APPENDIX B

WELL CONSTRUCTION DIAGRAMS AND LITHOLOGIC LOGS BROADWAY-PANTANO WQARF SITE, LANDFILL OPERABLE UNIT TUCSON, ARIZONA

APPENDIX B WELL CONSTRUCTION DIAGRAMS AND LITHOLOGIC LOGS BROADWAY NORTH LANDFILL

Table B1Broadway North LandfillSoil Gas Probe Construction Data

Well/Probe ID	Depth (ft bls)	Probe Diameter (in)	Top of Screen (ft bls)	Bottom of Screen (ft bls)	Monitor Well Borehole Diameter (in)	Depth to Top of Probe Filter Pack (ft bls)	Depth to Bottom of Probe Filter Pack (ft bls)	Data Source
DP-1 : 50	50	0.5	45	50	4.0	43	51	(1,2)
DP-1 : 125	125	0.5	120	125	4.0	118	127	(1,2)
DP-1 : 150	150	0.5	145	150	4.0	143	151	(1,2)
DP-1 : 193	193	0.5	188	193	4.0	184	194	(1,2)
DP-2 : 50	50	0.5	45	50	4.0	43	51	(1,2)
DP-2 : 100	100	0.5	95	100	4.0	92	101	(1,2)
DP-2 : 150	150	0.5	145	150	4.0	143	151	(1,2)
DP-2 : 193	193	0.5	188	193	4.0	184	194	(1,2)
DP-3 : 50	50	0.5	45	50	4.0	43	51	(1,2)
DP-3 : 100	100	0.5	95	100	4.0	92	101	(1,2)
DP-3 : 150	150	0.5	145	150	4.0	143	151	(1,2)
DP-3 : 193	193	0.5	188	193	4.0	184	194	(1,2)
DP-4 : 50	50	1.0	45	50	9.6	43	52	(1,3)
DP-4 : 100	100	1.0	95	100	9.6	93	102	(1,3)
DP-4 : 150	150	1.0	145	150	9.6	142	152	(1,3)
DP-4 : 200	200	1.0	195	200	9.6	193	202	(1,3)
DP-4 : 250	250	1.0	245	250	9.6	242	252	(1,3)
DP-4:300	300	1.0	295	300	9.6	293	305	(1,3)
DP-5 : 50	50	1.0	45	50	9.6	43	52	(1,3)
DP-5 : 100	100	1.0	95	100	9.6	93	102	(1,3)
DP-5 : 150	150	1.0	145	150	9.6	143	152	(1,3)
DP-5 : 200	200	1.0	195	200	9.6	193	202	(1,3)
DP-5 : 250	250	1.0	245	250	9.6	243	252	(1,3)
DP-5 : 300	300	1.0	295	300	9.6	293	305	(1,3)
DP-6 : 50	50	1.0	45	50	9.6	43	52	(1,3)
DP-6 : 100	100	1.0	95	100	9.6	93	102	(1,3)
DP-6 : 150	150	1.0	145	150	9.6	143	152	(1,3)
DP-6 : 200	200	1.0	195	200	9.6	193	202	(1,3)
DP-6 : 250	250	1.0	245	250	9.6	243	252	(1,3)
DP-6 : 300	300	1.0	295	300	9.6	293	306	(1,3)
DP-7 : 50	50	1.0	45	50	9.6	42	52	(1,3)
DP-7 : 100	100	1.0	95	100	9.6	93	102	(1,3)
DP-7 : 150	150	1.0	145	150	9.6	142	152	(1,3)
DP-7 : 200	200	1.0	195	200	9.6	193	202	(1,3)
DP-7 : 250	250	1.0	245	250	9.6	243	252	(1,3)
DP-7 : 300	300	1.0	295	300	9.6	290	307	(1,3)
R-068A : 50	50	0.5	47	52	12.0	41	54	(1,4)
R-068A : 100	100	0.5	95	100	12.0	90	105	(1,4)
R-068A : 150	150	0.5	144	149	12.0	139	151	(1,4)
R-068A : 200	200	0.5	195	200	12.0	190	203	(1,4)
R-069A : 50	50	0.5	44	49	12.0	39	50	(1,4)
R-069A : 100	100	0.5	95	100	12.0	90	102	(1,4)
R-069A : 150	150	0.5	145	150	12.0	139	152	(1,4)
R-069A : 200	200	0.5	195	200	12.0	190	205	(1,4)
R-070A : 50	50	0.5	45	50	12.0	40	54	(1,4)
R-070A : 100	100	0.5	95	100	12.0	90	101	(1,4)
R-070A : WH	225	6	156	225	12.0	147	246	(1,4)

