVE SIZE)		<u>604.21</u>	<u>48.00</u>	TOP OF SCREEN
INSTALLATION METHOD: <u>Gravity</u>		<u>594.21</u>	<u>58.00</u>	BOTTOM OF SCREEN
TYPE OF BACKFILL MATERIAL: _____ (IF APPLICABLE)		<u>594.21</u>	<u>58.00</u>	BOTTOM OF WELL
INSTALLATION METHOD: _____		<u>594.21</u>	<u>58.00</u>	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS (CIRCLE ONE)

PROTECTIVE CASING	☒ SS304	☐ SS316	☐ PTFE	☐ PVC	OTHER:
RISER PIPE ABOVE W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
RISER PIPE BELOW W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
SCREEN	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE	(in)	10.00
ID OF RISER PIPE	(in)	4.00
PROTECTIVE CASING LENGTH	(ft)	5.00
RISER PIPE LENGTH	(ft)	
BOTTOM OF SCREEN TO END CAP	(ft)	
SCREEN LENGTH (1st SLOT TO LAST SLOT)	(ft)	10.00
TOTAL LENGTH OF CASING	(ft)	
SCREEN SLOT SIZE **	(in)	0.01

Well Completion Report

SITE #: 18984840 COUNTY: Muskegon WELL #: BP-006-090

SITE NAME: DuPont - Montague BOREHOLE #: BP-006-090

STATE _____ PLANE COORDINATE: X 12579838.091 Y 698893.636 (or) LATITUDE _____ ° _____ ' _____ " LONGITUDE _____ ° _____ ' _____ "

SURVEYED BY: Sandel Surveying REGISTRATION #: _____

DRILLING CONTRACTOR: Walkerville Well Drilling and Supply Co. Inc DRILLER: _____

CONSULTING FIRM: URS Corporation GEOLOGIST: _____

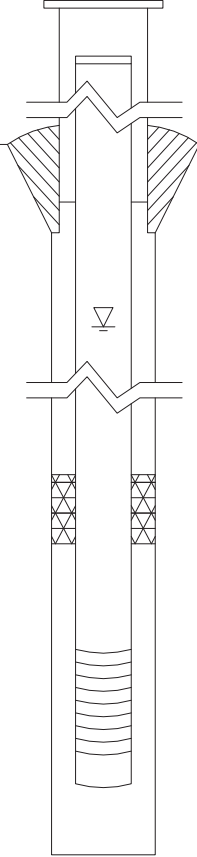
DRILLING METHOD: Hollowstem Auger DRILLING FLUIDS (TYPE): _____

LOGGED BY: _____ DATE STARTED: 5/24/90 DATE FINISHED: 5/29/90

REPORT FORM COMPLETED BY: _____ DATE: _____

ANNULAR SPACE DETAILS

ELEVATIONS (MSL)* DEPTHS (BGS) (.01 ft)

		N/A		TOP OF PROTECTIVE CASING
				TOP OF RISER PIPE
TYPE OF SURFACE SEAL: <u>Bentonite Grout</u>		650.35	0.00	GROUND SURFACE
TYPE OF ANNULAR SEALANT: <u>Bentonite Grout</u>		N/A	0.00	TOP OF ANNULAR SEALANT
INSTALLATION METHOD: <u>Tremme</u>				
SETTING TIME: _____		N/A		STATIC WATER LEVEL (AFTER COMPLETION)
TYPE OF BENTONITE SEAL - GRANULAR PELLET ☒ SLURRY ☐				
(CIRCLE ONE)				
INSTALLATION METHOD: <u>Tremme</u>		650.35	0.00	TOP OF SEAL
SETTING TIME: _____		577.35	73.00	TOP OF SANDPACK
TYPE OF SAND PACK: <u>Ottawa</u>				
GRAIN SIZE <u>Medium grained</u> (SIEVE SIZE)		570.35	80.00	TOP OF SCREEN
INSTALLATION METHOD: <u>Natural Collapse</u>				
TYPE OF BACKFILL MATERIAL: _____		560.35	90.00	BOTTOM OF SCREEN
(IF APPLICABLE)		560.35	90.00	BOTTOM OF WELL
INSTALLATION METHOD: _____		560.35	90.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS (CIRCLE ONE)

PROTECTIVE CASING	☒ SS304	☐ SS316	☐ PTFE	☐ PVC	OTHER:
RISER PIPE ABOVE W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
RISER PIPE BELOW W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
SCREEN	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE	(in)	10.00
ID OF RISER PIPE	(in)	4.00
PROTECTIVE CASING LENGTH	(ft)	5.00
RISER PIPE LENGTH	(ft)	
BOTTOM OF SCREEN TO END CAP	(ft)	
SCREEN LENGTH (1st SLOT TO LAST SLOT)	(ft)	10.00
TOTAL LENGTH OF CASING	(ft)	
SCREEN SLOT SIZE **	(in)	0.01

Well Completion Report

SITE #: 18984840 COUNTY: Muskegon WELL #: BP-007-065

SITE NAME: DuPont - Montague BOREHOLE #: BP-007-065

STATE _____ PLANE COORDINATE: X 12579991.535 Y 699008.824 (or) LATITUDE _____ ° _____ ' _____ " LONGITUDE _____ ° _____ ' _____ "

SURVEYED BY: Sandel Surveying REGISTRATION #: _____

DRILLING CONTRACTOR: Walkerville Well Drilling and Supply Co. Inc DRILLER: _____

CONSULTING FIRM: URS Corporation GEOLOGIST: _____

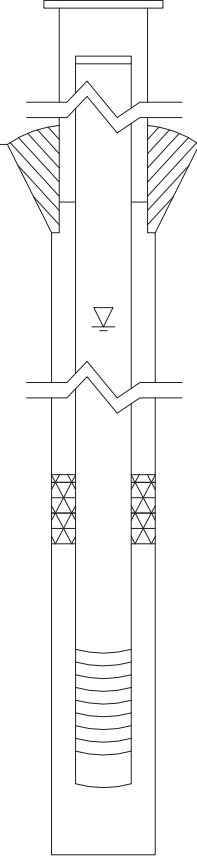
DRILLING METHOD: Hollowstem Auger DRILLING FLUIDS (TYPE): _____

LOGGED BY: _____ DATE STARTED: 5/23/90 DATE FINISHED: 5/25/90

REPORT FORM COMPLETED BY: _____ DATE: _____

ANNULAR SPACE DETAILS

ELEVATIONS DEPTHS
(MSL)* (BGS) (.01 ft)

		N/A		TOP OF PROTECTIVE CASING
				TOP OF RISER PIPE
TYPE OF SURFACE SEAL: <u>Bentonite Grout</u>		653.27	0.00	GROUND SURFACE
TYPE OF ANNULAR SEALANT: <u>Bentonite Grout</u>		N/A	0.00	TOP OF ANNULAR SEALANT
INSTALLATION METHOD: <u>Tremme</u>				
SETTING TIME: _____		N/A		STATIC WATER LEVEL (AFTER COMPLETION)
TYPE OF BENTONITE SEAL - GRANULAR PELLET ☒ SLURRY (CIRCLE ONE)				
INSTALLATION METHOD: <u>Tremme</u>		653.27	0.00	TOP OF SEAL
SETTING TIME: _____		605.27	48.00	TOP OF SANDPACK
TYPE OF SAND PACK: <u>Ottawa</u>				
GRAIN SIZE <u>Medium grained</u> (SIEVE SIZE)		598.27	55.00	TOP OF SCREEN
INSTALLATION METHOD: <u>Natural Collapse</u>				
TYPE OF BACKFILL MATERIAL: _____ (IF APPLICABLE)		588.27	65.00	BOTTOM OF SCREEN
INSTALLATION METHOD: _____		588.27	65.00	BOTTOM OF WELL
		588.27	65.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS (CIRCLE ONE)

PROTECTIVE CASING	☒ SS304	☐ SS316	☐ PTFE	☐ PVC	OTHER:
RISER PIPE ABOVE W.T.	☐ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
RISER PIPE BELOW W.T.	☐ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
SCREEN	☐ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE	(in)	10.00
ID OF RISER PIPE	(in)	4.00
PROTECTIVE CASING LENGTH	(ft)	5.00
RISER PIPE LENGTH	(ft)	
BOTTOM OF SCREEN TO END CAP	(ft)	
SCREEN LENGTH (1st SLOT TO LAST SLOT)	(ft)	10.00
TOTAL LENGTH OF CASING	(ft)	
SCREEN SLOT SIZE **	(in)	0.01

Well Completion Report

SITE #: 18984840 COUNTY: Muskegon WELL #: BP-007-093

SITE NAME: DuPont - Montague BOREHOLE #: BP-007-093

STATE _____ PLANE COORDINATE: X 12579990.340 Y 699002.653 (or) LATITUDE _____ ° _____ ' _____ " LONGITUDE _____ ° _____ ' _____ "

SURVEYED BY: Sandel Surveying REGISTRATION #: _____

DRILLING CONTRACTOR: Walkerville Well Drilling and Supply Co. Inc DRILLER: _____

CONSULTING FIRM: URS Corporation GEOLOGIST: _____

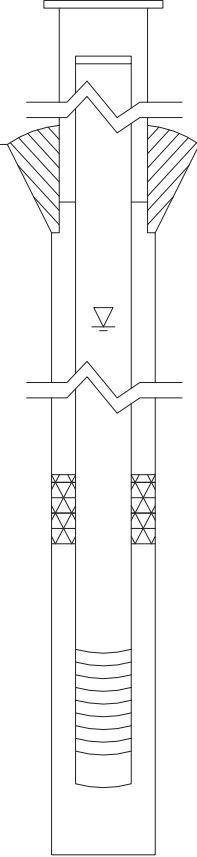
DRILLING METHOD: Hollowstem Auger DRILLING FLUIDS (TYPE): _____

LOGGED BY: _____ DATE STARTED: 5/23/90 DATE FINISHED: 5/25/90

REPORT FORM COMPLETED BY: _____ DATE: _____

ANNULAR SPACE DETAILS

ELEVATIONS (MSL)* DEPTHS (BGS) (.01 ft)

		<u>N/A</u>		TOP OF PROTECTIVE CASING
				TOP OF RISER PIPE
TYPE OF SURFACE SEAL: <u>Bentonite Grout</u>		<u>653.72</u>	<u>0.00</u>	GROUND SURFACE
TYPE OF ANNULAR SEALANT: <u>Bentonite Grout</u>		<u>N/A</u>	<u>0.00</u>	TOP OF ANNULAR SEALANT
INSTALLATION METHOD: <u>Tremme</u>				
SETTING TIME: _____		<u>N/A</u>		STATIC WATER LEVEL (AFTER COMPLETION)
TYPE OF BENTONITE SEAL - GRANULAR PELLET ☒ SLURRY ☐ (CIRCLE ONE)				
INSTALLATION METHOD: <u>Tremme</u>		<u>653.72</u>	<u>0.00</u>	TOP OF SEAL
SETTING TIME: _____		<u>577.72</u>	<u>76.00</u>	TOP OF SANDPACK
TYPE OF SAND PACK: <u>Ottawa</u>		<u>570.72</u>	<u>83.00</u>	TOP OF SCREEN
GRAIN SIZE: <u>Medium grained</u> (SIEVE SIZE)		<u>560.72</u>	<u>93.00</u>	BOTTOM OF SCREEN
INSTALLATION METHOD: <u>Natural Collapse</u>		<u>560.72</u>	<u>93.00</u>	BOTTOM OF WELL
TYPE OF BACKFILL MATERIAL: _____ (IF APPLICABLE)		<u>558.72</u>	<u>95.00</u>	BOTTOM OF BOREHOLE
INSTALLATION METHOD: _____				

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS (CIRCLE ONE)

PROTECTIVE CASING	☒ SS304	☐ SS316	☐ PTFE	☐ PVC	OTHER:
RISER PIPE ABOVE W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
RISER PIPE BELOW W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
SCREEN	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE	(in)	10.00
ID OF RISER PIPE	(in)	4.00
PROTECTIVE CASING LENGTH	(ft)	5.00
RISER PIPE LENGTH	(ft)	
BOTTOM OF SCREEN TO END CAP	(ft)	
SCREEN LENGTH (1st SLOT TO LAST SLOT)	(ft)	10.00
TOTAL LENGTH OF CASING	(ft)	
SCREEN SLOT SIZE **	(in)	0.01

Well Completion Report

SITE #: 18984840 COUNTY: Muskegon WELL #: BP-008-060

SITE NAME: DuPont - Montague BOREHOLE #: BP-008-060

STATE _____ PLANE COORDINATE: X 12580001.564 Y 699674.112 (or) LATITUDE _____ ° _____ ' _____ " LONGITUDE _____ ° _____ ' _____ "

SURVEYED BY: Sandel Surveying REGISTRATION #: _____

DRILLING CONTRACTOR: Walkerville Well Drilling and Supply Co. Inc DRILLER: _____

CONSULTING FIRM: URS Corporation GEOLOGIST: _____

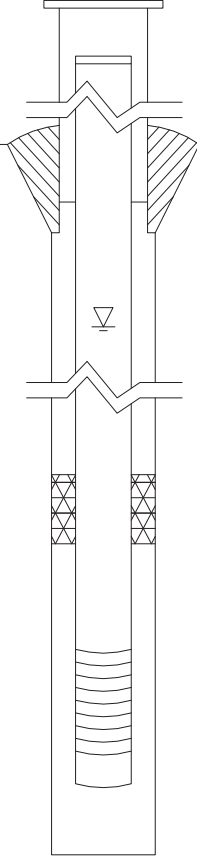
DRILLING METHOD: Hollowstem Auger DRILLING FLUIDS (TYPE): _____

