

Appendix 4

Test Boring Logs &
Well Completion Reports

PROJECT				son Street Landfill- SVI Investigation	L	_og of Well	No. LAB-101			
BORING L	OCA	NOITA	l: Ea	st Side of Vanguard Pkwy		TOP OF RISER ELEVATION: DATUM:				
DRILLING	CON	NTRA	CTOR	: Nothnagle Drilling	DATE STAR 9/27/10	RTED:	DATE FINISHED: 9/28/10			
DRILLING	MET	THOD	· 41/	4" Diameter HSA	TOTAL DEP	PTH:	SCREEN INTERVAL:			
					23.5 fbgs DEPTH TO	FIRST COME	8.5-23.5 fbgs PL. CASING:			
DRILLING	EQU	JIPME	=N1:	CME 55 ATV	WATER: LOGGED BY		4" steel			
SAMPLING	3 ME	THO	D: 2"	dia. Split Spoons	KRM					
HAMMER	WEI	GHT:	140	DROP: 30"	RESPONSIE RM	BLE PROFESSIO	NAL: REG. NO.			
(feet)	AMPL 물		(mdd)	DESCRIPTION NAME (USCS Symbol): color, moist, % by we cementation, react. w/HCl, gec			ONSTRUCTION DETAILS R DRILLING REMARKS			
San San	Sample	Blows/ foot		Surface Elevation:	fmsl		flush-mount surface casing			
1- 1 2- 2 3- 4- 5- 3 6- 4	W W	5 5 10 12 8 10 12 14 3 4 3 4 50/0.6	0.2 0.1 0.1 0.1	Brown to reddish brown silty clay with gravel and trace fine sand. Medium	plasticity.	•	4" permanent steel casing to 8.5' bgs			
7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 15 - 15 - 15 - 15 - 15 - 15				Sampler and auger refusal at 6.4' bg Advanced 5 7/8" roller bit to 8.5' bgs Begin HQ Core run at 8.5' bgs. Run #1 Depth: 8.5-13.5 'bgs Rec: 60" (100%) RQD: 28" (42%) Run #2 Depth: 13.5-18.5 'bgs			Cement/bentonite grout			
16				Rec: 58.75" (98%) RQD: 53.75" (90%) Run #3 Depth: 20.5-23.5 'bgs Rec: 62" (100%) RQD: 58" (94%) Lithology: LOCKPORT FORMATIO (Penfield Dolostone Member) Light to medium gray, fine-grained, n moderately hard to hard, siliceous Do occassional to frequent argillaceous occassional shale interbeds. Zones and vugs are present. Secondary cry gypsum) infilling of bedding planes, ji	nedium-bedded blostone, with partings and of occassional pits estallization (calcite or		Open Bedrock Corehole (3 7/8")			
28 - 29 - 30 - 31 - 32 - 33 - 34 - 35 - 36 - 37 - 38 - 39 - 40				gypsum) infilling of bedding planes, judentification. Rock coring details: *Rough high-angle joints at 8.6 -9.1' *Low angle joints at 9.2, 10.1' *Vertical joint 10.4-10.9' (tight) *Low angle joint at 11.7' *Vertical joints at 17.2-17.5', 18.7-18	·					
40-							FESL WELL LOGS 9-2010.GPJ (11/10)			
Project No				<i>//</i> %⊆ Ge	omatrix Consultan	ts	Page 1 of 1			

PROJECT: Former Em Rochester,	erson Street Landfill- SVI Investigation New York	Log of Well N	o. LAB-102
BORING LOCATION:	NW Corner of Colfax and Emerson St intersection	TOP OF RISER ELEVATION: fmsl	DATUM:
DRILLING CONTRACT	DR: Nothnagle Drilling	DATE STARTED: 9/27/10	DATE FINISHED: 9/28/10
DRILLING METHOD: 4	1/4" Diameter HSA	TOTAL DEPTH: 21.5 fbgs	SCREEN INTERVAL: 11.5-21.5 fbgs
DRILLING EQUIPMENT	: CME 850	DEPTH TO FIRST COMPL.	CASING: 4" steel
SAMPLING METHOD:	4' Macrocore Sampler	LOGGED BY:	1 0.00.
HAMMER WEIGHT: 14	DROP: 30"	RESPONSIBLE PROFESSIONAL RM	.: REG. NO.