Notes on page 2



Table B1Broadway North LandfillSoil Gas Probe Construction Data

Well/Probe ID	Depth (ft bls)	Probe Diameter (in)	Top of Screen (ft bls)	Bottom of Screen (ft bls)	Monitor Well Borehole Diameter (in)	Depth to Top of Probe Filter Pack (ft bls)	Depth to Bottom of Probe Filter Pack (ft bls)	Data Source
R-071A : 50	50	0.5	45	50	12.0	40	54	(1,4)
R-071A : 100	100	0.5	95	100	12.0	90	103	(1,4)
R-071A : WH	228	6	158	228	12.0	151	249	(1,4)
R-072A : 50	50	0.5	45	50	12.0	40	53	(1,4)
R-072A : 100	100	0.5	95	100	12.0	91	102	(1,4)
R-072A : WH	227	6	157	227	12.0	148	245	(1,4)
R-073A : 50	50	0.5	45	50	12.0	40	51	(1,4)
R-073A : 100	100	0.5	95	100	12.0	91	102	(1,4)
R-073A : WH	228	6	158	228	12.0	151	244	(1,4)
R-074A : 50	50	0.5	45	50	12.0	41	53	(1,4)
R-074A : 100	100	0.5	95	100	12.0	90	106	(1,4)
R-074A : WH	225	6	157	225	12.0	148	248	(1,4)
R-075A : 50	50	0.5	45	50	12.0	40	52	(1,4)
R-075A : 100	100	0.5	95	100	12.0	90	102	(1,4)
R-075A : WH	225	6	157	225	12.0	137	251	(1,4)
WR-273A : 50	50	0.5	50	55	9.6	40	55	(1,2)
WR-273A : 135	135	0.5	130	135	9.6	125	140	(1,2)
WR-273A : 220	220	0.5	215	220	9.6	210	225	(1,2)
WR-273A : 300	300	5	295	300	9.6	290	347	(1,2)
WR-274A : 50	50	0.5	46	51	9.6	40	55	(1,2)
WR-274A : 100	100	0.5	95	100	9.6	90	105	(1,2)
WR-274A : 220	220	0.5	215	220	9.6	-	-	(1)
WR-274A : 300	300	5	295	300	9.6	291	350	(1,2)
WR-275A : 50	50	0.5	50	55	9.6	40	55	(1,2)
WR-275A : 135	135	0.5	130	135	9.6	125	140	(1,2)
WR-275A : 220	220	0.5	215	220	9.6	210	225	(1,2)
WR-275A : 300	300	5	295	300	9.6	290	360	(1,2)

Notes:

ft bls = feet below land surface

in = inches

WH = wellhead

Sample ID (WR-273A : 50) = probe ID (WR-273A) colon sample depth (typically the bottom of the screen interval; 50 feet below land

- Information not known

Data sources:

1 Stantec, 2008a.

2 CDM, 1998. Also ADWR imaged records for DP-3 for borehole diameter (55-700706) and WR wells borehole diameters

3 Table 1 from SECOR, 2005a. Also ADWR imaged records.

4 HydroGeoChem, 2000

Full citations are provided in the References section of the LOU RI Report.