LOGGED BY: _____ DATE STARTED: 5/29/90 DATE FINISHED: 5/30/90

REPORT FORM COMPLETED BY: _____ DATE: _____

ANNULAR SPACE DETAILS

ELEVATIONS DEPTHS
(MSL)* (BGS) (.01 ft)

		N/A		TOP OF PROTECTIVE CASING
				TOP OF RISER PIPE
TYPE OF SURFACE SEAL: <u>Bentonite</u>		652.47	0.00	GROUND SURFACE
TYPE OF ANNULAR SEALANT: <u>Bentonite</u>		N/A	0.00	TOP OF ANNULAR SEALANT
INSTALLATION METHOD: <u>Gravity</u>				
SETTING TIME: _____		N/A		STATIC WATER LEVEL (AFTER COMPLETION)
TYPE OF BENTONITE SEAL - GRANULAR ☒ PELLET ☐ SLURRY (CIRCLE ONE)				
INSTALLATION METHOD: <u>Gravity</u>		652.47	0.00	TOP OF SEAL
SETTING TIME: _____		609.47	43.00	TOP OF SANDPACK
TYPE OF SAND PACK: <u>Ottawa</u>				
GRAIN SIZE <u>Medium grained</u> (SIEVE SIZE)		602.47	50.00	TOP OF SCREEN
INSTALLATION METHOD: <u>Natural Collapse</u>				
TYPE OF BACKFILL MATERIAL: _____ (IF APPLICABLE)		592.47	60.00	BOTTOM OF SCREEN
INSTALLATION METHOD: _____		592.47	60.00	BOTTOM OF WELL
		592.47	60.00	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS (CIRCLE ONE)

PROTECTIVE CASING	☒ SS304	☐ SS316	☐ PTFE	☐ PVC	OTHER:
RISER PIPE ABOVE W.T.	☐ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
RISER PIPE BELOW W.T.	☐ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
SCREEN	☐ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE	(in)	10.00
ID OF RISER PIPE	(in)	4.00
PROTECTIVE CASING LENGTH	(ft)	5.00
RISER PIPE LENGTH	(ft)	
BOTTOM OF SCREEN TO END CAP	(ft)	
SCREEN LENGTH (1st SLOT TO LAST SLOT)	(ft)	10.00
TOTAL LENGTH OF CASING	(ft)	
SCREEN SLOT SIZE **	(in)	0.01

Well Completion Report

SITE #: 18984840 COUNTY: Muskegon WELL #: BPL-009-060

SITE NAME: DuPont - Montague BOREHOLE #: BPL-009-060

STATE _____

PLANE COORDINATE: X 12579587.998 Y 699261.231 (or) LATITUDE _____ ° _____ ' _____ " LONGITUDE _____ ° _____ ' _____ "

SURVEYED BY: _____ REGISTRATION #: _____

DRILLING CONTRACTOR: Boart Longyear DRILLER: _____

CONSULTING FIRM: URS Corporation GEOLOGIST: _____

DRILLING METHOD: Hollowstem Auger DRILLING FLUIDS (TYPE): _____

LOGGED BY: _____ DATE STARTED: 12/19/96 DATE FINISHED: 12/19/96

REPORT FORM COMPLETED BY: _____ DATE: _____

ANNULAR SPACE DETAILS

ELEVATIONS DEPTHS
(MSL)* (BGS) (.01 ft)

		<u>N/A</u>	<u> </u>	TOP OF PROTECTIVE CASING
		<u>657.88</u>	<u>-2.50</u>	TOP OF RISER PIPE
TYPE OF SURFACE SEAL: <u>Natural</u>		<u>655.38</u>	<u>0.00</u>	GROUND SURFACE
		<u>653.38</u>	<u>2.00</u>	TOP OF ANNULAR SEALANT
TYPE OF ANNULAR SEALANT: <u>Bentonite Grout</u>				
INSTALLATION METHOD: <u>Tremme</u>				
SETTING TIME: _____		<u>N/A</u>	<u> </u>	STATIC WATER LEVEL (AFTER COMPLETION)
TYPE OF BENTONITE SEAL - GRANULAR ☒ PELLET ☐ SLURRY (CIRCLE ONE)				
INSTALLATION METHOD: <u>Gravity</u>		<u>609.38</u>	<u>46.00</u>	TOP OF SEAL
SETTING TIME: _____		<u>607.38</u>	<u>48.00</u>	TOP OF SANDPACK
TYPE OF SAND PACK: _____				
GRAIN SIZE: _____ (SIEVE SIZE)		<u>605.38</u>	<u>50.00</u>	TOP OF SCREEN
INSTALLATION METHOD: <u>Filter Sand</u>		<u>595.38</u>	<u>60.00</u>	BOTTOM OF SCREEN
TYPE OF BACKFILL MATERIAL: _____ (IF APPLICABLE)		<u>595.38</u>	<u>60.00</u>	BOTTOM OF WELL
INSTALLATION METHOD: _____		<u>590.38</u>	<u>65.00</u>	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS (CIRCLE ONE)

PROTECTIVE CASING	☒ SS304	☐ SS316	☐ PTFE	☐ PVC	OTHER:
RISER PIPE ABOVE W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
RISER PIPE BELOW W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
SCREEN	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE	(in)	
ID OF RISER PIPE	(in)	2.00
PROTECTIVE CASING LENGTH	(ft)	5.00
RISER PIPE LENGTH	(ft)	52.5
BOTTOM OF SCREEN TO END CAP	(ft)	
SCREEN LENGTH (1st SLOT TO LAST SLOT)	(ft)	10.00
TOTAL LENGTH OF CASING	(ft)	
SCREEN SLOT SIZE	** (in)	0.01

Well Completion Report

SITE #: 18984840 COUNTY: Muskegon WELL #: BPL-009-085

SITE NAME: DuPont - Montague BOREHOLE #: BPL-009-085

STATE _____

PLANE COORDINATE: X 12579587.316 Y 699266.686 (or) LATITUDE _____ ° _____ ' _____ " LONGITUDE _____ ° _____ ' _____ "

SURVEYED BY: _____ REGISTRATION #: _____

DRILLING CONTRACTOR: Boart Longyear DRILLER: _____

CONSULTING FIRM: URS Corporation GEOLOGIST: _____

DRILLING METHOD: Hollowstem Auger DRILLING FLUIDS (TYPE): _____

LOGGED BY: _____ DATE STARTED: 12/19/96 DATE FINISHED: 12/19/96

REPORT FORM COMPLETED BY: _____ DATE: _____

ANNULAR SPACE DETAILS

ELEVATIONS DEPTHS
(MSL)* (BGS) (.01 ft)

		<u>N/A</u>		TOP OF PROTECTIVE CASING
		<u>657.46</u>	<u>-2.00</u>	TOP OF RISER PIPE
TYPE OF SURFACE SEAL: <u>Natural</u>		<u>655.46</u>	<u>0.00</u>	GROUND SURFACE
		<u>653.46</u>	<u>2.00</u>	TOP OF ANNULAR SEALANT
TYPE OF ANNULAR SEALANT: <u>Bentonite Grout</u>				
INSTALLATION METHOD: <u>Tremme</u>				
SETTING TIME: _____		<u>N/A</u>		STATIC WATER LEVEL (AFTER COMPLETION)
TYPE OF BENTONITE SEAL - GRANULAR ☒ <u>PELLET</u> SLURRY (CIRCLE ONE)				
INSTALLATION METHOD: <u>Gravity</u>		<u>579.46</u>	<u>76.00</u>	TOP OF SEAL
SETTING TIME: _____		<u>577.46</u>	<u>78.00</u>	TOP OF SANDPACK
TYPE OF SAND PACK: _____				
GRAIN SIZE: _____ (SIEVE SIZE)		<u>575.46</u>	<u>80.00</u>	TOP OF SCREEN
INSTALLATION METHOD: <u>Filter Sand</u>		<u>570.46</u>	<u>85.00</u>	BOTTOM OF SCREEN
TYPE OF BACKFILL MATERIAL: _____ (IF APPLICABLE)		<u>570.46</u>	<u>85.00</u>	BOTTOM OF WELL
INSTALLATION METHOD: _____		<u>545.46</u>	<u>110.00</u>	BOTTOM OF BOREHOLE

* REFERENCED TO A NATIONAL GEODETIC VERTICAL DATUM

WELL CONSTRUCTION MATERIALS (CIRCLE ONE)

PROTECTIVE CASING	☒ SS304	☐ SS316	☐ PTFE	☐ PVC	OTHER:
RISER PIPE ABOVE W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
RISER PIPE BELOW W.T.	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:
SCREEN	☒ SS304	☐ SS316	☐ PTFE	☒ PVC	OTHER:

CASING MEASUREMENTS

DIAMETER OF BOREHOLE	(in)	
ID OF RISER PIPE	(in)	2.00
PROTECTIVE CASING LENGTH	(ft)	5.00
RISER PIPE LENGTH	(ft)	82
BOTTOM OF SCREEN TO END CAP	(ft)	
SCREEN LENGTH (1st SLOT TO LAST SLOT)	(ft)	5.00
TOTAL LENGTH OF CASING	(ft)	
SCREEN SLOT SIZE **	(in)	0.01

Appendix C

Laboratory Analytical Reports – Soil Sampling

**ADQM DATA REVIEW
NARRATIVE**

Site **MTG/ Montague**

Project **Remedial Investigation Soil Boring Pierson Creek Landfill – Bury Pit
Landfill (SB PCL-BPL) 9/13**

Project Reviewer **Dyana Sagges**

Sampling Date **9/30/13 and 10/1/13**

Analytical Protocol

LABORATORY	ANALYSIS	METHOD
Lancaster Labs, Lancaster PA		
	Select List VOA with EnCores Library Search: 1,1-Dichloro- 1,2,2,2-tetrafluoroethane, 1,1- Dichloro-2,2,2-trifluoroethane	SW-846 5035A/8260B
	Acetaldehyde	SW-846 8315A
	Moisture	SM 2540 G-1997

Sample Receipt

The following items are noted for this data set:

- All samples were received in satisfactory condition and within EPA temperature guidelines on 10/2/13 at Lancaster Labs. One of the jars for SBBP-01-065 had a lid that was cracked. The sample remained intact.
- Sample ids are incomplete on one page of the COC for VOA analysis. They were complete on the sample labels and other pages of the field COC.
- Some of the sample ids differ between the labels and the COC. The sample ids on the labels begin with RI0913-, the sample ids on the COC begin with RI0813-. Laboratory personnel logged the sample ids per the labels.

Data Review

The electronic data submitted for this project was reviewed via the DuPont Data Review (DDR) process. Overall the data is acceptable for use with the following qualification. Some of the data was qualified due to imprecision between lab replicates and results detected between the method detection limit and the practical quantitation limit.

DuPont In-House Review (DDR)

The DDR is an internal review process used by the ADQM group to assist with the determination of data usability. The electronic data deliverables received from the laboratory are loaded into the Locus EIM™ database and processed through a series of data quality checks, which are a combination of software (Locus EIM™ database Data Validation Module (DVM)) and manual reviewer evaluations. The data is evaluated against the following data usability checks:

- Field and laboratory blank contamination
- US EPA hold time criteria
- Missing Quality Control (QC) samples
- Matrix spike(MS)/matrix spike duplicate (MSD) recoveries and the relative percent differences (RPDs) between these spikes
- Laboratory control sample(LCS)/control sample duplicate (LCSD) recoveries and the RPD between these spikes
- Surrogate spike recoveries for organic analyses
- RPD between field duplicate sample pairs
- RPD between laboratory replicates for inorganic analyses
- Difference / percent difference between total and dissolved sample pairs.

The DDR applies the following data evaluation qualifiers to analysis results, as warranted:

Qualifier	Definition
B	Not detected substantially above the level reported in the laboratory or field blanks.
R	Unusable result. Analyte may or may not be present in the sample.
J	Analyte present. Reported value may not be accurate or precise.
UJ	Not detected. Reporting limit may not be accurate or precise.

Please refer to the laboratory report for a description of the lab qualifiers.