Creet) Sample Sample Sample Sample Soor Soor Soor Soor Soor Soor Soor Soo	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight, plast, ;	WELL CONS	TRUCTION DETAILS RILLING REMARKS
DEPT (feet Sample No. Sample Blows/ foot OVM	cementation, react. w/HCl, geo. inter. Surface Elevation: fmsl		ush-mount surface casing
1 - 2 - 1	Brown silt with fine sand and little fine subroutrace brick and coal fragments, dry throughout trace brick and coal fragments, dry throughout trace brick and coal fragments, dry throughout trace brick and coal fragments, dry throughout advance 4 1/4" dia HSA to 11.5' bgs. Run #1 Depth: 11.5-21.5 'bgs Rec: 114" (95%) RQD: 43" (36%) Lithology: LOCKPORT FORMATION (Penfield Dolostone Member) Light to medium gray, fine-grained, medium-tomoderately hard to hard, siliceous Dolostone occassional to frequent argillaceous partings occassional shale interbeds. Zones of occas and vugs are present. Secondary crystallizating gypsum) infilling of bedding planes, joints and common. Rock coring details: *closely space partings 11.5-16' bgs. *short high angle joint at 14.3' *rough vertical joint at 14.5-15' *severely weathered seam at 15.4' *highly fractured zone at 18-18.3' *severely weathered seam at 18.7'.	pedded , with and sional pits on (calcite or	——————————————————————————————————————
31 <u>-</u> 32 <u>-</u> 33-			
34 = 35 = 36 = 37 = 37 = 34 = 34 = 34 = 34 = 34 = 34			
38 <u> </u> 39 <u> </u>			
40		_	WELL LOGS 9-2010.GPJ (11/10)
Project No.	Geomatri	x Consultants	Page 1 of 1

	Emerson Street L ter, New York	andfill- SVI Investigation	Log	g of We	II No	. LAB-103
BORING LOCATION	l: 1575 Emerso	n Street	TOP OF RISER fmsl	ELEVATION	۷:	DATUM:
DRILLING CONTRA	CTOR: Nothnag	le Drilling	DATE STARTEI 9/27/10	DATE FINISHED: 9/28/10		
DRILLING METHOD	: 4 1/4" Diamete	er HSA	TOTAL DEPTH: 24.0 fbgs	:		SCREEN INTERVAL: 9.1-24.0 fbgs
DRILLING EQUIPME	ENT: CME 55 A	ΓV		IRST COM		CASING: 4" steel
SAMPLING METHO	D: 2" dia. Split S	Spoons	LOGGED BY:			. 6.666.
HAMMER WEIGHT:	140	DROP: 30"	RESPONSIBLE RM	PROFESSI	ONAL:	REG. NO.
(feet) Sample No. Blows/ foot	(mdd)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight, plast., s cementation, react. w/HCl, geo. inter.				RUCTION DETAILS LLING REMARKS
DEPT (feet Sample No. Sample Blows/ foot	00	Surface Elevation: fmsl			flus	sh-mount surface casing
1-	shale/li	I (ML) brown silt and fine sand, some vimestone gravel, loose, dry.	veathered			m mount ounded caomig
2 1 1 NA 3 4 4 1	0 Fill- (FI	ESL Ash) Ash, black coal pieces, clinke	er, brick			41
5 1 NA NA	0 NATIV	E brown silt (ML) and some fine sand, ing saturated at 6.3' bgs.	moist, firm,			4" permanent steel casing to 9.1' bgs
7- 8-	sample	er refusal at 6.5' bgs.				Cement/bentonite
9		HQ Core run at 9.1' bgs.	-			grout
11- 12- 13-	Rec: 10	I 9.1-10.1 'bgs 0" (83%) 0" (0%)	- - - -			
14 <u> </u> 15 <u> </u> 16 <u> </u>		2 10.1-14.1 'bgs 9" (102%)	=		•	Bedrock
17	RQD: 2	21" (43%)	-			
19	Rec: 60	3 14.1-19.1 'bgs 0" (100%) 37" (62%)	= = = = = = = = = = = = = = = = = = = =	•		Open Bedrock Corehole (reamed
22 - 23 - 24 - 25 -	Rec: 59	1 19.1-24.0 'bgs 9" (99%) 43" (72%)	- - - - -			to 3 7/8")
26	(Penfie Light to modera occass occass and vu	gy: LOCKPORT FORMATION eld Dolostone Member) o medium gray, fine-grained, medium-bately hard to hard, siliceous Dolostone, sional to frequent argillaceous partings sional shale interbeds. Zones of occase gs are present. Secondary crystallization) infilling of bedding planes, joints and	with - and - sional pits - on (calcite or -			
33- 34- 35- 36-	*closel; *rubbly	coring details: y spaced partings 9.1-12' bgs y seam at 10.0'		- - - - - -		
36 <u> </u> 37 <u> </u> 38 <u> </u>	*short v *rough	ely weathered seams at 10.3-10.5' vertical joint at 11.5' vertical joints at 14.1-14.5', 14.8-15.2' irregular vertical joint at 18.7-18.8'				
39 40		low angle joint at 21.7'		1		
Project No.		Geomatrix	c Consultants	WELL_OV	'M FESL W	/ELL LOGS 9-2010.GPJ (11/10) Page 1 of 1

PROJECT:				son Street Landfill- SVI Investigation	L	og of V	Vell No	o. LAB-104	
BORING L	OC/	OITA	N: 16	84 Emerson Street	TOP OF RISE fmsl	R ELEVA	TION:	DATUM:	
DRILLING	CO	NTRA	CTOF	R: Nothnagle Drilling		DATE STARTED: DATE FINIS			
DRILLING	ME [.]	THOE): 41	/4" Diameter HSA	TOTAL DEPT 24.0 fbgs	H:		SCREEN INTERVAL: 14.0-24.0 fbgs	
DRILLING	EQI	JIPM	ENT:	CME 850	DEPTH TO WATER:	FIRST	COMPL.	CASING: 4" steel	
SAMPLING	S ME	ETHO	D: 4'	Macrocore Sampler	LOGGED BY:			4 30001	
HAMMER	WEI	GHT:	140	DROP: 30"	RESPONSIBL RM	E PROFE	SSIONAL	: REG. NO.	