Site: Total D Commer Driller:	Cllent:	DEPTH, FT.	SYMBOL (USCS)	SAMPLE DESCRIPTION	SIMULPROBE SAMPLE % CH4/CO2/O2	DEPTH, LIV	GRAPHY	OVH (ppn)	Å	-Groun	-	vel
Site: <u>NORTH BRC</u> Total Depth: <u>194'</u> Comments: <u>WATER</u> Driller: <u>BEYLIK</u>		- 5-	SM	COVER MATERIAL, SAND, silty with clay, dry, brown	4 0 2 2	- 5 -	00000					
NORTH BROADWAY LANDFIL bepth: <u>194'</u> cosing Type & S ints: WATER ADDED DURING BEYLIK - GENE	CITY OF TUCSON	— 10— — 15—	MMF	REFUSE, wood, twigs, metal, solid waste odor, dry	сн ₄ -о	- 10 -		0	BENTONITE			*
ADWAY LA	ON	-20-				- 20 -			ONITE G			
LANDFILL I Type & Size: DURING DR	Job No.:	-25- -30-	SM	SAND, some debri (plastic), dry, light gray		- 25 - - 30 -			GROUT			****
WAY LANDFILL .cosing Type & Size: 1/2" SCH DDED DURING DRILLING NE	1362-10	- 35-		SAND, silty, medium/coarse grained, gray brown, easy drilling		- 35 -	0 0 0 0 0 0					BI
80	1362-10968-117.RT.INVT	-40- -45-			18.3/17.4/1.3	- 45 -	00000	0	-10		IIIIIII	BENTO
Slot Size:	RT.INVT	<u>50</u>				- <u>50</u> - •	00000		10/20 SILICA	ALLIN		BENTONITE CHIPS
0.01″	Date Drilled:	-60-				- 60 -	0 0 0 0 0		ICA SAND			IPS
						- 65 -• - 70 -•	00000					
	10-10-96 E	- 75- - 80-				- 75 - - 80 -	0 0 0 0		LIN" SCHEDI			
HSA . DENTLER	Boring No.:.	-85-				- 85 -	0 0 0 0		1∕2″ SCHEDULE			
RNA	DP-1	— 90— — 95—			18.2/15.2/2.1	- 90 -	0 0 0 0	0				
		—100— —105—				- 100 - °	0 0 0 0		80 BLANK CASING			
		—110— —115—	SC/ SW	SAND, coarse grained with gravel (granite and shale) with cobbles (granite) to 6" hard drilling	-	- 110 - - 115 -			NG			
SOIL		120	SM	hard drilling SAND, medium/coarse grained with silt, tan/brown	-	- 120 -						
SOIL BORING		—125— —130—				- 125 - • - 130 - •	0 0 0 0 0					-1/2" SCHEDU
ลิ		135- 140-	CL	CLAY, sticky, gray/brown (water was added to aid in drilling)	12.6/6.4/6.6	- 135 - - 140 -	•••	47				Ē
			SC/ CL	SAND with interbedded clay	-	- 145 -						80 0.01"
CDM Camp Dresser & McKee Inc.	SOIL BORING	—150- —155-				- 150 - - 155 -						SLOT SCREEN
Camp D	BORIN	—160- —165-				- 160 - - 165 -						REEN
resser & A	IG NO.	-170-				- 170 - - 175 -						
ficikee Inc). DP-1	175- 180-				- 180 -						
			SW	SAND, medium grained, silicious, hard drilling		- <u>185</u> - - 190 -						
BROAD		-195- 200-		T.D. 194'	2.0/0.9/12.3	- 195 -	2000	0				<u>8</u>
WAY I DFILL S		-205				- 205 -						
BROADWAY NORTH LANDFILL SITE TUCSON, ARIZONA		-210- 215-				- 210 - - 215 -						
		-220-				- 220 - - 225 -						
Figure No. A-1		-230-				- 230 -						