DDR Narrative Report

Site: Montague

Sampling Program: REM INV SB PCL-BPL 9-13

Validation Options: LABSTATS

Validation Reason Code: High relative percent difference (RPD) observed between REP (laboratory replicate) and parent sample. The reported result may be imprecise.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
R10913-2013SBPC-01-100	10/01/2013	7220837	PERCENT MOISTURE	20.9	%	MDL	0.50	0.50	J	2540 G-1997		
R10913-2013SBPC-01-085	10/01/2013	7220835	PERCENT MOISTURE	20.2	%	MDL	0.50	0.50	J	2540 G-1997		
R10913-2013SBBP-01-035	10/01/2013	7220833	PERCENT MOISTURE	15.8	%	MDL	0.50	0.50	J	2540 G-1997		
R10913-2013SBBP-01-012	10/01/2013	7220831	PERCENT MOISTURE	2.4	%	MDL	0.50	0.50	J	2540 G-1997		
R10913-2013SBBP-01-065	10/01/2013	7220834	PERCENT MOISTURE	18.6	%	MDL	0.50	0.50	J	2540 G-1997		
R10913-2013SBPC-01-010	09/30/2013	7220820	PERCENT MOISTURE	3.0	%	MDL	0.50	0.50	J	2540 G-1997		
R10913-2013SBPC-01-016	09/30/2013	7220821	PERCENT MOISTURE	9.4	%	MDL	0.50	0.50	J	2540 G-1997		
R10913-2013SBPC-01-026	09/30/2013	7220822	PERCENT MOISTURE	20.0	%	MDL	0.50	0.50	J	2540 G-1997		
R10913-2013SBPC-01-026-D	09/30/2013	7220823	PERCENT MOISTURE	13.6	%	MDL	0.50	0.50	J	2540 G-1997		
R10913-2013SBPC-01-036	09/30/2013	7220824	PERCENT MOISTURE	20.7	%	MDL	0.50	0.50	J	2540 G-1997		
R10913-2013SBPC-01-055	09/30/2013	7220825	PERCENT MOISTURE	20.3	%	MDL	0.50	0.50	J	2540 G-1997		
R10913-2013SBPC-01-076	09/30/2013	7220826	PERCENT MOISTURE	15.7	%	MDL	0.50	0.50	J	2540 G-1997		
R10913-2013SBPC-01-095	10/01/2013	7220836	PERCENT MOISTURE	14.4	%	MDL	0.50	0.50	J	2540 G-1997		
R10913-2013SBBP-01-020	10/01/2013	7220832	PERCENT MOISTURE	3.3	%	MDL	0.50	0.50	J	2540 G-1997		

Site: Montague

Sampling Program: REM INV SB PCL-BPL 9-13

Validation Options: LABSTATS

Validation Reason Code: The result is estimated since the concentration is between the method detection limit and practical quantitation limit.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
Ri0913-2013SBBP-01-012	10/01/2013	7220831	ACETALDEHYDE	1200	UG/KG	MDL	1000	2400	J	8315A		8315A
Ri0913-2013SBBP-01-035	10/01/2013	7220833	TOLUENE	4	UG/KG	MDL	1	6	J	8260B		5035A
Ri0913-2013SBBP-01-035	10/01/2013	7220833	ACETONE	23	UG/KG	MDL	8	24	J	8260B		5035A
Ri0913-2013SBBP-01-035	10/01/2013	7220833	BENZENE	2	UG/KG	MDL	0.6	6	J	8260B		5035A
Ri0913-2013SBBP-01-035	10/01/2013	7220833	ACETALDEHYDE	2000	UG/KG	MDL	1200	2700	J	8315A		8315A
Ri0913-2013SBPC-01-100	10/01/2013	7220837	TOLUENE	5	UG/KG	MDL	1	6	J	8260B		5035A
Ri0913-2013SBPC-01-100	10/01/2013	7220837	BENZENE	2	UG/KG	MDL	0.6	6	J	8260B		5035A
Ri0913-2013SBPC-01-100	10/01/2013	7220837	ACETALDEHYDE	1500	UG/KG	MDL	1300	2900	J	8315A		8315A
Ri0913-2013SBPC-01-085	10/01/2013	7220835	TOLUENE	4	UG/KG	MDL	1	6	J	8260B		5035A
Ri0913-2013SBPC-01-085	10/01/2013	7220835	BENZENE	1	UG/KG	MDL	0.6	6	J	8260B		5035A
Ri0913-2013SBPC-01-085	10/01/2013	7220835	ACETALDEHYDE	1800	UG/KG	MDL	1300	2900	J	8315A		8315A
Ri0913-2013SBPC-01-085	10/01/2013	7220835	METHYLENE CHLORIDE	4	UG/KG	MDL	2	6	J	8260B		5035A
Ri0913-2013SBPC-01-076	09/30/2013	7220826	TOLUENE	3	UG/KG	MDL	1	6	J	8260B		5035A
Ri0913-2013SBPC-01-076	09/30/2013	7220826	BENZENE	1	UG/KG	MDL	0.6	6	J	8260B		5035A
Ri0913-2013SBPC-01-076	09/30/2013	7220826	ACETALDEHYDE	1800	UG/KG	MDL	1200	2700	J	8315A		8315A
Ri0913-2013SBPC-01-055	09/30/2013	7220825	TOLUENE	5	UG/KG	MDL	1	6	J	8260B		5035A
Ri0913-2013SBPC-01-055	09/30/2013	7220825	BENZENE	2	UG/KG	MDL	0.6	6	J	8260B		5035A
Ri0913-2013SBPC-01-036	09/30/2013	7220824	BENZENE	3	UG/KG	MDL	0.6	6	J	8260B		5035A
Ri0913-2013SBPC-01-036	09/30/2013	7220824	ACETALDEHYDE	1600	UG/KG	MDL	1300	2900	J	8315A		8315A
Ri0913-2013SBPC-01-026-D	09/30/2013	7220823	TETRACHLOROETHENE	3	UG/KG	MDL	1	6	J	8260B		5035A
Ri0913-2013SBPC-01-026-D	09/30/2013	7220823	ACETONE	11	UG/KG	MDL	8	22	J	8260B		5035A
Ri0913-2013SBPC-01-026	09/30/2013	7220822	TETRACHLOROETHENE	3	UG/KG	MDL	1	6	J	8260B		5035A
Ri0913-2013SBPC-01-026	09/30/2013	7220822	ACETONE	13	UG/KG	MDL	8	24	J	8260B		5035A

Site: Montague

Sampling Program: REM INV SB PCL-BPL 9-13

Validation Options: LABSTATS

Validation Reason Code: The result is estimated since the concentration is between the method detection limit and practical quantitation limit.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
RI0913-2013SBPC-01-016	09/30/2013	7220821	TETRACHLOROETHENE	2	UG/KG	MDL	1	6	J	8260B		5035A
RI0913-2013SBPC-01-016	09/30/2013	7220821	BENZENE	2	UG/KG	MDL	0.6	6	J	8260B		5035A
RI0913-2013SBPC-01-016	09/30/2013	7220821	ACETALDEHYDE	1300	UG/KG	MDL	1100	2500	J	8315A		8315A
RI0913-2013SBPC-01-010	09/30/2013	7220820	ACETONE	8	UG/KG	MDL	8	22	J	8260B		5035A
RI0913-2013SBBP-01-020	10/01/2013	7220832	ACETALDEHYDE	1100	UG/KG	MDL	1000	2400	J	8315A		8315A
RI0913-2013SBBP-01-065	10/01/2013	7220834	TOLUENE	5	UG/KG	MDL	1	6	J	8260B		5035A
RI0913-2013SBBP-01-065	10/01/2013	7220834	BENZENE	2	UG/KG	MDL	0.6	6	J	8260B		5035A
RI0913-2013SBBP-01-065	10/01/2013	7220834	ACETALDEHYDE	2000	UG/KG	MDL	1200	2800	J	8315A		8315A
RI0913-2013SBPC-01-095	10/01/2013	7220836	ACETONE	14	UG/KG	MDL	7	20	J	8260B		5035A
EB-010013-SB	10/01/2013	7220838	ACETALDEHYDE	30	UG/L	MDL	30	60	J	8315A		8315A

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

October 14, 2013

Project: MTG - REM INV SB PCL-BPL

Submittal Date: 10/02/2013

Group Number: 1423130

PO Number: LBIO-66380

State of Sample Origin: MI

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
RI0913-2013SBPC-01-010 Soil	7220820
RI0913-2013SBPC-01-016 Soil	7220821
RI0913-2013SBPC-01-026 Soil	7220822
RI0913-2013SBPC-01-026-D Soil	7220823
RI0913-2013SBPC-01-036 Soil	7220824
RI0913-2013SBPC-01-055 Soil	7220825
RI0913-2013SBPC-01-076 Soil	7220826
RI0913-2013SBPC-01-076 MS Soil	7220827
RI0913-2013SBPC-01-076 MSD Soil	7220828
EB-093013-SB Blank Water	7220829
TB-100113-SB Blank Water	7220830
RI0913-2013SBBP-01-012 Soil	7220831
RI0913-2013SBBP-01-020 Soil	7220832
RI0913-2013SBBP-01-035 Soil	7220833
RI0913-2013SBBP-01-065 Soil	7220834
RI0913-2013SBPC-01-085 Soil	7220835
RI0913-2013SBPC-01-095 Soil	7220836
RI0913-2013SBPC-01-100 Soil	7220837
EB-010013-SB Blank Water	7220838

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Respectfully Submitted,



Nancy Jean Bornholm
Principal Specialist

(717) 556-7250

Sample Description: RI0913-2013SBPC-01-010 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220820
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 09/30/2013 16:10 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01010

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10237	Acetone	67-64-1	8 J	8	22	1.07
10237	Benzene	71-43-2	0.6 U	0.6	6	1.07
10237	Carbon Tetrachloride	56-23-5	1 U	1	6	1.07
10237	Chloroform	67-66-3	1 U	1	6	1.07
10237	Dichlorodifluoromethane	75-71-8	2 U	2	6	1.07
10237	1,1-Dichloroethane	75-34-3	1 U	1	6	1.07
10237	cis-1,2-Dichloroethene	156-59-2	1 U	1	6	1.07
10237	trans-1,2-Dichloroethene	156-60-5	1 U	1	6	1.07
10237	Freon 113	76-13-1	2 U	2	11	1.07
10237	Methylene Chloride	75-09-2	2 U	2	6	1.07
10237	Tetrachloroethene	127-18-4	1 U	1	6	1.07
10237	Tetrahydrofuran	109-99-9	4 U	4	6	1.07
10237	Toluene	108-88-3	1 U	1	6	1.07
10237	1,1,1-Trichloroethane	71-55-6	1 U	1	6	1.07
10237	Trichloroethene	79-01-6	1 U	1	6	1.07
10237	Trichlorofluoromethane	75-69-4	2 U	2	6	1.07

A targeted library search was performed yielding the following results:

1,1-dichloro-1,2,2,2-tetrafluoroethane and 1,1-dichloro-2,2,2-trifluoroethane are non-detect.

Aldehydes & Ketones		SW-846 8315A	ug/kg		ug/kg	ug/kg	
13031	Acetaldehyde	75-07-0	1,000	U	1,000	2,400	1

Wet Chemistry		SM 2540 G-1997	%	%	%	
00111	Moisture	n.a.	3.0	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	GC/MS Volatiles	SW-846 8260B	1	X132771AA	10/04/2013 13:47	Chelsea B Stong	1.07
08389	GC/MS - LL Encore Prep	SW-846 5035A	1	201327532597	10/02/2013 12:27	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035A	2	201327532597	10/02/2013 12:27	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	1	201327532597	10/02/2013 12:26	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	2	201327532597	10/02/2013 12:27	Stephanie A Sanchez	n.a.
13031	Acetaldehyde	SW-846 8315A	1	132800022A	10/09/2013 18:07	Jessica L Miller	1

*=This limit was used in the evaluation of the final result

Sample Description: RI0913-2013SBPC-01-010 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220820
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 09/30/2013 16:10 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01010

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05876	Formaldehyde Solid Extraction	SW-846 8315A	1	132800022A	10/08/2013 13:50	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	1	13281820007A	10/08/2013 22:17	Scott W Freisher	1

Sample Description: RI0913-2013SBPC-01-016 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220821
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 09/30/2013 16:15 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01016

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10237	Acetone	67-64-1	9 U	9	25	1.14
10237	Benzene	71-43-2	2 J	0.6	6	1.14
10237	Carbon Tetrachloride	56-23-5	1 U	1	6	1.14
10237	Chloroform	67-66-3	1 U	1	6	1.14
10237	Dichlorodifluoromethane	75-71-8	3 U	3	6	1.14
10237	1,1-Dichloroethane	75-34-3	1 U	1	6	1.14
10237	cis-1,2-Dichloroethene	156-59-2	1 U	1	6	1.14
10237	trans-1,2-Dichloroethene	156-60-5	1 U	1	6	1.14
10237	Freon 113	76-13-1	3 U	3	13	1.14
10237	Methylene Chloride	75-09-2	3 U	3	6	1.14
10237	Tetrachloroethene	127-18-4	2 J	1	6	1.14
10237	Tetrahydrofuran	109-99-9	5 U	5	6	1.14
10237	Toluene	108-88-3	6 J	1	6	1.14
10237	1,1,1-Trichloroethane	71-55-6	1 U	1	6	1.14
10237	Trichloroethene	79-01-6	1 U	1	6	1.14
10237	Trichlorofluoromethane	75-69-4	3 U	3	6	1.14

A targeted library search was performed yielding the following results:

1,1-dichloro-1,2,2,2-tetrafluoroethane and 1,1-dichloro-2,2,2-trifluoroethane are non-detect.