F _	MPI		(mdd)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weig	ht, plast., structure,			TRUCTION DETAILS RILLING REMARKS	
DEPT (feet Sample No.	Sample	Blows/ foot	Q g	cementation, react. w/HCl, geo. i Surface Elevation: fr			flu	sh-mount surface casing	
1-				□ Topsoil (ML) brown silt and fine sand,	loose, dry.			on mount surface easing	
2 1 3 - 4 -	X	NA	0	Fill: brown silt with fine sand (ML), traccoal clinker, coal cinders. Trace fine removes throughout.	e ash, brick, glass,		•	4" permanent steel casing to 14.0' bgs	
5 - 2 6 - 2 7 - 8 - 8	X	NA	0	grey shale and limestone bedrock gravershill, as above. Saturated	<u>/el</u> /¯			casing to 14.0 bgs	
9 <u>-</u> 10 <u>-</u> 3 11 <u>-</u>	X	NA	0	NATIVE dark grey to light tan-brown fi (ML), soft, saturated top 6", slight sept	nd sand with silt ic odor.		Cement/bentonite		
12 4 13 14 15 15 15 1		NA NA	0	Sampler refusal at 12.2' bgs. Advanced roller bit to 14.0' bgs.	/			-	
16				Begin NX bedrock core at 14.0' bgs.		=	-	Bedrock	
17 <u> </u> 18 <u> </u> 19 <u> </u> 20 <u> </u>				Run #1 Depth: 14.0-24.0 'bgs Rec: 119" (99%) RQD: 42" (35%)				——Open Bedrock	
21 - 21 - 22 - 23 - 24 - 25 -				Lithology: LOCKPORT FORMATION (Penfield Dolostone Member) Light to medium gray, fine-grained, memoderately hard to hard, siliceous Doloccassional to frequent argillaceous processional shale interbeds. Zones of	edium-bedded ostone, with artings and foccassional pits			Corehole (reamed to 3 7/8")	
26 <u>-</u> 27 <u>-</u> 28 <u>-</u>				and vugs are present. Secondary crys gypsum) infilling of bedding planes, joi common.					
29				Rock coring details: *moderately closely spaced partings the *vertical joint at 17.8-18.0' bgs *rough high angle joint at 18.3-18.6' *vug with secondary gypsym at 21.7' *severely weathered, intersecting high					
33 <u> </u> 34 <u> </u> 35 <u> </u> 36 <u> </u> 37 <u> </u>				22.4-22.5' *rough vertical joint at 21.7-22.0' *occassional pits and vugs throughout					
38 - 39 - 40 -									
Project No.				/ ∕∕ ∕ Geo	matrix Consultants		L_OVM FESL	WELL LOGS 9-2010.GPJ (11/10) Page 1 of 1	

PROJECT: Former Roches		son Street Landfill w York	- SVI Investigation		L	og of	Wel	l No	o. LAB-105
BORING LOCATION	1: 60	McCrackenville S	Street (East end of lot)		TOP OF RISE fmsl	R ELEV	ATION	:	DATUM:
DRILLING CONTRA	CTOR	t: Nothnagle Drill	DATE STARTED: DATE FINISHED 9/27/10 9/28/10				DATE FINISHED: 9/28/10		
DRILLING METHOD): 41	/4" Diameter HSA			TOTAL DEPTH: SCREEN INTERV				SCREEN INTERVAL: 13.9-30.0 fbgs
DRILLING EQUIPM	ENT:	CME 55 ATV			DEPTH TO WATER:	FIRST	COM	IPL.	CASING: 2" PVC
SAMPLING METHO	D: 2"	dia. Split Spoons			LOGGED BY				
HAMMER WEIGHT:	140	DR	OP: 30"		RESPONSIBI RM	LE PROF	ESSIC	NAL:	REG. NO.
(feet) Sample Sample Mo. PA Sample Mo. PA Sample Mo. PA Sample Mo. PA Sample Mows/ Coot Mo. PA Sample Mo. PA Sampl	(mdd)	NAME (U	DESCRIPTION SCS Symbol): color, moist, % by we cementation, react. w/HCl, ged		ucture,	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			RUCTION DETAILS ILLING REMARKS
DEPT (feet Sample No. Sample Blows/ foot	ОÐ		Surface Elevation:					stic	ck-up protective casing
1 1 7 1 7 13 13 13 14 5	0.1	FILL- brownis	sh grey silty clay with fin	ne to coars	se gravel				
3 2 6 5 4	0.2	and Sand. The	ace blick.						