DP-1

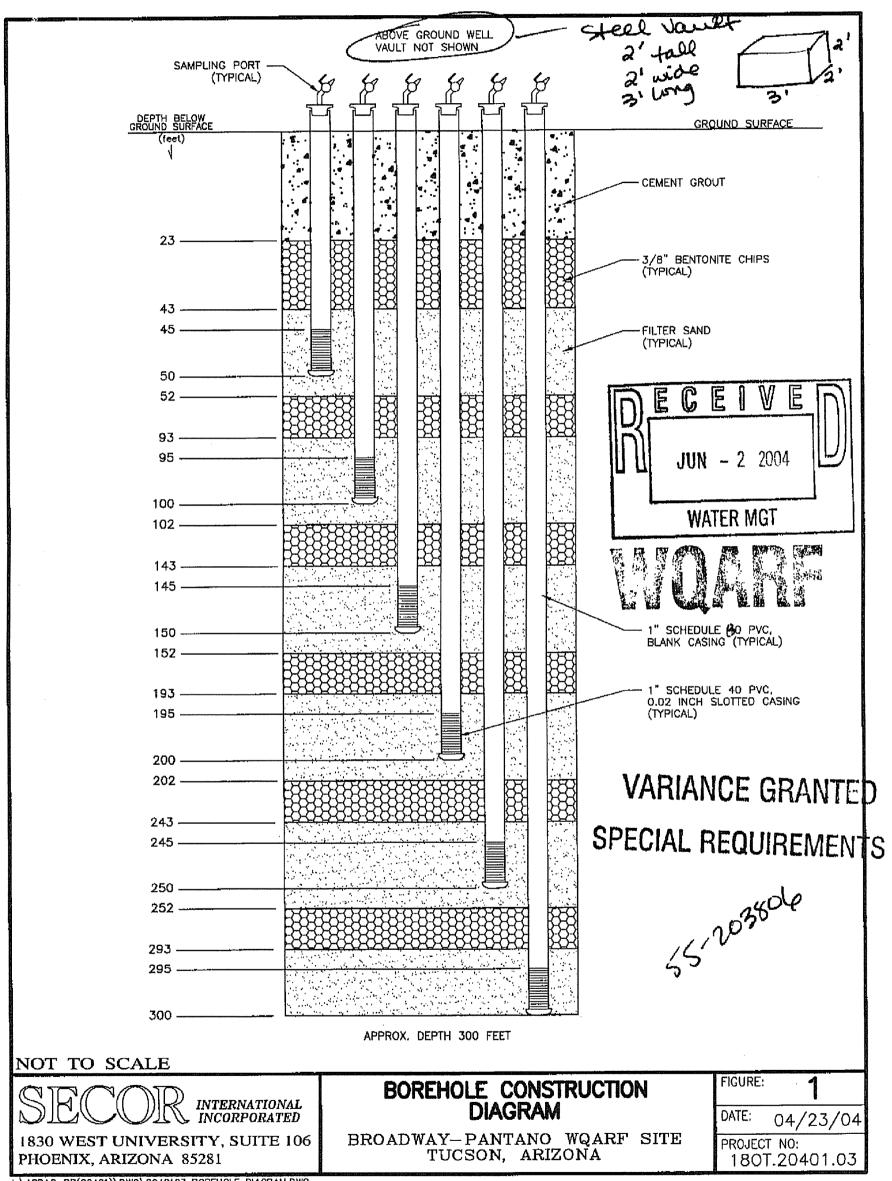
Total Depth: Comments: Driller:BE)	Client: Site:	DEPTH, Ft,	SYMBOL (USCS)	SAMPLE Description	SIMULPROBE SAMPLE * CH4/CO2/O2	DEPTH, Ft.	STRATI- GRAPHY	OVH (ppn)		
nts:BE	CITY OF TUCSON JOB NORTH BROADWAY LANDFIL	5	MMF	COVER MATERIAL, gravel, cobbles and dirt	_	_ =				
pth: <u>194'</u> Cosine s: <u>WATER ADDED</u> BEYLIK - GENE	H BF	10		REFUSE, paper, plastic, metal, glass, wire, strong solid waste odor, dry						
- G	TUC	<u> </u>			СН4 -0	- 10	⋙	0	BEN	
DDE	DWA:SON	- 15-				- 15	₩		BENTONITE	
D DU	Y L	-20-				- 20	₩		ITE I	
JRIN	NDF	-25-	CL	CLAY, increasing sand content with depth,	-	- 25		0	GROUT	
Size:	Job No.: DFILL	- 30-		sticky, damp, black		- 30			UT	
Type & Size: 1/2" S DURING DRILLING	136	- 35-				- 35				
Lossing Type & Size: 1/2" SCH DDED DURING DRILLING	1362-10968-117.RT.INVT	- 40-	SC/ CL	Increasing SAND content with depth						
* 02	-896					- 40				
	117.R	45			6.6/7.4/*	- 45		2.6	10	
SLOT SIZE: SENSOR 1	T.IN	- 50 -				- 50			120	
		- 55-				- 55			10/20 SILICA SAND	
0.01" IOT W(Date	-60-				- 60			AS	
ORKI	Drilled:	-65-				- 65	///		AND	
NG Lo		- 70-	SC/	SAND, medium/coarse grained with gravel, dry, tan some lenses of red medium grained sand and interbedded		- 70				
Drilling Method:. ING Logged by:	10-12-96 op of Casing	- 75-		with gray clay harder drilling		- 75				
									-1/2"	
P. DE	Borir Eleva	- 80-				- 80			SCH	
DENTLER	Boring No.: Elevation:					- 85			№" SCHEDULE	
5	1 1	- 90-				- 90			E 80	
	DP-2	- 95-			7.6/8.0/11.7	- 95		0	O BL	
						- 100			ANK	
						- 105			BLANK CASING	3
		-110-				- 110			SING	SCHEDULE
		-								
SOIL BORING	100-000					- 115				g
ř		-120-				- 120 -				0.01
BO	1			8		- 125 -				E E
RP		-130-				- 130				
۵	1.0	-135-				- 135				SLOT SCREEN
	1.523	-140-	1			- 140				Ż
			SC/ SW	SAND, medium/coarse grained with gravel, dry, tan	13.1/21.2/2.3	- 145	000000	0		
6	10	-150-	SW			- 150	000000000000000000000000000000000000000			
I I Ŭ	ő	The states				_	000000			
		155-				- 155				
CDN Camp Dresser & McKee Inc.	SOIL BORING	-160-				- 160	000000			
Dre	Ĩ					- 165 -				
seer &		-170-				- 170	00000			
Md	NO.	-175-				- 175				
Kee L	DP-2			a because of		- 180	000000			
R	Ň	-185-				- 185 -	00000			
Section 1		A CAN TR					000000			
거원	and the	-190-			14.6/22.2/2.2	- 190	00000	0		
BROADWAY NORTH LANDFILL SITE TUCSON, ARIZONA		195-	1	T.D. 194'		- 195 -				
NUT		-200-				- 200 -				
>FA		-205				- 205 -				
SIS	1.15	-210-				- 210 -				<i></i>
NA NA		215-				- 215 -				
- I		-220-				- 220 -				
	1	-225-	1							
	-	-223-	-			- 225 -	3			
Figure No. A-2		-230-	1			- 230 -				