Aldehydes & Ketones		SW-846 8315A	ug/kg		ug/kg	ug/kg	
13031	Acetaldehyde	75-07-0	1,300	J	1,100	2,500	1

Wet Chemistry		SM 2540 G-1997	%	%	%	
00111	Moisture	n.a.	9.4	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	GC/MS Volatiles	SW-846 8260B	1	X132771AA	10/04/2013 14:10	Chelsea B Stong	1.14
08389	GC/MS - LL Encore Prep	SW-846 5035A	1	201327532597	10/02/2013 12:29	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035A	2	201327532597	10/02/2013 12:30	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	1	201327532597	10/02/2013 12:29	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	2	201327532597	10/02/2013 12:29	Stephanie A Sanchez	n.a.
13031	Acetaldehyde	SW-846 8315A	1	132800022A	10/09/2013 18:15	Jessica L Miller	1

*=This limit was used in the evaluation of the final result

Sample Description: RI0913-2013SBPC-01-016 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220821
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 09/30/2013 16:15 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01016

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05876	Formaldehyde Solid Extraction	SW-846 8315A	1	132800022A	10/08/2013 13:50	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	1	13281820007A	10/08/2013 22:17	Scott W Freisher	1

Sample Description: RI0913-2013SBPC-01-026 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220822
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 09/30/2013 16:25 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01026

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10237	Acetone	67-64-1	13 J	8	24	0.96
10237	Benzene	71-43-2	0.6 U	0.6	6	0.96
10237	Carbon Tetrachloride	56-23-5	1 U	1	6	0.96
10237	Chloroform	67-66-3	1 U	1	6	0.96
10237	Dichlorodifluoromethane	75-71-8	2 U	2	6	0.96
10237	1,1-Dichloroethane	75-34-3	1 U	1	6	0.96
10237	cis-1,2-Dichloroethene	156-59-2	1 U	1	6	0.96
10237	trans-1,2-Dichloroethene	156-60-5	1 U	1	6	0.96
10237	Freon 113	76-13-1	2 U	2	12	0.96
10237	Methylene Chloride	75-09-2	2 U	2	6	0.96
10237	Tetrachloroethene	127-18-4	3 J	1	6	0.96
10237	Tetrahydrofuran	109-99-9	5 U	5	6	0.96
10237	Toluene	108-88-3	1 U	1	6	0.96
10237	1,1,1-Trichloroethane	71-55-6	1 U	1	6	0.96
10237	Trichloroethene	79-01-6	1 U	1	6	0.96
10237	Trichlorofluoromethane	75-69-4	2 U	2	6	0.96

A targeted library search was performed yielding the following results:
1,1-dichloro-1,2,2,2-tetrafluoroethane and 1,1-dichloro-2,2,2-trifluoroethane
are non-detect.

Aldehydes & Ketones		SW-846 8315A	ug/kg		ug/kg	ug/kg	
13031	Acetaldehyde	75-07-0	1,300	U	1,300	2,900	1

Wet Chemistry		SM 2540 G-1997	%	%	%	
00111	Moisture	n.a.	20.0	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	GC/MS Volatiles	SW-846 8260B	1	X132771AA	10/04/2013 14:32	Chelsea B Stong	0.96
08389	GC/MS - LL Encore Prep	SW-846 5035A	1	201327532597	10/02/2013 12:32	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035A	2	201327532597	10/02/2013 12:32	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	1	201327532597	10/02/2013 12:31	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	2	201327532597	10/02/2013 12:31	Stephanie A Sanchez	n.a.
13031	Acetaldehyde	SW-846 8315A	1	132800022A	10/09/2013 18:24	Jessica L Miller	1

*=This limit was used in the evaluation of the final result

Sample Description: RI0913-2013SBPC-01-026 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220822
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 09/30/2013 16:25 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01026

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05876	Formaldehyde Solid Extraction	SW-846 8315A	1	132800022A	10/08/2013 13:50	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	1	13281820007A	10/08/2013 22:17	Scott W Freisher	1

Sample Description: RI0913-2013SBPC-01-026-D Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220823
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 09/30/2013 16:25 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

0126D

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10237	Acetone	67-64-1	11 J	8	22	0.96
10237	Benzene	71-43-2	0.6 U	0.6	6	0.96
10237	Carbon Tetrachloride	56-23-5	1 U	1	6	0.96
10237	Chloroform	67-66-3	1 U	1	6	0.96
10237	Dichlorodifluoromethane	75-71-8	2 U	2	6	0.96
10237	1,1-Dichloroethane	75-34-3	1 U	1	6	0.96
10237	cis-1,2-Dichloroethene	156-59-2	1 U	1	6	0.96
10237	trans-1,2-Dichloroethene	156-60-5	1 U	1	6	0.96
10237	Freon 113	76-13-1	2 U	2	11	0.96
10237	Methylene Chloride	75-09-2	2 U	2	6	0.96
10237	Tetrachloroethene	127-18-4	3 J	1	6	0.96
10237	Tetrahydrofuran	109-99-9	4 U	4	6	0.96
10237	Toluene	108-88-3	1 U	1	6	0.96
10237	1,1,1-Trichloroethane	71-55-6	1 U	1	6	0.96
10237	Trichloroethene	79-01-6	1 U	1	6	0.96
10237	Trichlorofluoromethane	75-69-4	2 U	2	6	0.96

A targeted library search was performed yielding the following results: 1,1-dichloro-1,2,2,2-tetrafluoroethane and 1,1-dichloro-2,2,2-trifluoroethane are non-detect.

Aldehydes & Ketones		SW-846 8315A	ug/kg		ug/kg	ug/kg	
13031	Acetaldehyde	75-07-0	1,200	U	1,200	2,700	1

Wet Chemistry		SM 2540 G-1997	%	%	%	
00111	Moisture	n.a.	13.6	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	GC/MS Volatiles	SW-846 8260B	1	X132761AA	10/03/2013 19:12	Chelsea B Stong	0.96
08389	GC/MS - LL Encore Prep	SW-846 5035A	1	201327532597	10/02/2013 12:34	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035A	2	201327532597	10/02/2013 12:34	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	1	201327532597	10/02/2013 12:34	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	2	201327532597	10/02/2013 12:34	Stephanie A Sanchez	n.a.
13031	Acetaldehyde	SW-846 8315A	1	132800022A	10/09/2013 18:33	Jessica L Miller	1

*=This limit was used in the evaluation of the final result

Sample Description: RI0913-2013SBPC-01-026-D Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220823
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 09/30/2013 16:25 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

0126D

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05876	Formaldehyde Solid Extraction	SW-846 8315A	1	132800022A	10/08/2013 13:50	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	1	13281820007A	10/08/2013 22:17	Scott W Freisher	1

Sample Description: **RI0913-2013SBPC-01-036 Soil**
REM INV SB PCL-BPL 9/13

LL Sample # **SW 7220824**
LL Group # **1423130**
Account # **07032**

Project Name: **MTG - REM INV SB PCL-BPL**

Collected: 09/30/2013 16:51 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01036

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10237	Acetone	67-64-1	8 U	8	24	0.96
10237	Benzene	71-43-2	3 J	0.6	6	0.96
10237	Carbon Tetrachloride	56-23-5	1 U	1	6	0.96
10237	Chloroform	67-66-3	1 U	1	6	0.96
10237	Dichlorodifluoromethane	75-71-8	2 U	2	6	0.96
10237	1,1-Dichloroethane	75-34-3	1 U	1	6	0.96
10237	cis-1,2-Dichloroethene	156-59-2	1 U	1	6	0.96
10237	trans-1,2-Dichloroethene	156-60-5	1 U	1	6	0.96
10237	Freon 113	76-13-1	2 U	2	12	0.96
10237	Methylene Chloride	75-09-2	2 U	2	6	0.96
10237	Tetrachloroethene	127-18-4	1 U	1	6	0.96
10237	Tetrahydrofuran	109-99-9	5 U	5	6	0.96
10237	Toluene	108-88-3	7	1	6	0.96
10237	1,1,1-Trichloroethane	71-55-6	1 U	1	6	0.96
10237	Trichloroethene	79-01-6	1 U	1	6	0.96
10237	Trichlorofluoromethane	75-69-4	2 U	2	6	0.96

A targeted library search was performed yielding the following results:
1,1-dichloro-1,2,2,2-tetrafluoroethane and 1,1-dichloro-2,2,2-trifluoroethane
are non-detect.

Aldehydes & Ketones	SW-846 8315A	ug/kg	ug/kg	ug/kg	
13031	Acetaldehyde	75-07-0	1,600 J	1,300	2,900

Wet Chemistry	SM 2540 G-1997	%	%	%	
00111	Moisture	n.a.	20.7	0.50	0.50

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	GC/MS Volatiles	SW-846 8260B	1	X132761AA	10/03/2013 19:34	Chelsea B Stong	0.96
08389	GC/MS - LL Encore Prep	SW-846 5035A	1	201327532597	10/02/2013 12:36	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035A	2	201327532597	10/02/2013 12:37	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	1	201327532597	10/02/2013 12:36	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	2	201327532597	10/02/2013 12:36	Stephanie A Sanchez	n.a.
13031	Acetaldehyde	SW-846 8315A	1	132800022A	10/09/2013 18:41	Jessica L Miller	1

*=This limit was used in the evaluation of the final result

Sample Description: RI0913-2013SBPC-01-036 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220824
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 09/30/2013 16:51 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01036

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05876	Formaldehyde Solid Extraction	SW-846 8315A	1	132800022A	10/08/2013 13:50	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	1	13281820007A	10/08/2013 22:17	Scott W Freisher	1

Sample Description: RI0913-2013SBPC-01-055 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220825
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 09/30/2013 17:30 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01055

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260B						
10237	Acetone	67-64-1	8 U	8	24	0.95
10237	Benzene	71-43-2	2 J	0.6	6	0.95
10237	Carbon Tetrachloride	56-23-5	1 U	1	6	0.95
10237	Chloroform	67-66-3	1 U	1	6	0.95
10237	Dichlorodifluoromethane	75-71-8	2 U	2	6	0.95
10237	1,1-Dichloroethane	75-34-3	1 U	1	6	0.95
10237	cis-1,2-Dichloroethene	156-59-2	1 U	1	6	0.95
10237	trans-1,2-Dichloroethene	156-60-5	1 U	1	6	0.95
10237	Freon 113	76-13-1	2 U	2	12	0.95
10237	Methylene Chloride	75-09-2	2 U	2	6	0.95
10237	Tetrachloroethene	127-18-4	1 U	1	6	0.95
10237	Tetrahydrofuran	109-99-9	5 U	5	6	0.95
10237	Toluene	108-88-3	5 J	1	6	0.95
10237	1,1,1-Trichloroethane	71-55-6	1 U	1	6	0.95
10237	Trichloroethene	79-01-6	1 U	1	6	0.95
10237	Trichlorofluoromethane	75-69-4	2 U	2	6	0.95
A targeted library search was performed yielding the following results: 1,1-dichloro-1,2,2,2-tetrafluoroethane and 1,1-dichloro-2,2,2-trifluoroethane are non-detect.						
Aldehydes & Ketones SW-846 8315A						
13031	Acetaldehyde	75-07-0	1,300 U	1,300	2,900	1
Wet Chemistry SM 2540 G-1997						
00111	Moisture	n.a.	20.3	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	GC/MS Volatiles	SW-846 8260B	1	X132761AA	10/03/2013 19:58	Chelsea B Stong	0.95
08389	GC/MS - LL Encore Prep	SW-846 5035A	1	201327532597	10/02/2013 12:39	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035A	2	201327532597	10/02/2013 12:39	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	1	201327532597	10/02/2013 12:39	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	2	201327532597	10/02/2013 12:39	Stephanie A Sanchez	n.a.
13031	Acetaldehyde	SW-846 8315A	1	132800022A	10/09/2013 18:50	Jessica L Miller	1

*=This limit was used in the evaluation of the final result

Sample Description: RI0913-2013SBPC-01-055 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220825
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 09/30/2013 17:30 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01055

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05876	Formaldehyde Solid Extraction	SW-846 8315A	1	132800022A	10/08/2013 13:50	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	1	13281820007A	10/08/2013 22:17	Scott W Freisher	1

Sample Description: RI0913-2013SBPC-01-076 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220826
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 09/30/2013 17:50 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01076

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10237	Acetone	67-64-1	8 U	8	23	0.98
10237	Benzene	71-43-2	1 J	0.6	6	0.98
10237	Carbon Tetrachloride	56-23-5	1 U	1	6	0.98
10237	Chloroform	67-66-3	1 U	1	6	0.98
10237	Dichlorodifluoromethane	75-71-8	2 U	2	6	0.98
10237	1,1-Dichloroethane	75-34-3	1 U	1	6	0.98
10237	cis-1,2-Dichloroethene	156-59-2	1 U	1	6	0.98
10237	trans-1,2-Dichloroethene	156-60-5	1 U	1	6	0.98
10237	Freon 113	76-13-1	2 U	2	12	0.98
10237	Methylene Chloride	75-09-2	2 U	2	6	0.98
10237	Tetrachloroethene	127-18-4	1 U	1	6	0.98
10237	Tetrahydrofuran	109-99-9	5 U	5	6	0.98
10237	Toluene	108-88-3	3 J	1	6	0.98
10237	1,1,1-Trichloroethane	71-55-6	1 U	1	6	0.98
10237	Trichloroethene	79-01-6	1 U	1	6	0.98
10237	Trichlorofluoromethane	75-69-4	2 U	2	6	0.98

A targeted library search was performed yielding the following results:
1,1-dichloro-1,2,2,2-tetrafluoroethane and 1,1-dichloro-2,2,2-trifluoroethane
are non-detect.