5 3 2 4 10	0.4	black FESL a	sh with glass, clinker ar	nd fine gra	vel at 5.0'.				Cement/bentonite grout
7 4 20 14 12	0.2	•					•		——2" dia. schedule 40
9 5 5 6 4	0.2								PVC riser
11 6 80 100/0.6	0.1								Bentonite Seal
13 7 16 21 31	0.5								
15 8 12 8 10	0.4								
17 9 5 6 5	0.2								
19 10 3 2 2 3 3	0.2								#00N Filter sand
21 - 11	0.2	saturated at 2)()' hao						
23 - 12	0.2	Saturateu at 2	iz bys.						
25 13 13 10 9 7 8	0.3								15' 0.010" slot schedule 40 PVC well screen
27 14 16 50/0.6 28 1 14 16 50/0.6	0.1	refusal at bed	ween 26.5 and 27' bgs. Irock surface at 27.0' bg	Spoon ar gs. Advan	nd auger ce 3 7/8"				well Screen
29 <u>-</u> 30 <u>-</u>		LOCKPORT	D.0' bgs. FORMATION (Penfield	Dolostone	e Member)				
31									
33 - 34 -									
35 <u> </u>									
37									
38 <u>-</u> 39 <u>-</u>									
40			-		O-m11 1		VELL_OVM	1 FESL V	VELL LOGS 9-2010.GPJ (11/10)
Project No.				omatrix	Consultants	<u> </u>			Page 1 of 1

PROJECT				son Street Landfill- SVI Investigation ew York	L	og of V	Vell N	o. LAB-106
BORING L	OC/	OITA	N: 17	769 Emerson Street	TOP OF RISE	R ELEVAT	ION:	DATUM:
DRILLING	СО	NTRA	CTOF	R: Nothnagle Drilling		DATE STARTED: DATE FIN		
DRILLING	ME	THOE): 41	/4" Diameter HSA	TOTAL DEPT 30.5 fbgs	H:		SCREEN INTERVAL: 10.5-30.5 fbgs
DRILLING	EQ	JIPMI	ENT:	CME 850	DEPTH TO WATER:	FIRST	COMPL.	CASING: 4" steel
SAMPLING	3 MI	ETHO	D: 4'	Macrocore Sampler	LOGGED BY:			4 Steel
HAMMER					MAC/KRM RESPONSIBI	E PROFE	SSIONAL	: REG. NO.
SA	AMP			DESCRIPTION NAME (USCS Symbol): color, moist, % by weight, pi	RM			TRUCTION DETAILS RILLING REMARKS
DEPTH (feet) Sample No.	Sample	Blows/ foot	(mdd)	cementation, react. w/HCl, geo. inter.				
	Ø	В		Surface Elevation: fmsl			flu	ish-mount surface casing
1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	X	NA	0	Topsoil (ML) brown silt and fine sand, loo FILL- brown fine sand with silt, trace brick limestone shale gravel, loose, dry.	pieces, angular	•		4" permanent steel casing to 10.5' bgs
5 - 6 - 7 - 2		NA NA	0	Auger through obstacle between 4.0 and	5.0 bgs.			cacing to rote age
8 - 9 -	\triangle			loose, gravel fill as above. Sampler refusal at 8.5' bgs.				Cement/bentonite grout
10				Advance 4 1/4" HSA to 10.5' bgs.				-
11=				Begin HQ Core run at 10.5' bgs.				Do dos de
12 <u>-</u> 13 <u>-</u> 14 <u>-</u> 15-				Run #1 Depth: 10.5-15.5 'bgs Rec: 59.5" (99%) RQD: 55" (92%)				——Bedrock
16 <u>-</u> 17 <u>-</u> 18 <u>-</u> 19-				Run #2 Depth: 15.5-20.5 'bgs Rec: 61" (100%) RQD: 60" (98%)				
20 - 21 - 22 - 23 -				Run #3 Depth: 20.5-25.5 'bgs Rec: 60" (100%) RQD: 58" (94%)				Open Bedrock Corehole (reamed to 3 7/8")
24 <u>-</u> 25 <u>-</u> 26 <u>-</u> 27 -				Run #4 Depth: 25.5-30.5 'bgs Rec: 61" (100%) RQD: 58" (94%)				
28 - 29 - 30 - 31 - 32 - 33 - 34 - 34 - 34 - 34 - 34 - 34				Lithology: LOCKPORT FORMATION (Penfield Dolostone Member) Light to medium gray, fine-grained, medium moderately hard to hard, siliceous Dolosto occassional to frequent argillaceous partic occassional shale interbeds. Zones of ocand vugs are present. Secondary crystalli gypsum) infilling of bedding planes, joints common.	one, with ngs and cassional pits zation (calcite or			
35 <u> </u> 36 <u> </u> 37 <u> </u> 38 <u> </u> 39 <u> </u> 40 <u> </u>				Rock coring details: *cavities (0.1' dia.) at 11.1' and 12.2' bgs *vertical joint at 12.8-13'				
				~~~	atrix Canacitant		L_OVM FESL	WELL LOGS 9-2010.GPJ (11/10)
Project No				//x Geoma	atrix Consultants	>		Page 1 of 1

PROJ	ECT:				son Street L w York	andfill- SVI Investigation		L	og of	Well N	o. LAB-107
BORII	NG L				60 Emersor	n Street		TOP OF RISE	R ELEV	ATION:	DATUM:
DRILL	ING	COI	NTRA	CTOF	: Nothnagl	e Drilling		DATE START 9/28/10	ED:		DATE FINISHED: 9/29/10
DRILL	ING	ME ⁻	THOE	): 41	/4" Diamete	r HSA		TOTAL DEPT 29.0 fbgs	H:		SCREEN INTERVAL: 19.0-29.0 fbgs
DRILL	ING	EQI	JIPMI	ENT:	CME 850			DEPTH TO WATER:	FIRST	COMPL.	CASING: 4" steel
SAMF	LING	S ME	ETHO	D: 4'	Macrocore	Sampler		LOGGED BY			1. 0.001
HAMN	1ER '	WEI	GHT:	140		DROP: 30"		RESPONSIBI RM	E PROF	ESSIONAL	EREG. NO.