DP-2

2 2 0	Client: <u>CI</u> Site: <u>NO</u>	DEPTH, Ft.	SYMBOL (USCS) SM	SAMPLE DESCRIPTION SAND, silty, dry, minor refuse	SIMULPROBE SAMPLE % CH4/CO2/O2	DEPTH, Ft.	CRAPHY	OVX (ppn)		Fround Level
" <u>194'</u> WATER AI EYLIK - GE	CITY OF TUCSON Job NORTH BROADWAY LANDFIL	5 10- 15- 20 25-	MMF	REFUSE, plastic, glass, wood, metal, strong solid waste odor, dry SAND, silty, gray with minor refuse, dry	СН4 -0	- 5 - - 10 - - 15 - - 20 -		0	BENTONITE GROUT	
re: <u>1/2″ SCH 80</u> _slot Size:_ DRILLING	_{lo.} , <u>1362-10968-117.RT.INVT</u>			SAND, silty, medium grained with gravel, black-gray, dry	21.8/13.3/5.1	- 30 - - 35 - - 40 - - 45 - - 50 - - 55 -		1.6	JT	BENTONITE CHIPS
0.01" Drilling Method: HSA Logged by: P. DENTLER	Date Drilled: 10-18-96 Boring No.:. Top of Casing Elevation:	-60- -65- -70- -75- -80- -85-	SC/ SM	SAND, silty with interbeded clay, some gravel, dark brown, dry		- 60 - - 65 - - 70 - - 75 - - 80 - - 85 -			A SAND LK" SCHEDULE	
	DP-3	-90- -95- -100- -105- -110- -115-			12.1/9.1/5.2	- 90 - - 95 - - 100 - - 105 - - 110 - - 115 -		1.2	BO BLANK CASING	- 16" SCHEDULE 80
SOIL BORING		120- 125- 130- 135- 140- 145-	50/	cobbles to 3" diameter SAND, medium to coarse grained with gravel and clay, tan, dry	14.2/11.1/3.8	- 120 - - 125 - - 130 - - 135 - - 140 - - 145 -		0		0.01" SLOT SCREEN
CDM Camp Dresser & McKee Inc.	SOIL BORING NO. DP-3	-150 -155 -160 -165 -170- -177- -180- -180- -185-				- 150 - - 155 - - 160 - - 165 - - 170 - - 175 - - 180 - - 185 -				
BROADWAY NORTH LANDFILL SITE TUCSON, ARIZONA		-190- -195- -200- -205- -210- -210- -215- -220-			-	- 190 - - 195 - - 200 - - 205 - - 210 - - 215 - - 215 -				
Figure No. A-3		-225 230-				- 225 -				