Aldehydes & Ketones		SW-846 8315A	ug/kg		ug/kg	ug/kg	
13031	Acetaldehyde	75-07-0	1,800	J	1,200	2,700	1

Wet Chemistry		SM 2540 G-1997	%	%	%	
00111	Moisture	n.a.	15.7	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	GC/MS Volatiles	SW-846 8260B	1	X132771AA	10/04/2013 14:56	Chelsea B Stong	0.98
08389	GC/MS - LL Encore Prep	SW-846 5035A	1	201327532597	10/02/2013 12:41	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035A	2	201327532597	10/02/2013 12:42	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	1	201327532597	10/02/2013 12:41	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	2	201327532597	10/02/2013 12:41	Stephanie A Sanchez	n.a.
13031	Acetaldehyde	SW-846 8315A	1	132800022A	10/09/2013 18:58	Jessica L Miller	1

*=This limit was used in the evaluation of the final result

Sample Description: RI0913-2013SBPC-01-076 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220826
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 09/30/2013 17:50 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01076

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05876	Formaldehyde Solid Extraction	SW-846 8315A	1	132800022A	10/08/2013 13:50	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	1	13281820007A	10/08/2013 22:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: RI0913-2013SBPC-01-076 MS Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220827
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 09/30/2013 17:50 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01076

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10237	Acetone	67-64-1	170	8	23	0.99
10237	Benzene	71-43-2	24	0.6	6	0.99
10237	Carbon Tetrachloride	56-23-5	31	1	6	0.99
10237	Chloroform	67-66-3	27	1	6	0.99
10237	Dichlorodifluoromethane	75-71-8	29	2	6	0.99
10237	1,1-Dichloroethane	75-34-3	24	1	6	0.99
10237	cis-1,2-Dichloroethene	156-59-2	24	1	6	0.99
10237	trans-1,2-Dichloroethene	156-60-5	24	1	6	0.99
10237	Freon 113	76-13-1	26	2	12	0.99
10237	Methylene Chloride	75-09-2	23	2	6	0.99
10237	Tetrachloroethene	127-18-4	25	1	6	0.99
10237	Tetrahydrofuran	109-99-9	110	5	6	0.99
10237	Toluene	108-88-3	26	1	6	0.99
10237	1,1,1-Trichloroethane	71-55-6	27	1	6	0.99
10237	Trichloroethene	79-01-6	25	1	6	0.99
10237	Trichlorofluoromethane	75-69-4	33	2	6	0.99
Aldehydes & Ketones	SW-846 8315A		ug/kg	ug/kg	ug/kg	
13031	Acetaldehyde	75-07-0	11,000	1,200	2,700	1
Wet Chemistry	SM 2540 G-1997		%	%	%	
00118	Moisture	n.a.	15.7	0.50	0.50	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	GC/MS Volatiles	SW-846 8260B	1	X132771AA	10/04/2013 15:19	Chelsea B Stong	0.99
08389	GC/MS - LL Encore Prep	SW-846 5035A	1	201327532597	10/02/2013 12:44	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035A	2	201327532597	10/02/2013 12:44	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	1	201327532597	10/02/2013 12:43	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	2	201327532597	10/02/2013 12:44	Stephanie A Sanchez	n.a.
13031	Acetaldehyde	SW-846 8315A	1	132800022A	10/09/2013 19:07	Jessica L Miller	1
05876	Formaldehyde Solid Extraction	SW-846 8315A	1	132800022A	10/08/2013 13:50	Denise L Trimby	1
00118	Moisture	SM 2540 G-1997	1	13281820007A	10/08/2013 22:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: RI0913-2013SBPC-01-076 MSD Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220828
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 09/30/2013 17:50 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01076

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10237	Acetone	67-64-1	170	8	24	1.02
10237	Benzene	71-43-2	24	0.6	6	1.02
10237	Carbon Tetrachloride	56-23-5	30	1	6	1.02
10237	Chloroform	67-66-3	26	1	6	1.02
10237	Dichlorodifluoromethane	75-71-8	27	2	6	1.02
10237	1,1-Dichloroethane	75-34-3	23	1	6	1.02
10237	cis-1,2-Dichloroethene	156-59-2	24	1	6	1.02
10237	trans-1,2-Dichloroethene	156-60-5	24	1	6	1.02
10237	Freon 113	76-13-1	25	2	12	1.02
10237	Methylene Chloride	75-09-2	23	2	6	1.02
10237	Tetrachloroethene	127-18-4	26	1	6	1.02
10237	Tetrahydrofuran	109-99-9	120	5	6	1.02
10237	Toluene	108-88-3	26	1	6	1.02
10237	1,1,1-Trichloroethane	71-55-6	26	1	6	1.02
10237	Trichloroethene	79-01-6	25	1	6	1.02
10237	Trichlorofluoromethane	75-69-4	30	2	6	1.02

Aldehydes & Ketones		SW-846 8315A	ug/kg	ug/kg	ug/kg	
13031	Acetaldehyde	75-07-0	12,000	1,200	2,700	1

Wet Chemistry		SM 2540 G-1997	%	%	%	
00118	Moisture	n.a.	15.7	0.50	0.50	1
00121	Moisture Duplicate	n.a.	16.9	0.50	0.50	1

The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	GC/MS Volatiles	SW-846 8260B	1	X132771AA	10/04/2013 15:43	Chelsea B Stong	1.02
08389	GC/MS - LL Encore Prep	SW-846 5035A	1	201327532597	10/02/2013 12:47	Stephanie A Sanchez	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035A	2	201327532597	10/02/2013 12:47	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	1	201327532597	10/02/2013 12:46	Stephanie A Sanchez	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	2	201327532597	10/02/2013 12:46	Stephanie A Sanchez	n.a.
13031	Acetaldehyde	SW-846 8315A	1	132800022A	10/09/2013 19:24	Jessica L Miller	1
05876	Formaldehyde Solid Extraction	SW-846 8315A	1	132800022A	10/08/2013 13:50	Denise L Trimby	1
00118	Moisture	SM 2540 G-1997	1	13281820007A	10/08/2013 22:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: RI0913-2013SBPC-01-076 MSD Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220828
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 09/30/2013 17:50 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01076

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00121	Moisture Duplicate	SM 2540 G-1997	1	13281820007A	10/08/2013 22:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: **EB-093013-SB Blank Water**
REM INV SB PCL-BPL 9/13

LL Sample # **WW 7220829**
LL Group # **1423130**
Account # **07032**

Project Name: **MTG - REM INV SB PCL-BPL**

Collected: 09/30/2013 18:00 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

MEB01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	6 U	6	20	1
10335	Benzene	71-43-2	0.5 U	0.5	5	1
10335	Carbon Tetrachloride	56-23-5	1 U	1	5	1
10335	Chloroform	67-66-3	0.8 U	0.8	5	1
10335	Dichlorodifluoromethane	75-71-8	2 U	2	5	1
10335	1,1-Dichloroethane	75-34-3	1 U	1	5	1
10335	cis-1,2-Dichloroethene	156-59-2	0.8 U	0.8	5	1
10335	trans-1,2-Dichloroethene	156-60-5	0.8 U	0.8	5	1
10335	Freon 113	76-13-1	2 U	2	10	1
10335	Methylene Chloride	75-09-2	2 U	2	5	1
10335	Tetrachloroethene	127-18-4	0.8 U	0.8	5	1
10335	Tetrahydrofuran	109-99-9	4 U	4	10	1
10335	Toluene	108-88-3	0.7 U	0.7	5	1
10335	1,1,1-Trichloroethane	71-55-6	0.8 U	0.8	5	1
10335	Trichloroethene	79-01-6	1 U	1	5	1
10335	Trichlorofluoromethane	75-69-4	2 U	2	5	1
A targeted library search was performed yielding the following results: 1,1-dichloro-1,2,2,2-tetrafluoroethane and 1,1-dichloro-2,2,2-trifluoroethane are non-detect.						
Aldehydes & Ketones	SW-846 8315A		ug/l	ug/l	ug/l	
13022	Acetaldehyde	75-07-0	30 U	30	60	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	GC/MS Volatiles	SW-846 8260B	1	T132841AA	10/11/2013 12:15	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T132841AA	10/11/2013 12:15	Linda C Pape	1
13022	Acetaldehyde	SW-846 8315A	1	132750024A	10/03/2013 19:20	James H Place	1
01013	Formaldehyde Extraction	SW-846 8315A	1	132750024A	10/03/2013 10:10	Denise L Trimby	1

*=This limit was used in the evaluation of the final result

Sample Description: TB-100113-SB Blank Water
REM INV SB PCL-BPL 9/13

LL Sample # WW 7220830
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 10/01/2013 09:15 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

MTB01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	6 U	6	20	1
10335	Benzene	71-43-2	0.5 U	0.5	5	1
10335	Carbon Tetrachloride	56-23-5	1 U	1	5	1
10335	Chloroform	67-66-3	0.8 U	0.8	5	1
10335	Dichlorodifluoromethane	75-71-8	2 U	2	5	1
10335	1,1-Dichloroethane	75-34-3	1 U	1	5	1
10335	cis-1,2-Dichloroethene	156-59-2	0.8 U	0.8	5	1
10335	trans-1,2-Dichloroethene	156-60-5	0.8 U	0.8	5	1
10335	Freon 113	76-13-1	2 U	2	10	1
10335	Methylene Chloride	75-09-2	2 U	2	5	1
10335	Tetrachloroethene	127-18-4	0.8 U	0.8	5	1
10335	Tetrahydrofuran	109-99-9	4 U	4	10	1
10335	Toluene	108-88-3	0.7 U	0.7	5	1
10335	1,1,1-Trichloroethane	71-55-6	0.8 U	0.8	5	1
10335	Trichloroethene	79-01-6	1 U	1	5	1
10335	Trichlorofluoromethane	75-69-4	2 U	2	5	1

A targeted library search was performed yielding the following results:
1,1-dichloro-1,2,2,2-tetrafluoroethane and 1,1-dichloro-2,2,2-trifluoroethane
are non-detect.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	GC/MS Volatiles	SW-846 8260B	1	T132841AA	10/11/2013 12:39	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T132841AA	10/11/2013 12:39	Linda C Pape	1

*=This limit was used in the evaluation of the final result

Sample Description: RI0913-2013SBBP-01-012 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220831
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 10/01/2013 14:35 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01012

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10237	Acetone	67-64-1	8 U	8	21	1.05
10237	Benzene	71-43-2	0.5 U	0.5	5	1.05
10237	Carbon Tetrachloride	56-23-5	1 U	1	5	1.05
10237	Chloroform	67-66-3	1 U	1	5	1.05
10237	Dichlorodifluoromethane	75-71-8	2 U	2	5	1.05
10237	1,1-Dichloroethane	75-34-3	1 U	1	5	1.05
10237	cis-1,2-Dichloroethene	156-59-2	1 U	1	5	1.05
10237	trans-1,2-Dichloroethene	156-60-5	1 U	1	5	1.05
10237	Freon 113	76-13-1	2 U	2	11	1.05
10237	Methylene Chloride	75-09-2	2 U	2	5	1.05
10237	Tetrachloroethene	127-18-4	1 U	1	5	1.05
10237	Tetrahydrofuran	109-99-9	4 U	4	5	1.05
10237	Toluene	108-88-3	1 U	1	5	1.05
10237	1,1,1-Trichloroethane	71-55-6	1 U	1	5	1.05
10237	Trichloroethene	79-01-6	1 U	1	5	1.05
10237	Trichlorofluoromethane	75-69-4	2 U	2	5	1.05

A targeted library search was performed yielding the following results:
1,1-dichloro-1,2,2,2-tetrafluoroethane and 1,1-dichloro-2,2,2-trifluoroethane
are non-detect.

Aldehydes & Ketones	SW-846 8315A	ug/kg	ug/kg	ug/kg	
13031	Acetaldehyde	75-07-0	1,200 J	1,000	2,400

Wet Chemistry	SM 2540 G-1997	%	%	%	
00111	Moisture	n.a.	2.4	0.50	0.50
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	GC/MS Volatiles	SW-846 8260B	1	X132761AA	10/03/2013 20:21	Chelsea B Stong	1.05
08389	GC/MS - LL Encore Prep	SW-846 5035A	1	201327532599	10/02/2013 14:16	Mitchell R Washel	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035A	2	201327532599	10/02/2013 14:16	Mitchell R Washel	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	1	201327532599	10/02/2013 14:16	Mitchell R Washel	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	2	201327532599	10/02/2013 14:16	Mitchell R Washel	n.a.
13031	Acetaldehyde	SW-846 8315A	1	132800022A	10/09/2013 19:32	Jessica L Miller	1
05876	Formaldehyde Solid Extraction	SW-846 8315A	1	132800022A	10/08/2013 13:50	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	1	13281820007A	10/08/2013 22:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: RI0913-2013SBBP-01-020 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220832
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 10/01/2013 14:40 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01020

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10237	Acetone	67-64-1	8 U	8	23	1.09
10237	Benzene	71-43-2	0.6 U	0.6	6	1.09
10237	Carbon Tetrachloride	56-23-5	1 U	1	6	1.09
10237	Chloroform	67-66-3	1 U	1	6	1.09
10237	Dichlorodifluoromethane	75-71-8	2 U	2	6	1.09
10237	1,1-Dichloroethane	75-34-3	1 U	1	6	1.09
10237	cis-1,2-Dichloroethene	156-59-2	1 U	1	6	1.09
10237	trans-1,2-Dichloroethene	156-60-5	1 U	1	6	1.09
10237	Freon 113	76-13-1	2 U	2	11	1.09
10237	Methylene Chloride	75-09-2	2 U	2	6	1.09
10237	Tetrachloroethene	127-18-4	1 U	1	6	1.09
10237	Tetrahydrofuran	109-99-9	5 U	5	6	1.09
10237	Toluene	108-88-3	1 U	1	6	1.09
10237	1,1,1-Trichloroethane	71-55-6	1 U	1	6	1.09
10237	Trichloroethene	79-01-6	1 U	1	6	1.09
10237	Trichlorofluoromethane	75-69-4	2 U	2	6	1.09

A targeted library search was performed yielding the following results:
1,1-dichloro-1,2,2,2-tetrafluoroethane and 1,1-dichloro-2,2,2-trifluoroethane
are non-detect.