E fi			_ES	ΣÊ	N	DESCRIPTION IAME (USCS Symbol): color, moist, % by weigl	ht, plast., str		V		TRUCTION DETAILS RILLING REMARKS
DEPTH (feet)	Sample No.	Sample	Blows/ foot	(mdd)		cementation, react. w/HCl, geo. in Surface Elevation: fn					
<u> </u>	-				<del>-</del>						ush-mount surface casing
1-2-	1		NA	0	☐ I opsoil     ☐ gravel,	. Silt with fine sand (ML) and so dry.	ome fine	, rounded      / - 			
3-4-	-1	X			Angulaı matrix (	filmestone bedrock gravel withi fill), loose, dry throughout.	in fine sa	and/ silt		•	——4" permanent steel
5-											casing to 19.0' bgs
6-	2		NA	5.0	graveľ (	ay to black silt with fine to medi fill). moist, firm, slight petroleur	ium sand m-hydro	d and carbon			
8-		A			type od	or at 6.0' bgs.					
9- 10-	3		NA	0							
11	4	X		-							
12-	4										
14 <u>-</u> 15 <u>-</u>	4	Ż	NA	0		limestone bedrock fragments (gzed particles), loose, dry, appea					Cement/bentonite
16-					¬_ <u>sample</u>	r refusal at 16.0' bgs.		/_			grout
17 <u>-</u> 18 <u>-</u>					Advanc	ed roller bit to 19.0' bgs					
19- 20-					Begin N	IX bedrock core at 19.0' bgs.				*///>	Bedrock
21					Run #1 Depth:	19.0-29.0 'bgs			=		
22 -					Rec: 11	8" (98%) 4" (70%)					
24					Litholog	y: LOCKPORT FORMATION	l				
25-					Light to	d Dolostone Member) medium gray, fine-grained, me	edium-be	edded	=	•	Open Bedrock Corehole (reamed
26 <u>-</u> 27 -						tely hard to hard, siliceous Dolo onal to frequent argillaceous pa			]		to 3 7/8")
28-					occassi	onal shale interbeds. Zones of	f occassi	ional pits	=		
29						gs are present. Secondary cryst			-		
30-					commo			3	4		
31 <u>-</u> 32 -					Rock co	oring details:			=		
33-					*irregula	ar cracks at 19.8' bgs			$\exists$		
34-	1					I joint at 23.1-23.4' ly weathered seam at 26.7'			7		
35					3EVE1E	ny weathered Seam at 20.7			$\exists$		
36-									=		
37-	1								=		
38 <u>-</u> 39 -									$\exists$		
40-										ELL 0/4/550	WELL LOOP 2 2010 CR 1/11/15
Proje	et No					<b>∕∕∕∕</b> Geo	matriy	Consultants		ELL_OVM FESL	Page 1 of 1
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SORING LOCATION: 110-210 Coffax Street  TOP OF RISER ELEVATION: Infal  DATUM: final  DATE STARTED: DATE STARTED: 9/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/301 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010 19/3010	PROJEC	CT:				son Street Landfill- SVI Investigation ew York		L	og of	Well N	o. LAB-108
DATE STARTED: 9/28/10 PRILLING METHOD: 4 1/4" Diameter HSA  PRILLING METHOD: 4 1/4" Diameter HSA  PRILLING EQUIPMENT: CME 850  PRILLING EQUIPMENT: CME 850  PRILLING EQUIPMENT: CME 850  PRILLING METHOD: 4" Macrocore Sampler  PRILLING METHOD: 4" Steel  PRILLING M	BORING	S LO							R ELEVA	ATION:	DATUM:
CRILLING METHOD: 4 1/4" Diameter HSA  TOTAL DEPTH: SCREEN INTERVAL 25.0 fbgs 10.2-5.0	DRILLIN	IG (	CON	NTRA	CTOR	R: Nothnagle Drilling		DATE START	ED:		
DEPTH TO PIRST COMPL CASING: WATER  AMPLING METHOD: 4" Macrocore Sampler  AMMER WEIGHT: 140  DROP: 30"  RESPONSIBLE PROFESSIONAL: REG. NO. RM  ASAMPLES  AMMER WEIGHT: 140  DROP: 30"  RESPONSIBLE PROFESSIONAL: REG. NO. RM  ASAMPLES  ANAMPLES  Surface Elevation: final  ASHFILL. Shale bedrock fragments, procelain, glass, abcutare, or an activation of the casing to 15.0" bgs  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  Begin NX bedrock core at 15.0" bgs.  Begin NX bedrock sore at 15.0" bgs.  Be	DRILLIN	IG I	MET	ГНОЕ	D: 41	/4" Diameter HSA		TOTAL DEPT	H:		SCREEN INTERVAL: 15.0-25.0 fbqs