DP-3

As-Built Drawing for DP-4, DP-5, DP-6, and DP-7 from ADWR records



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I: \ASRAC-BP(20401)\DWG\2040103 BOREHOLE DIAGRAM.DWG

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	SEC NTERNA			LOG OF BO	RING DP-	4		
1			(Page 1 of 5)					
Broa	partment of dway-Pantar	Environmental Quality to WQARF Site way Boulevard	Start Date Finish Date Drilling Company Drilling Method SECOR Rep on-site	: June 3, 2004 : June 4, 2004 : Yellow Jacket Drilling : Air Rotary Casing Hammer : Debbie Kenyon	Well Casing D Slot Size ADWR No.	iameter : 1-inch PVC : 0.020-inch : 55-203806		
		Anzona						
Depth in Feet	nscs	GRAPHIC	D	ESCRIPTION		Well Construction Information		
0	FL	and bi 4/1), a mixed	ones. The refuse is b and dark greenish gra with a gravel and sa		use was	NOTES Six PVC soil gas probes were installed in this borehole. The one-inch diameter probes were screened at the following depths 45-50, 95-100, 145-150, 195-200 245-250, and 295-300 feet bgs. description of the well construction is detailed in Table		
25	SW/SM		e-grained sand, light	TH SILT AND GRAVEL, fin brown (5YR 5/6) to grayish subrounded gravel with max nd, ~20% gravel, ~10% silt. (10YR 5/4).	dimum diameter			
- - 50 - - - - - - - - - - - -		Ligh	gravel up to one-incl t brown (5YR 6/4), le:	ss coarse-grained.				
	SP	mod sub Pal bec	derate yellowish brow rounded gravel, ~759 e reddish brown (10R coming more fine-grai	ID WITH GRAVEL, coarse-g rn (10YR 5/4), damp, subang % sand, ~25% gravel. { 5/4), sand less coarse-grai ned, fewer gravel. rn (10YR 5/4), mostly fine- t ith a some coarse-grained s	ned and			