Aldehydes & Ketones	SW-846 8315A	ug/kg	ug/kg	ug/kg	
13031	Acetaldehyde	75-07-0	1,100 J	1,000	2,400

Wet Chemistry	SM 2540 G-1997	%	%	%	
00111	Moisture	n.a.	3.3	0.50	0.50
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	GC/MS Volatiles	SW-846 8260B	1	X132761AA	10/03/2013 20:44	Chelsea B Stong	1.09
08389	GC/MS - LL Encore Prep	SW-846 5035A	1	201327532599	10/02/2013 14:19	Mitchell R Washel	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035A	2	201327532599	10/02/2013 14:19	Mitchell R Washel	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	1	201327532599	10/02/2013 14:18	Mitchell R Washel	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	2	201327532599	10/02/2013 14:19	Mitchell R Washel	n.a.
13031	Acetaldehyde	SW-846 8315A	1	132800022A	10/09/2013 19:41	Jessica L Miller	1
05876	Formaldehyde Solid Extraction	SW-846 8315A	1	132800022A	10/08/2013 13:50	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	1	13281820007A	10/08/2013 22:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: RI0913-2013SBBP-01-035 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220833
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 10/01/2013 15:15 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01035

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10237	Acetone	67-64-1	23 J	8	24	1.01
10237	Benzene	71-43-2	2 J	0.6	6	1.01
10237	Carbon Tetrachloride	56-23-5	1 U	1	6	1.01
10237	Chloroform	67-66-3	1 U	1	6	1.01
10237	Dichlorodifluoromethane	75-71-8	2 U	2	6	1.01
10237	1,1-Dichloroethane	75-34-3	1 U	1	6	1.01
10237	cis-1,2-Dichloroethene	156-59-2	1 U	1	6	1.01
10237	trans-1,2-Dichloroethene	156-60-5	1 U	1	6	1.01
10237	Freon 113	76-13-1	2 U	2	12	1.01
10237	Methylene Chloride	75-09-2	6 J	2	6	1.01
10237	Tetrachloroethene	127-18-4	1 U	1	6	1.01
10237	Tetrahydrofuran	109-99-9	5 U	5	6	1.01
10237	Toluene	108-88-3	4 J	1	6	1.01
10237	1,1,1-Trichloroethane	71-55-6	1 U	1	6	1.01
10237	Trichloroethene	79-01-6	1 U	1	6	1.01
10237	Trichlorofluoromethane	75-69-4	2 U	2	6	1.01

A targeted library search was performed yielding the following results:
1,1-dichloro-1,2,2,2-tetrafluoroethane and 1,1-dichloro-2,2,2-trifluoroethane
are non-detect.

Aldehydes & Ketones		SW-846 8315A	ug/kg		ug/kg	ug/kg	
13031	Acetaldehyde	75-07-0	2,000	J	1,200	2,700	1

Wet Chemistry		SM 2540 G-1997	%	%	%	
00111	Moisture	n.a.	15.8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	GC/MS Volatiles	SW-846 8260B	1	X132761AA	10/03/2013 21:08	Chelsea B Stong	1.01
08389	GC/MS - LL Encore Prep	SW-846 5035A	1	201327532599	10/02/2013 14:21	Mitchell R Washel	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035A	2	201327532599	10/02/2013 14:22	Mitchell R Washel	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	1	201327532599	10/02/2013 14:21	Mitchell R Washel	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	2	201327532599	10/02/2013 14:21	Mitchell R Washel	n.a.
13031	Acetaldehyde	SW-846 8315A	1	132800022A	10/09/2013 19:49	Jessica L Miller	1
05876	Formaldehyde Solid Extraction	SW-846 8315A	1	132800022A	10/08/2013 13:50	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	1	13281820007A	10/08/2013 22:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: RI0913-2013SBBP-01-065 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220834
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 10/01/2013 15:40 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01065

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg		ug/kg	ug/kg	
10237	Acetone	67-64-1	9	U	9	25	1
10237	Benzene	71-43-2	2	J	0.6	6	1
10237	Carbon Tetrachloride	56-23-5	1	U	1	6	1
10237	Chloroform	67-66-3	1	U	1	6	1
10237	Dichlorodifluoromethane	75-71-8	2	U	2	6	1
10237	1,1-Dichloroethane	75-34-3	1	U	1	6	1
10237	cis-1,2-Dichloroethene	156-59-2	1	U	1	6	1
10237	trans-1,2-Dichloroethene	156-60-5	1	U	1	6	1
10237	Freon 113	76-13-1	2	U	2	12	1
10237	Methylene Chloride	75-09-2	2	U	2	6	1
10237	Tetrachloroethene	127-18-4	1	U	1	6	1
10237	Tetrahydrofuran	109-99-9	5	U	5	6	1
10237	Toluene	108-88-3	5	J	1	6	1
10237	1,1,1-Trichloroethane	71-55-6	1	U	1	6	1
10237	Trichloroethene	79-01-6	1	U	1	6	1
10237	Trichlorofluoromethane	75-69-4	2	U	2	6	1
A targeted library search was performed yielding the following results: 1,1-dichloro-1,2,2,2-tetrafluoroethane and 1,1-dichloro-2,2,2-trifluoroethane are non-detect.							
Aldehydes & Ketones	SW-846 8315A		ug/kg		ug/kg	ug/kg	
13031	Acetaldehyde	75-07-0	2,000	J	1,200	2,800	1
Wet Chemistry	SM 2540 G-1997		%		%	%	
00111	Moisture	n.a.	18.6		0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.							

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	GC/MS Volatiles	SW-846 8260B	1	X132761AA	10/03/2013 21:31	Chelsea B Stong	1
08389	GC/MS - LL Encore Prep	SW-846 5035A	1	201327532599	10/02/2013 14:24	Mitchell R Washel	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035A	2	201327532599	10/02/2013 14:25	Mitchell R Washel	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	1	201327532599	10/02/2013 14:24	Mitchell R Washel	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	2	201327532599	10/02/2013 14:24	Mitchell R Washel	n.a.
13031	Acetaldehyde	SW-846 8315A	1	132800022A	10/09/2013 19:58	Jessica L Miller	1
05876	Formaldehyde Solid Extraction	SW-846 8315A	1	132800022A	10/08/2013 13:50	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	1	13281820007A	10/08/2013 22:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: RI0913-2013SBPC-01-085 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220835
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 10/01/2013 09:55 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01085

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10237	Acetone	67-64-1	9 U	9	24	0.97
10237	Benzene	71-43-2	1 J	0.6	6	0.97
10237	Carbon Tetrachloride	56-23-5	1 U	1	6	0.97
10237	Chloroform	67-66-3	1 U	1	6	0.97
10237	Dichlorodifluoromethane	75-71-8	2 U	2	6	0.97
10237	1,1-Dichloroethane	75-34-3	1 U	1	6	0.97
10237	cis-1,2-Dichloroethene	156-59-2	1 U	1	6	0.97
10237	trans-1,2-Dichloroethene	156-60-5	1 U	1	6	0.97
10237	Freon 113	76-13-1	2 U	2	12	0.97
10237	Methylene Chloride	75-09-2	4 J	2	6	0.97
10237	Tetrachloroethene	127-18-4	1 U	1	6	0.97
10237	Tetrahydrofuran	109-99-9	5 U	5	6	0.97
10237	Toluene	108-88-3	4 J	1	6	0.97
10237	1,1,1-Trichloroethane	71-55-6	1 U	1	6	0.97
10237	Trichloroethene	79-01-6	1 U	1	6	0.97
10237	Trichlorofluoromethane	75-69-4	2 U	2	6	0.97

A targeted library search was performed yielding the following results:
1,1-dichloro-1,2,2,2-tetrafluoroethane and 1,1-dichloro-2,2,2-trifluoroethane
are non-detect.

Aldehydes & Ketones		SW-846 8315A	ug/kg		ug/kg	ug/kg	
13031	Acetaldehyde	75-07-0	1,800	J	1,300	2,900	1

Wet Chemistry		SM 2540 G-1997	%	%	%	
00111	Moisture	n.a.	20.2	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	GC/MS Volatiles	SW-846 8260B	1	X132771AA	10/04/2013 16:06	Chelsea B Stong	0.97
08389	GC/MS - LL Encore Prep	SW-846 5035A	1	201327532599	10/02/2013 14:27	Mitchell R Washel	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035A	2	201327532599	10/02/2013 14:28	Mitchell R Washel	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	1	201327532599	10/02/2013 14:27	Mitchell R Washel	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	2	201327532599	10/02/2013 14:27	Mitchell R Washel	n.a.
13031	Acetaldehyde	SW-846 8315A	1	132800022A	10/09/2013 20:06	Jessica L Miller	1
05876	Formaldehyde Solid Extraction	SW-846 8315A	1	132800022A	10/08/2013 13:50	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	1	13281820007A	10/08/2013 22:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: **RI0913-2013SBPC-01-095 Soil**
REM INV SB PCL-BPL 9/13

LL Sample # **SW 7220836**
LL Group # **1423130**
Account # **07032**

Project Name: **MTG - REM INV SB PCL-BPL**

Collected: 10/01/2013 09:15 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01095

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10237	Acetone	67-64-1	14 J	7	20	0.87
10237	Benzene	71-43-2	5 J	0.5	5	0.87
10237	Carbon Tetrachloride	56-23-5	1 U	1	5	0.87
10237	Chloroform	67-66-3	1 U	1	5	0.87
10237	Dichlorodifluoromethane	75-71-8	2 U	2	5	0.87
10237	1,1-Dichloroethane	75-34-3	1 U	1	5	0.87
10237	cis-1,2-Dichloroethene	156-59-2	1 U	1	5	0.87
10237	trans-1,2-Dichloroethene	156-60-5	1 U	1	5	0.87
10237	Freon 113	76-13-1	2 U	2	10	0.87
10237	Methylene Chloride	75-09-2	2 U	2	5	0.87
10237	Tetrachloroethene	127-18-4	1 U	1	5	0.87
10237	Tetrahydrofuran	109-99-9	4 U	4	5	0.87
10237	Toluene	108-88-3	10	1	5	0.87
10237	1,1,1-Trichloroethane	71-55-6	1 U	1	5	0.87
10237	Trichloroethene	79-01-6	1 U	1	5	0.87
10237	Trichlorofluoromethane	75-69-4	2 U	2	5	0.87

A targeted library search was performed yielding the following results:
1,1-dichloro-1,2,2,2-tetrafluoroethane and 1,1-dichloro-2,2,2-trifluoroethane
are non-detect.

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

Aldehydes & Ketones		SW-846 8315A	ug/kg		ug/kg	ug/kg	
13031	Acetaldehyde	75-07-0	1,200	U	1,200	2,700	1

Wet Chemistry		SM 2540 G-1997	%	%	%	
00111	Moisture	n.a.	14.4	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	GC/MS Volatiles	SW-846 8260B	1	X132771AA	10/04/2013 16:30	Chelsea B Stong	0.87
08389	GC/MS - LL Encore Prep	SW-846 5035A	1	201327532599	10/02/2013 14:30	Mitchell R Washel	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035A	2	201327532599	10/02/2013 14:30	Mitchell R Washel	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	1	201327532599	10/02/2013 14:30	Mitchell R Washel	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	2	201327532599	10/02/2013 14:30	Mitchell R Washel	n.a.

*=This limit was used in the evaluation of the final result

Sample Description: RI0913-2013SBPC-01-095 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220836
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 10/01/2013 09:15 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01095

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
13031	Acetaldehyde	SW-846 8315A	1	132800022A	10/09/2013 20:15	Jessica L Miller	1
05876	Formaldehyde Solid Extraction	SW-846 8315A	1	132800022A	10/08/2013 13:50	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	1	13281820007A	10/08/2013 22:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: RI0913-2013SBPC-01-100 Soil
REM INV SB PCL-BPL 9/13

LL Sample # SW 7220837
LL Group # 1423130
Account # 07032

Project Name: MTG - REM INV SB PCL-BPL

Collected: 10/01/2013 09:35 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

01100

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	ug/kg	
10237	Acetone	67-64-1	9 U	9	25	0.97
10237	Benzene	71-43-2	2 J	0.6	6	0.97
10237	Carbon Tetrachloride	56-23-5	1 U	1	6	0.97
10237	Chloroform	67-66-3	1 U	1	6	0.97
10237	Dichlorodifluoromethane	75-71-8	2 U	2	6	0.97
10237	1,1-Dichloroethane	75-34-3	1 U	1	6	0.97
10237	cis-1,2-Dichloroethene	156-59-2	1 U	1	6	0.97
10237	trans-1,2-Dichloroethene	156-60-5	1 U	1	6	0.97
10237	Freon 113	76-13-1	2 U	2	12	0.97
10237	Methylene Chloride	75-09-2	2 U	2	6	0.97
10237	Tetrachloroethene	127-18-4	1 U	1	6	0.97
10237	Tetrahydrofuran	109-99-9	5 U	5	6	0.97
10237	Toluene	108-88-3	5 J	1	6	0.97
10237	1,1,1-Trichloroethane	71-55-6	1 U	1	6	0.97
10237	Trichloroethene	79-01-6	1 U	1	6	0.97
10237	Trichlorofluoromethane	75-69-4	2 U	2	6	0.97

A targeted library search was performed yielding the following results:
1,1-dichloro-1,2,2,2-tetrafluoroethane and 1,1-dichloro-2,2,2-trifluoroethane
are non-detect.