MAMMER WEIGHT: 140   DROP: 30"   RESPONSIBLE PROFESSIONAL:   REG. NO.   RMMER. WEIGHT: 140   DROP: 30"   RESPONSIBLE PROFESSIONAL:   REG. NO.   RMMER. WEIGHT: 140   DROP: 30"   RESPONSIBLE PROFESSIONAL:   REG. NO.   RMMER. WEIGHT: 140   DROP: 30"   RESPONSIBLE PROFESSIONAL:   REG. NO.   RMMER. WEIGHT: 140   RMMER. WEIGHT	DRILLIN	IG I	EQL	JIPM	ENT:	CME 850	DEPTH TO	FIRST	COMPL.	CASING:	
SAMPLE STATE	SAMPLI	NG	ME	ETHO	D: 4'	Macrocore Sampler			:		
NAME (USCS Symbol) color, mark. % yewerly, abet. abundance, common commo					140	DROP: 30"					
Brown topsoil, moist, firm  ASH/FILL. Shale bedrock fragments, loose, moist, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, with above the sand silt in the	Fal				MVM (mdi	NAME (USCS Symbol): color, moist, % by wei		ucture,	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
Brown topsoil, moist, firm  ASH/FILL- Shale bedrock fragments, procelain, glass, ash, coal clinker, coal fragments, loose, moist, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, most on odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/	DE Sam	ž	Sam	Blow	0 8				- I	flu	ish-mount surface casing
ASH/FILL- Shale bedrock fragments, procelain, glass, ash, coal clinker, coal fragments, loose, moist, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within the sand silt within the sand silt within the sand silt within the san			П								deli-inount surface casing
As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  As above, within brown fine-sand/silt matrix. Little brick, no odors.  Page 112	2 <del>-</del> 3 <del>-</del>	1 5	X	NA	0	ASH/FILL- Shale bedrock fragments,				•	
9 10 3	6 <u>-</u> 7 <u>-</u>	2	X	NA	0		matrix. L	ittle brick,		casing to 15.0' bgs	
Advanced roller bit to 15.0' bgs.  Begin NX bedrock core at 15.0' bgs.  Run #1 Depth: 15.0-25.0 'bgs Rec: 118" (98%) RQD: 72" (60%) Lithology: LOCKPORT FORMATION (Penfield Dolostone Member) Light to medium gray, fine-grained, medium-bedded moderately hard to hard, siliceous Dolostone, with occassional to frequent argillaceous partings and occassional shale interheds. Zones of occassional pits and vugs are present. Secondary crystallization (calcite or gypsum) infilling of bedding planes, joints and vugs is common.  Rock coring details: * highly fractured zone, intersecting, planar, moderately dipping to high angle joints between 15 and 16.3' bgs * short fractured zone at 16.7", 17.3-17.5", 18.9-19.2", 19.7-19.9", 10.0-21.1" *vertical cracks, pits, vugs at 21-22' * high angle joints at 22.2-22.5", 22.8-23.0'  WELL_OVM FESL WELL LOGS 9-2010.GPJ (11/10)	9 10 11	3	X	NA	0						
Begin NX bedrock core at 15.0' bgs.  Run #1 Depth: 15.0-25.0 'bgs Rec: 118" (98%) ROD: 72" (98%)	_	4	X	NA	0	<u> </u>	ıg)				
Begin NX bedrock core at 15.0 bgs.  Run #1 Depth: 15.0-25.0 'bgs Rec: 118" (98%) RQD: 72" (60%) Lithology: LOCKPORT FORMATION (Penfield Dolostone Member) Light to medium gray, fine-grained, medium-bedded moderately hard to hard, siliceous Dolostone, with occassional to frequent argillaceous partings and occassional shale interbeds. Zones of occassional pits and vugs are present. Secondary crystallization (calcite or gypsum) infilling of bedding planes, joints and vugs is common.  Rock coring details: * highly fractured zone, intersecting, planar, moderately dipping to high angle joints between 15 and 16.3' bgs * short fractured zone at 16.7', 17.3-17.5', 18.9-19.2', 19.7-19.9', 10.0-21.1' *vertical cracks, pits, vugs at 21-22' * high angle joints at 22.2-22.5', 22.8-23.0'  WELL_OVM FESL WELL LOGS 9-2010 GPJ (11/10)						_					grout