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	SEC INTERNA		LOG OF BORING DP-	-4				
i			(Page 2 of 5)					
Broa	epartment of adway-Pantar 25 East Broad	Environmental Qualit no WQARF Site Iway Boulevard	iameter : 1-inch PVC : 0.020-inch : 55-203806					
·	Tucson, .		SECOR Rep on-site : Debbie Kenyon					
Depth in Feet	nscs	GRAPHIC	DESCRIPTION	Well Construction Information				
75	SP			NOTES				
	SW/SM	coa (10' san Gra dor Fin ma Lig Mo	L GRADED SAND WITH SILT AND GRAVEL, fine- to se-grained sand, light brown (10YR 6/4) to grayish orange (R 7/4), slightly moist, subrounded to subangular sand, ~80% d, ~10% fine gravel, ~10% silt. yish orange (10YR 7/4), medium- to coarse-grained sand inant, no silt. - to coarse-grained sand, increasing gravel content with a timum diameter of one-inch. - to brown (5YR 5/6), decreasing silt content. - to reasing silt content. - to coarse-grained sand, increasing gravel and - to coarse-grained sand, increasing silt content. - to coarse-grained sand, increasing silt content.	Six PVC soil gas probes were installed in this borehole. The one-inch diameter probes were screened at the following depths: 45-50, 95-100, 145-150, 195-200, 245-250, and 295-300 feet bgs. A description of the well construction is detailed in Table 1.				
125- - - - -	SM	Line and the second secon	lowish brown (10YR 5/4), damp, trace of fille gravel. ht brown (5YR 5/6), few coarse-grained sand and fine gravel,					
2-15-2004 C.MTECH5\BP-DP4.BOR	- SW/SM	gr	ELL GRADED SAND WITH SILT AND GRAVEL, fine to coarse ained sand, light brown (5YR 5/6), damp, gravel diameter is proximately one-inch and subrounded to subangular, ~70% sand, 5% gravel, ~15% silt. The brown (5YR 5/6), decreasing gravel content, .					

	SEC			LOG OF BOI	RING DP-	-4	
	Incorp					(Page 3 of 5)	
Bre	oadway-Panta	Environmental Quality no WQARF Site dway Boulevard	Start Date Finish Date Drilling Company Drilling Method	Date : June 4, 2004 Slot Size : 0.020 Company : Yellow Jacket Drilling ADWR No. : 55-20 Method : Air Rotary Casing Hammer			
	Tucson,	Arizona	SECOR Rep on-site	: Debbie Kenyon			
Depth in Feet	nscs	GRAPHIC	D	ESCRIPTION		Well Construction Information	
150	SW/SM	Grave	I content increasing. I content decreasing.			NOTES Six PVC soil gas probes were installed in this borehole. The one-inch diameter probes were screened at the following depths: 45-50, 95-100, 145-150, 195-200, 245-250, and 295-300 feet bgs. A description of the well construction is detailed in Table 1.	
		sand, suban	moderate yellowish br	L well graded, fine- to coarse own (10YR 5/4), damp, subr t, ~25% sand, ~15% gravel. coarse-grained sand and fir	ounded to		
-	SM		brown (5YR 5/6). y fine to medium grain	ed sand			
200-	-			with a maximum diameter of a	one-half inch.		
225-		Fine-	to medium-grained sa	ind dominant, gravel content	decreasing.		

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	SEC INTERNA	OR TIONAL		LOG OF BORING [
	Incorpo	rated			(Page 4 of 5)
Broa	adway-Pantar	Environmental Quali no WQARF Site	ty Start Date Finish Date Drilling Company Drilling Method	: June 3, 2004 Well Casi : June 4, 2004 Slot Size : Yellow Jacket Drilling ADWR N : Air Rotary Casing Hammer ADWR N	
/52	5 East Broad Tucson, A	way Boulevard Arizona	SECOR Rep on-site	: Debbie Kenyon	
Depth in Feet	nscs	GRAPHIC	D	ESCRIPTION	Well Construction Information
-	SM				NOTES Six PVC soil gas probes were installed in this borehole. The one-inch diameter probes were screened at the following depths:
250-	SW/SM		LL GRADED SAND WIT rse-grained sand, light b rounded gravel with max 1% sand, ~20% gravel, ~ derate yellowish brown (creasing gravel content. ht brown (5YR 6/4). reasing gravel and coars	45-50, 95-100, 145-150, 195-200, 245-250, and 295-300 feet bgs. A description of the well construction is detailed in Table 1.	
	SP	sar sul	nd, light brown (5YR 6/4) prounded, damp, gravel e-half inch, ~65% sand,		
	GP	gra co	ORLY GRADED GRAV ay, subangular gravel wi arse-grained sand, ~70%	EL WITH SAND, fine, pink, green, white h a maximum diameter of one-inch, 6 gravel, ~30% sand.	ə,
300-	GW				