Aldehydes & Ketones	SW-846 8315A	ug/kg	ug/kg	ug/kg	
13031	Acetaldehyde	75-07-0	1,500 J	1,300	2,900

Wet Chemistry	SM 2540 G-1997	%	%	%	
00111	Moisture	n.a.	20.9	0.50	0.50
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	GC/MS Volatiles	SW-846 8260B	1	X132771AA	10/04/2013 16:53	Chelsea B Stong	0.97
08389	GC/MS - LL Encore Prep	SW-846 5035A	1	201327532599	10/02/2013 14:33	Mitchell R Washel	n.a.
08389	GC/MS - LL Encore Prep	SW-846 5035A	2	201327532599	10/02/2013 14:33	Mitchell R Washel	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	1	201327532599	10/02/2013 14:32	Mitchell R Washel	n.a.
07578	GC/MS-HL Encore Prep-NC	SW-846 5035A	2	201327532599	10/02/2013 14:33	Mitchell R Washel	n.a.
13031	Acetaldehyde	SW-846 8315A	1	132800022A	10/09/2013 20:24	Jessica L Miller	1
05876	Formaldehyde Solid Extraction	SW-846 8315A	1	132800022A	10/08/2013 13:50	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	1	13281820007A	10/08/2013 22:17	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: **EB-010013-SB Blank Water**
REM INV SB PCL-BPL 9/13

LL Sample # **WW 7220838**
LL Group # **1423130**
Account # **07032**

Project Name: **MTG - REM INV SB PCL-BPL**

Collected: 10/01/2013 14:10 by GG

CRG-E.I.DuPont de Nemours & Co
URS Corporation
Iron Hill Corporate Center
4051 Ogletown Road, Suite 300
Newark DE 19713

Submitted: 10/02/2013 09:40

Reported: 10/14/2013 20:11

MEB02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	6 U	6	20	1
10335	Benzene	71-43-2	0.5 U	0.5	5	1
10335	Carbon Tetrachloride	56-23-5	1 U	1	5	1
10335	Chloroform	67-66-3	0.8 U	0.8	5	1
10335	Dichlorodifluoromethane	75-71-8	2 U	2	5	1
10335	1,1-Dichloroethane	75-34-3	1 U	1	5	1
10335	cis-1,2-Dichloroethene	156-59-2	0.8 U	0.8	5	1
10335	trans-1,2-Dichloroethene	156-60-5	0.8 U	0.8	5	1
10335	Freon 113	76-13-1	2 U	2	10	1
10335	Methylene Chloride	75-09-2	2 U	2	5	1
10335	Tetrachloroethene	127-18-4	0.8 U	0.8	5	1
10335	Tetrahydrofuran	109-99-9	4 U	4	10	1
10335	Toluene	108-88-3	0.7 U	0.7	5	1
10335	1,1,1-Trichloroethane	71-55-6	0.8 U	0.8	5	1
10335	Trichloroethene	79-01-6	1 U	1	5	1
10335	Trichlorofluoromethane	75-69-4	2 U	2	5	1
A targeted library search was performed yielding the following results: 1,1-dichloro-1,2,2,2-tetrafluoroethane and 1,1-dichloro-2,2,2-trifluoroethane are non-detect.						
Aldehydes & Ketones	SW-846 8315A		ug/l	ug/l	ug/l	
13022	Acetaldehyde	75-07-0	30 J	30	60	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	GC/MS Volatiles	SW-846 8260B	1	T132841AA	10/11/2013 13:03	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T132841AA	10/11/2013 13:03	Linda C Pape	1
13022	Acetaldehyde	SW-846 8315A	1	132750024A	10/03/2013 19:28	James H Place	1
01013	Formaldehyde Extraction	SW-846 8315A	1	132750024A	10/03/2013 10:10	Denise L Trimby	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: CRG-E.I.DuPont de Nemours & Co
Reported: 10/14/13 at 08:11 PM

Group Number: 1423130

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: T132841AA Sample number(s): 7220829-7220830, 7220838									
Acetone	6 U	6.	20	ug/l	122	120	38-157	2	30
Benzene	0.5 U	0.5	5	ug/l	105	106	78-120	1	30
Carbon Tetrachloride	1 U	1.	5	ug/l	104	107	74-130	2	30
Chloroform	0.8 U	0.8	5	ug/l	103	106	77-122	2	30
Dichlorodifluoromethane	2 U	2.	5	ug/l	86	88	35-122	3	30
1,1-Dichloroethane	1 U	1.	5	ug/l	105	106	80-120	1	30
cis-1,2-Dichloroethene	0.8 U	0.8	5	ug/l	96	100	80-120	3	30
trans-1,2-Dichloroethene	0.8 U	0.8	5	ug/l	102	105	80-120	3	30
Freon 113	2 U	2.	10	ug/l	102	102	63-133	0	30
Methylene Chloride	2 U	2.	5	ug/l	101	102	80-120	2	30
Tetrachloroethene	0.8 U	0.8	5	ug/l	100	102	80-120	1	30
Tetrahydrofuran	4 U	4.	10	ug/l	81	81	58-142	0	30
Toluene	0.7 U	0.7	5	ug/l	102	101	80-120	0	30
1,1,1-Trichloroethane	0.8 U	0.8	5	ug/l	108	106	66-126	2	30
Trichloroethene	1 U	1.	5	ug/l	106	107	80-120	2	30
Trichlorofluoromethane	2 U	2.	5	ug/l	87	89	65-130	3	30
Batch number: X132761AA Sample number(s): 7220823-7220825, 7220831-7220834									
Acetone	7 U	7.	20	ug/kg	110		23-171		
Benzene	0.5 U	0.5	5	ug/kg	91		80-120		
Carbon Tetrachloride	1 U	1.	5	ug/kg	110		69-122		
Chloroform	1 U	1.	5	ug/kg	103		80-120		
Dichlorodifluoromethane	2 U	2.	5	ug/kg	94		32-120		
1,1-Dichloroethane	1 U	1.	5	ug/kg	96		80-120		
cis-1,2-Dichloroethene	1 U	1.	5	ug/kg	95		80-120		
trans-1,2-Dichloroethene	1 U	1.	5	ug/kg	97		79-120		
Freon 113	2 U	2.	10	ug/kg	98		64-137		
Methylene Chloride	2 U	2.	5	ug/kg	91		80-124		
Tetrachloroethene	1 U	1.	5	ug/kg	98		78-126		
Tetrahydrofuran	4 U	4.	5	ug/kg	96		64-140		
Toluene	1 U	1.	5	ug/kg	89		80-120		
1,1,1-Trichloroethane	1 U	1.	5	ug/kg	100		71-125		
Trichloroethene	1 U	1.	5	ug/kg	96		80-120		
Trichlorofluoromethane	2 U	2.	5	ug/kg	110		58-133		
Batch number: X132771AA Sample number(s): 7220820-7220822, 7220826-7220828, 7220835-7220837									
Acetone	7 U	7.	20	ug/kg	95		23-171		
Benzene	0.5 U	0.5	5	ug/kg	93		80-120		
Carbon Tetrachloride	1 U	1.	5	ug/kg	114		69-122		
Chloroform	1 U	1.	5	ug/kg	105		80-120		
Dichlorodifluoromethane	2 U	2.	5	ug/kg	96		32-120		
1,1-Dichloroethane	1 U	1.	5	ug/kg	95		80-120		
cis-1,2-Dichloroethene	1 U	1.	5	ug/kg	96		80-120		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control SummaryClient Name: CRG-E.I.DuPont de Nemours & Co
Reported: 10/14/13 at 08:11 PM

Group Number: 1423130

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL**</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
trans-1,2-Dichloroethene	1 U	1.	5	ug/kg	95		79-120		
Freon 113	2 U	2.	10	ug/kg	96		64-137		
Methylene Chloride	2 U	2.	5	ug/kg	89		80-124		
Tetrachloroethene	1 U	1.	5	ug/kg	101		78-126		
Tetrahydrofuran	4 U	4.	5	ug/kg	94		64-140		
Toluene	1 U	1.	5	ug/kg	92		80-120		
1,1,1-Trichloroethane	1 U	1.	5	ug/kg	101		71-125		
Trichloroethene	1 U	1.	5	ug/kg	99		80-120		
Trichlorofluoromethane	2 U	2.	5	ug/kg	113		58-133		
Batch number: 132750024A	Sample number(s): 7220829,7220838								
Acetaldehyde	30 U	30.	60	ug/l	99	97	56-123	2	30
Batch number: 132800022A	Sample number(s): 7220820-7220828,7220831-7220837								
Acetaldehyde	1,000 U	1,000.	2,300	ug/kg	96		80-120		
Batch number: 13281820007A	Sample number(s): 7220820-7220828,7220831-7220837								
Moisture					100		99-101		
Moisture					100		99-101		
Moisture Duplicate					100		99-101		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: X132761AA	Sample number(s): 7220823-7220825,7220831-7220834 UNSPK: P222107								
Acetone	92	84	31-195	9	30				
Benzene	97	97	55-143	1	30				
Carbon Tetrachloride	128	117	45-153	10	30				
Chloroform	113	105	61-142	8	30				
Dichlorodifluoromethane	112	106	26-151	7	30				
1,1-Dichloroethane	106	101	63-142	6	30				
cis-1,2-Dichloroethene	105	99	53-146	7	30				
trans-1,2-Dichloroethene	107	100	51-153	8	30				
Freon 113	114	103	56-156	12	30				
Methylene Chloride	127	111	60-149	15	30				
Tetrachloroethene	108	102	42-149	7	30				
Tetrahydrofuran	77	76	53-163	2	30				
Toluene	100	96	50-146	5	30				
1,1,1-Trichloroethane	113	105	52-146	9	30				
Trichloroethene	109	101	53-144	9	30				
Trichlorofluoromethane	129	123	47-163	7	30				
Batch number: X132771AA	Sample number(s): 7220820-7220822,7220826-7220828,7220835-7220837 UNSPK: 7220826								
Acetone	99	92	31-195	4	30				
Benzene	98	95	55-143	0	30				
Carbon Tetrachloride	131	123	45-153	3	30				
Chloroform	114	109	61-142	2	30				
Dichlorodifluoromethane	125	113	26-151	7	30				

*- Outside of specification

**-This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CRG-E.I.DuPont de Nemours & Co

Group Number: 1423130

Reported: 10/14/13 at 08:11 PM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup</u> <u>RPD</u> <u>Max</u>
1,1-Dichloroethane	103	97	63-142	3	30				
cis-1,2-Dichloroethene	102	98	53-146	1	30				
trans-1,2-Dichloroethene	102	99	51-153	1	30				
Freon 113	112	105	56-156	3	30				
Methylene Chloride	98	94	60-149	1	30				
Tetrachloroethene	109	106	42-149	0	30				
Tetrahydrofuran	98	102	53-163	7	30				
Toluene	98	97	50-146	2	30				
1,1,1-Trichloroethane	115	107	52-146	4	30				
Trichloroethene	106	103	53-144	0	30				
Trichlorofluoromethane	140	125	47-163	9	30				

Batch number: 132800022A

Sample number(s): 7220820-7220828,7220831-7220837 UNSPK: 7220826

Acetaldehyde

80 82 80-120 3 50

Batch number: 13281820007A

Sample number(s): 7220820-7220828,7220831-7220837 BKG: 7220826

Moisture

15.7 16.9 7*

5

Moisture

15.7 16.9 7*

5

Moisture Duplicate

15.7 16.9 7*

5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: GC/MS Volatiles

Batch number: T132841AA

Dibromofluoromethane 1,2-Dichloroethane-d4 Toluene-d8 4-Bromofluorobenzene

7220829	100	99	96	99
7220830	100	100	97	96
7220838	99	101	98	100
Blank	98	101	96	97
LCS	99	102	98	100
LCSD	99	102	96	98

Limits: 80-116 77-113 80-113 78-113

Analysis Name: TCL Volatiles

Batch number: X132761AA

Dibromofluoromethane 1,2-Dichloroethane-d4 Toluene-d8 4-Bromofluorobenzene

7220823	106	100	98	98
7220824	104	101	100	97
7220825	105	100	99	97
7220831	109	101	97	98
7220832	108	102	97	100
7220833	108	99	98	100
7220834	108	102	97	101

*- Outside of specification

**-This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CRG-E.I.DuPont de Nemours & Co

Group Number: 1423130

Reported: 10/14/13 at 08:11 PM

Surrogate Quality Control

Blank	110	101	97	99
LCS	109	99	99	103
MS	108	104	99	102
MSD	106	101	100	102

Limits:	50-141	54-135	52-141	50-131
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Analysis Name: TCL Volatiles

Batch number: X132771AA

Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
----------------------	-----------------------	------------	----------------------

7220820	111	102	99	99
7220821	107	102	99	99
7220822	110	100	98	98
7220826	110	99	98	99
7220827	109	100	101	102
7220828	107	100	100	102
7220835	109	99	99	99
7220836	110	101	113	79
7220837	109	102	98	100
Blank	109	98	97	100
LCS	107	99	99	102
MS	109	100	101	102
MSD	107	100	100	102

Limits:	50-141	54-135	52-141	50-131
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Analysis Name: Formaldehyde

Batch number: 132750024A

Butyraldehyde

7220829	116
7220838	101
Blank	93
LCS	91
LCSD	86

Limits: 36-155

Analysis Name: Formaldehyde

Batch number: 132800022A

Butyraldehyde

7220820	106
7220821	104
7220822	106
7220823	100
7220824	101
7220825	99
7220826	102
7220827	95
7220828	99
7220831	102
7220832	94
7220833	94
7220834	98

*- Outside of specification

**.-This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: CRG-E.I.DuPont de Nemours & Co
Reported: 10/14/13 at 08:11 PM