Depth: 15.0-25.0 'bgs Rec: 118" (98%) ROD: 72" (60%) Lithology: LOCKPORT FORMATION (Penfield Dolostone Member) Light to medium gray, fine-grained, medium-bedded moderately hard to hard, siliceous Dolostone, with cocassional to frequent argillaceous partings and occassional shale interbeds. Zones of occassional pits and vugs are present. Secondary crystallization (calcite or gypsum) infilling of bedding planes, joints and vugs is common.  Rock coring details:  * highly fractured zone, intersecting, planar, moderately dipping to high angle joints between 15 and 16.3' bgs  * short fractured zone at 16.7', 17.3-17.5', 18.9-19.2', 19.7-19.9', 10.0-21.1'  *vertical cracks, pits, vugs at 21-22'  * high angle joints at 22.2-22.5', 22.8-23.0'  WELL_OVM FESL WELL LOGS 9-2010 GPJ (11/10)	16									-	Bedrock
Lithology: LOCKPORT FORMATION (Penfield Dolostone Member) Light to medium gray, fine-grained, medium-bedded moderately hard to hard, siliceous Dolostone, with occassional to frequent argillaceous partings and occassional shale interbeds. Zones of occassional pits and vugs are present. Secondary crystallization (calcite or gypsum) infilling of bedding planes, joints and vugs is common.  Rock coring details: * highly fractured zone, intersecting, planar, moderately dipping to high angle joints between 15 and 16.3' bgs * short fractured zone at 16.7', 17.3-17.5', 18.9-19.2', 19.7-19.9', 10.0-21.1' *vertical cracks, pits, vugs at 21-22' * high angle joints at 22.2-22.5', 22.8-23.0'  WELL_OVM FESL WELL LOGS 9-2010.GPJ (11/10)	18					Depth: 15.0-25.0 'bgs Rec: 118" (98%)					
Rock coring details:  * highly fractured zone, intersecting, planar, moderately dipping to high angle joints between 15 and 16.3' bgs  * short fractured zone at 16.7', 17.3-17.5', 18.9-19.2', 19.7-19.9', 10.0-21.1'  *vertical cracks, pits, vugs at 21-22'  * high angle joints at 22.2-22.5', 22.8-23.0'  * well_ovm fest well logs 9-2010.GPJ (11/10)	20 - 21 - 22 - 23 - 24 - 25 - 26 - 26 - 26 - 26 - 26 - 26 - 26					Lithology: LOCKPORT FORMATIOI (Penfield Dolostone Member) Light to medium gray, fine-grained, m moderately hard to hard, siliceous Do occassional to frequent argillaceous poccassional shale interbeds. Zones cand vugs are present. Secondary crysgypsum) infilling of bedding planes, jo	nedium-be blostone, v partings a of occassi estallization	with nd onal pits n (calcite or		•	Corehole (reamed
36 - 37 - 38 - 39 - 40 - WELL_OVM FESL WELL LOGS 9-2010.GPJ (11/10)	28   29   30   31   32   33   34					* highly fractured zone, intersecting, p dipping to high angle joints between * short fractured zone at 16.7', 17.3-1 19.7-19.9', 10.0-21.1' *vertical cracks, pits, vugs at 21-22'	n 15 and 1 I7.5', 18.9	6.3' bgs			
	36									EIL OWNERS:	WELL LOCS 0 2040 CD 1/4/4/2
FIDEGINO   Pana Int I	Project	Nο				<b>∕∕</b> Ge	omatrix	Consultant		ELL_OVINI FESL	Page 1 of 1

PROJECT:				Emerso er, Nev	on Street Landfill- SVI Inve	stigation	L	og of V	Vell No.	LAB-109
BORING LO	OC/				est of 1640 Emerson Stree	t	TOP OF RISER	ELEVATIO	N:	DATUM:
DRILLING (	co	NTF	RACTO	OR: No	othangle Drilling		DATE STARTE 12/13/10	D:		DATE FINISHED: 12/14/10
DRILLING I	ME	THO	OD: 4	1 1/4" [	Diameter HSA		TOTAL DEPTH 27.0 fbgs			SCREEN INTERVAL: 12.0-27.0 fbgs
DRILLING I	EQ	UIP	MENT	: CME	850		DEPTH TO WATER:	FIRST	COMPL.	CASING: 2" PVC
SAMPLING	3 M	ETH	HOD:	Geop	obe (direct push) 4' aceta	te sleeves	LOGGED BY:			
HAMMER \				40	DROP: 30	1	RESPONSIBLE RM			REG. NO.
I O		PLE		(mdd)		DESCRIPTION ): color, moist, % by weight, plast. entation, react. w/HCl, geo. inter.	, structure,	V		UCTION DETAILS LLING REMARKS
(feet	Š	Sample	Blows/ foot	0 @		face Elevation: fmsl			flu	ush-mount surface casing
1 - 2 - 1 3 - 4 - 5 -		X	NA	0	medium angular gra	little fine sand and litt vel, moist throughout, with approximately 80 lass, metal.	no odors/			and the second s
6 2		X	NA	0	-					Cement/bentonite grout
7   8   9   10   3   11		X	NA	0					•	2" dia. schedule 40 PVC riser
12 - 13 - 14 - 4 15 - 16 -	<u> </u>		NA	0	As above with some	wood pieces, saturate	d.			
17 = 5 18 = 5			NA	0	Brown fine to mediu gravel, saturated.	m SAND, little silt, little				
20 <u> </u>						.1 feet below ground s to 22' bgs (1.8' into bed				#00N Filter sand
22 <u> </u> 23 <u> </u> 24 <u> </u> 25 <u> </u>					Begin HQ rock core a  Run #1  Depth: 22.0-26.5 'bgs  Rec: 41" (76%)	-				——15' 0.010" slot schedule 40 PVC well screen
26 - 27 - 28 - 29 - 30 - 31 - 32 - 33 - 34 - 35 - 35 - 35 - 35 - 35 - 35					RQD: 4" (7%) Lithology: LOCKPO (Penfield Dolostone Light to medium gra moderately hard to h occassional to freque occassional shale int		ne, with gs and ssional pits tion (calcite or			Bedrock corehole reamed with 3 7/8" dia. to 27' bgs.
35 <u> </u> 36 <u> </u> 37 <u> </u> 38 <u> </u> 39 <u> </u> 40 <u> </u>					*closely spaced bedo *high angle joint at 2	een 26 and 26.5' bgs. 7	_			
Project No	o.					Geoma	atrix Consultants	V	VELL_OVM FESL W	/ELL LOGS 9-2010.GPJ (4/11) Page 1 of 1

PROJECT: Former Emerson Street Landfill- SVI Investigation Rochester, New York						andfill- SVI Investigation	Lo	g of V	Vell No	o. GW-7R	
BORIN	IG LO				35 Colfax Str	eet (in road)		TOP OF RISE	ER ELEV	ATION:	DATUM:
DRILLING CONTRACTOR: Nothangle Drilling									DATE STARTED: DATE FINIS 12/13/10 12/14/10		
DRILLING METHOD: 4 1/4" Diameter HSA								TOTAL DEPT 19.0 fbgs		T =	SCREEN INTERVAL: 9-19 fbgs
DRILL	ING E	ΞQL	JIPMI	ENT:	CME 850			WATER:	FIRST	COMPL.	CASING: 4" steel
SAMP	LING	ME	THO	D: no	ot sampled			LOGGED BY RM			
HAMN				140	Т	DROP: 30"		RESPONSIBI RM			
DEPTH (feet)	Sample No.	Sample	Blows/ foot	(mdd)	N	DESCRIPTION  AME (USCS Symbol): color, moist, % by weig cementation, react. w/HCl, geo.		ructure,	v		TRUCTION DETAILS RILLING REMARKS
	Sal	Sal	ğ 💆			Surface Elevation: fi	msl		TI ₽	fl	ush-mount surface casing
1 - 1 - 2 - 3 - 3 - 4 - 5 - 6 - 7 - 8 - 7 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 23 - 24 - 25 - 26 - 27 - 18 - 19 - 10 - 10 - 10 - 10 - 10 - 10 - 10					approxii silt with Trace fil encount Trace fil encount Advance Begin N Run #1 Depth: 9 Rec: 47 RQD: 0 Run #2 Depth: 1 Rec: 53 RQD: 8 Litholog (Penfiel Light to modera occassi and vug gypsum commol Rock cc *Severe 15.7-16	e 4 1/4" HSA to 9.0' bgs.  IX Core run at 9.0' bgs.  9.0-14.0 'bgs " (78%) " (0%)  14.0-19.0 'bgs " (88%) " (13%)  IY: LOCKPORT FORMATION of Dolostone Member) medium gray, fine-grained, medium gray, fine-graine	edium-be lostone, varings and ocass stallization ints and	edded with ind ional pits n (calcite or vugs is			——————————————————————————————————————
28 - 29 - 30 - 31 - 32 - 33 - 34 - 35 - 36 - 37 - 38 - 40 - Project	t No.				*planar, *irregula	osely spaced bedding plane jo vertical joint 10.7-11.5' ar vertical joint 13.3-13.6'. ly fractured rubble zone 17.5-1	17.7'.	Consultants		VELL_OVM FES	SL WELL LOGS 9-2010.GPJ (1/11) Page 1 of 1