Group Number: 1423130

Surrogate Quality Control

7220835	96
7220836	92
7220837	97
Blank	110
LCS	104
MS	95
MSD	99

Limits: 64-126

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Analysis Request / Environmental Services Chain of Custody

1 of 1

For Lancaster Laboratories Use Only
Group No.: 1423130 Sample Nos: 7220820-38 Cooler No.: 26244
Acct: 07032 SF: 186243 SCR No: 143313
Cooler Temperature upon receipt: 19 °C Container No.: 3334

Facility Name: DuPont Montague				Project Manager: George Gregory				Analyses Required				Comments:	
Facility Contact: Gordy McLouth				Facility Contact Phone No.: 231-893-9263								VOAs = Table 2+4 list	
Facility Address: DuPont Montague				Job No.: 9267-7720100C-WH06507756									
6270 Wilkes Road				Release No.:									
Montague MI 49437				PO Number: LBIO-66380									
Sampler(s):													
Project Name: REM INV SB PCL-BPL 813				George Gregory + Steve DeVries									
Sample Identification		Date Collected	Time Collected	Matrix	Volume (ml)	Preserv	No.	GC/MS Volatiles (8260)	Acetaldehyde (8315)	Moisture (2540 G)	Condition upon receipt:		
RI0913-2013SBPC-01-036	CEL 30'	9/30/13	1651	SW	125	None	1		X	X	Intact		
RI0913-2013SBPC-01-036	CEL 30'	9/30/13	1651	SW	5	None	4	X					
RI0913-2013SBPC-01-055	(55')	9/30/13	1730	SW	125	None	1		X	X			
RI0913-2013SBPC-01-055	(55')		1730	SW	5	None	4	X			CC MS		
RI0913-2013SBPC-01-076	(76')		1750	SW	125	None	1		X	X	CC MS		
RI0913-2013SBPC-01-076	(76')			SW	5	None	4	X			CC MS		
RI0913-2013SBPC-01-076				S	125		1		X	X	MS		
				S	5		4	X			MS		
				S	125		1		X	X	MSD		
				S	5		4	X			MSD		

Turnaround Time Requested (please circle):		Standard		RUSH		Number of days: 8		Special Instructions:	
Bottles Relinquished by:	8/8/13	Date	11:00	Time	Bottles Received by:	9/30/13	Date	730	Time
Bottles Relinquished by:	10/1/13	Date	1900	Time	Bottles Received by:		Date		Time
Bottles Relinquished by:		Date		Time	Bottles Received by:		Date		Time
Bottles Relinquished by:		Date		Time	Bottles Received by:	10-2-13	Date	940	Time

Analysis Request / Environmental Services Chain of Custody

1 of 1

For Lancaster Laboratories Use Only

Only

Sample Nos.: 7220820-38

Cooler No.:

SCR No.:

Container No.: 12

○

Cooler Temperature upon receipt: _____

Container No.: _____

[illegible]

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.



Analysis Request / Environmental Services Chain of Custody

1 of 1

For Lancaster Laboratories Use Only

Group No.: 1423130 Sample Nos.: 7220820-38

Acc't: 07032 SF: 186243 SCR No.: 143313 Cooler No.: 3374 26242

Cooler Temperature upon receipt: 14 °C Container No.: 1

Facility Name: DuPont Montague		Project Manager: George Gregory		Comments: VOAs = Table 2+4 list					
Facility Contact: Gordy McLouth		Facility Contact Phone No.: 231-893-9263							
Facility Address: DuPont Montague		Job No.: 9267-7720100C-WH06507756							
6270 Wilkes Road		Release No.:							
Montague MI 49437		PO Number: LBIO-66380							
Sampler(s): George Gregory and Steve DeVries									
Project Name: REM INV SB PCL-BPL 8430									
Sample Identification	Date Collected	Time Collected	Matrix	Volume (ml)	Containers Preserv No.	GC/MS Volatiles (8260)	Acetaldehyde (8315)	Moisture (2540 G)	Condition upon receipt:
RI0813-2013SBPC-01-085	10/1/13	955	SW	125	None	1	X	X	Intact
RI0813-2013SBPC-01-085		955	SW	5	None	4	X		
RI0813-2013SBPC-01-095		915	SW	125	None	1	X	X	
RI0813-2013SBPC-01-095		915	SW	5	None	4	X		
RI0813-2013SBPC-01-100		935	SW	125	None	1	X	X	
RI0813-2013SBPC-01-100		935	SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01-100			SW	5	None	4	X		
RI0813-2013SBPC-01-100			SW	125	None	1	X	X	
RI0813-2013SBPC-01									

For Lancaster Laboratories Use Only

Group No.:	1423130	Sample Nos.:	7220820-38
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Acc't: 07032	SF: 186243	SCR_No.: 143313	Cooler No.
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Cooler Temperature upon receipt: 19 °C Container No. 1[illegible][illegible]

Special Instructions:

Standard	RUSH	Number of days:	8
----------	------	-----------------	---

Turnaround Time Requested (please circle) :

Bottles Relinquished by: <i>Delora</i>	Date: <i>8/13</i>	Time: <i>1:00</i>	Bottles Received by: <i>[Signature]</i>	Date: <i>10/1/13</i>	Time: <i>7:30</i>
Bottles Relinquished by: <i>[Signature]</i>	Date: <i>10/1/13</i>	Time: <i>1:30</i>	Bottles Received by: <i>[Signature]</i>	Date:	Time:
Bottles Relinquished by: <i>[Signature]</i>	Date:	Time:	Bottles Received by:	Date:	Time:
Bottles Relinquished by: <i>[Signature]</i>	Date:	Time:	Bottles Received by: <i>[Signature]</i>	Date: <i>10-2-13</i>	Time: <i>9:00</i>

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300

Copies: White copy should accompany samples to ~~the~~ ^{the} ~~laboratory~~ ^{laboratories}. The yellow copy should be retained by the samplers.

Environmental Sample Administration
Receipt Documentation Log

1423130

Client/Project:

Dupon +

Shipping Container Sealed:

YES

NO

Date of Receipt:

10.2.13

Custody Seal Present *:

YES

NO

Time of Receipt:

940

* Custody seal was intact unless otherwise noted in the
discrepancy section

Source Code:

50-1

Package:

Chilled

Not Chilled

Temperature of Shipping Containers

Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	DH46	1.9	TB	WI	Y	L	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Coe 26651 Does not have complete ID's See
Chain 26650Rec 1 Jar for SBBP-01-065 lid cracked
Still intact

Unpacker Signature/Emp#:

Brenely Barch 2299

Date/Time:

10.2.13

1058

Issued by Dept. 6042 Management

Environmental Sample Administration
Receipt Documentation Log
(continuation page)

1423130

Client/Project: DupontDate of Receipt: 10.2.13Unpacker Emp. No.: 2299

Additional Paperwork Discrepancy/Unpacking Problems:

COC 26242COC ID'S have R10813
All labels have R10913

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m3	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Appendix D

Geophysical Downhole Survey Report

25 October 2013

Dennis Robins
Michael Ade
Cascade Drilling
6215 Lehman Drive, Flint, MI 48507
9816 Rawless Rd. Indianapolis, IN 46229

George Gregory
Geologist
URS Corporation
10550 Richmond Ave, Ste 155
Houston, TX 77042

Geophysical Downhole Survey, Industrial Landfill Sites, Montague, Michigan: Log Report

Dear Dennis, Michael and George:

Geosphere has completed geophysical logging of 16 wells at the Montague Industrial sites using the downhole Gamma39 (Geonics) Natural Gamma Ray instrument. The wells were located at two old landfills northwest and southwest of the former DuPont Chemical Plant, situated west of the Town of Montague, Michigan. These were the Pierson Creek and Burial Pit Landfills.

Two new wells that were logged are in the 107 to 117-foot depth range, which were logged through the sonic steel casing prior to final well installation (one at each landfill site). The remaining 14 wells were older, 2- to 4-inch diameter PVC monitor wells, ranging in depth from 60 to 97 feet. One well was attempted but not completed because the 2-inch casing was bent and distorted due to soil creep on a steep roadside slope. The logging effort was done from our 4-wheel drive logging vehicle for most of the wells; where necessary, the portable logger was manually carried and setup for logging (as done for the two new wells on the drilling platform).

Data Collection

The logging procedure consisted of setting up the truck and equipment at each well and employing a small tripod with pulley above the well bore. The electronics are mounted in the truck and operate on 12-volt batteries. The natural gamma ray probe is lowered into the hole with a small powered winch using an electronic encoder in the pulley/tripod system. The sampling rate will be set to record gamma counts/second readings every 0.025 meters (about 1 inch) down the length of the hole at a speed of approximately 2-4 feet per minute. Data was recorded digitally onto a SD memory chip within a special PDA and downloaded to our laptop computers. The total depth of the hole was measured with a fiberglass tape to an accuracy of about 0.01 feet, allowing us to normalize/correct the downhole logging depth readings for cable stretch (dependent on the depth to water level). As the natural gamma ray probe was brought back to the surface, the cable and probe were decontaminated/washed with distilled water.

Processing/Reporting

The datasets were processed and plotted using our standard graphics software package where it was analyzed and interpreted. Geological log information from the geologists/drillers observations was added to our interpretation as to the type of sand/silt/clay or rock units. Logs are attached in our high resolution pdf format for ease of transport and viewing/analysis by the client(s).

Nine wells were logged at the **Burial Pit Landfill**:

BP3-70	BPL6-D	BPL9	BP-002-100
BP4-70	BPL7-D	BP210-D	
BP5-70	BPL08-S	SBBP-01-2013 (new well)	

Seven wells were logged at the **Pierson Creek Landfill** (only 6 completed):

PCL1-D	PCL6-D	SBPC-01-2013 (new well)
PCL2-D	PCL205 (bent casing ~10ft)	
PCL5-D	PCL208	MW-209-067 (not completed)

Burial Pit Landfill

The natural gamma ray logs show that most of the older wells at this site have moderate to strong influences from clay minerals in the bentonite used to seal the top of the well casing (near the surface). The bentonite “effect” is very strong in wells: BP3, BP4, BP5, and BP210, all of which (except BP3) are directly adjacent to the landfill boundary. At BP3 and BP5, the bentonite reaches to a depth of almost 45 feet, and at BP210 almost 50 feet. At BP3, BP4 and BP5, a strong bentonite peak is evident immediately above the well screen. At BP6, BP7, BP08, and BP9, lesser amounts of bentonite are interpreted in this upper seal between 0 and 50 feet. All wells show very low gamma counts/second values in the bottom of the wells (except BP08), indicating sand layers with low clay/silt content. The relatively high values at BP08 at the bottom suggest that the bentonite seal intended to be set above the screen, settled in the area around the screen. Low values above the screen are likely close to “normal” sand conditions.

The layers interpreted at BP210 suggest that a very clean sand exists in the 59-65 foot interval with rests on a ~10 foot thick clayey silt layer starting at 72 feet. A very clean sand layer lies in the 87 to 97 foot interval. At the new well SBBP-01-2013 location (within 100 feet of BP210), a clayey silt layer resides in the 39 to 49 foot interval, with clean sand from 57 to 88 feet, followed by silt/sand layers and silty clay from 93 to over 107 feet depth.

Pierson Creek Landfill

Wells PCL1 and PCL2 show evidence of bentonite seals near the surface and above the well screen (~55 feet); the intervening depth interval (0 to 55 feet) also shows higher than expected gamma counts and may reflect lower bentonite concentrations along the well casing. Lower counts near and in the screened interval are likely natural conditions. Similarly, PCL5 shows high counts from 2 to 48 feet (bentonite?), followed by a clean sand to 67 feet, where the sand grades into a silt and clayey silt (in the screen) (suggesting that the screen may have been set too low). At PCL6, strong bentonite peaks are obvious at the surface and at the top of the screen. Clay and silt layers from 25 to 45 feet may be real (opposed to bentonite “contamination”). Good sand was encountered at 70 feet.

The log at Well ~~PCL205~~ was not completed as the gamma probe could not pass a bend in the 2-inch PVC casing at a depth of about 10 feet; soil creep down the steep road incline is pushing the entire top part of the well to the north. At PCL208, no distinctive bentonite peaks were noted; the top 41 feet shows silty to clayey silt zones with occasional thin sand layers. More sandy conditions dominate the 42 to 80-foot interval; the 80 to 82-foot interval seems to be the start of a silt layer.

The new well SBPC-01-2013 shows considerable variations of gamma counts along its entire length. The “clarity” of the individual peaks is very distinct indicating the lack of sediment smearing via

the sonic method versus other drilling techniques. The log shows a highly variable sequence of layers from 15 to 55 feet and a lesser zone from 55 to 72 feet. These are interpreted as a sequence of relatively thin layers of sand, silt, clayey silt and silty clay; the sand component seems to be slightly more dominant. From 72 to 105 feet, three relatively thicker sand layer are present, separated by silty and clay layers. From 105 to 117 feet, the clayey component increases as depth increases in thin silt and silty clay layers. (The high gamma counts found in the interval of 15 to 72 feet could also be caused by the presence of high levels of potassium feldspars (microcline/orthoclase minerals) and could be sands (not clays), but this effect is generally found in gravel/cobble layers.)

Our results and interpretations described in this proposal are based on reliable instruments and methods. Data collection and interpretative logic were developed at similar sites in Central Michigan over the past 28 years.

Sincerely,

A handwritten signature in blue ink, reading "Robert A. Glaccum", followed by a long horizontal flourish.

Robert A. Glaccum, PG
Chief Scientist