	SEC	OR ATIONAL		LOG OF BO	DRING DP	-4
						(Page 5 of 5)
Broa	epartment of adway-Panta	f Environmental Qualit ano WQARF Site dway Boulevard	ality Start Date : June 3, 2004 Well Casing Finish Date : June 4, 2004 Slot Size Drilling Company : Yellow Jacket Drilling ADWR No. Drilling Method : Air Rotary Casing Hammer SECOR Rep on-site : Debbie Kenyon			biameter : 1-inch PVC : 0.020-inch : 55-203806
	Tucson	, Arizona	SECOR Rep on-site			
Depth in Feet	nscs	GRAPHIC	C	DESCRIPTION		Well Construction Information
300-	GW	diar	n, black, and white, su neter of two-inches, coa	WITH SAND, fine to coarse brounded to subangular wi arse-grained sand, ~80% g ~305 feet bgs.		NOTES Six PVC soil gas probes were installed in this borehole. The
		Bui		<u> </u>		one-inch diameter probes were screened at the following depths: 45-50, 95-100, 145-150, 195-200, 245-250, and 295-300 feet bgs. A description of the well construction is detailed in Table 1.
- - 325						
350-						
C.MTECHSIBP-DP4.BOR						
i	-					
^{*002-91-21} 375						

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	SEC INTERNA	OR TIONAL	LOG OF BORING DP	
Incorporated		rated		(Page 1 of 4)
Arizona Department of Environmental Quality Broadway-Pantano WQARF Site			y Start Date : June 7, 2004 Soil Logged t Finish Date : June 8, 2004 Well Casing I Drilling Company : WDC Exploration Slot Size Drilling Method : Air Rotary Casing Hammer ADWR No.	y : Debbie Kenyon Diameter : 1-inch PVC : 0.020-inch : 55-203807
/5	Tucson,	way Boulevard Arizona	SECOR Rep on-site : Ron Brazeal	
Depth in Feet	nscs	GRAPHIC	DESCRIPTION	Well Construction Information
0-				
	SW/SM	 coa sub sub ~75 Mod Ligiting Mod Wow 	LL GRADED SAND WITH SILT AND GRAVEL, fine- to rse-grained sand, moderate brown (5YR 4/4), subrounded to angular, fine gravel with a maximum diameter of one-quarter inch, % sand, ~15% gravel, ~10% silt. derate yellowish brown (10YR 5/4). easing coarse gravel content with a maximum diameter of -inch, increasing silt content. ht brown (5YR 6/4). derate yellowish brown (10YR 5/4), increasing fine gravel content h a maximum diameter of one-half inch.	NOTES Six PVC soil gas probes were installed in this borehole. The one-inch diameter probes were screened at the following depths: 45-50, 95-100, 145-150, 195-200 245-250, and 295-300 feet bgs. description of the well construction is detailed in Table of
- - - 50-		sar	ORLY GRADED SAND WITH GRAVEL, fine- to medium-grained d dominant, light brown (5YR 5/6), subrounded to subangular, gravel with a maximum diameter of one-quarter inch. derate yellowish brown (10YR 5/4), increasing silt content.	
	SP	Gr	avel content increasing, decreasing silt content.	
		Mi ap	oderate brown (5YR 4/4), increasing gravel diameter to proximately three-quarters inch.	

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SECOR INTERNATIONAL Incorporated		ATIONAL	LOG OF BORING DP-5		
			(Page 2 of 4)		
Arizona Department of Environmental Quality Broadway-Pantano WQARF Site			Y Start Date : June 7, 2004 Soil Logg Finish Date : June 8, 2004 Well Cas Drilling Company : WDC Exploration Slot Size Drilling Method : Air Rotary Casing Hammer ADWR N	ing Diameter : 1-inch PVC : 0.020-inch	
752	25 East Broa Tucson,	dway Boulevard Arizona	SECOR Rep on-site : Ron Brazeal		
Depth in Feet	nscs	GRAPHIC	DESCRIPTION	Well Construction Information	
75	SP		t brown (5YR 6/4), fine gravel content increasing.	NOTES Six PVC soil gas probes were installed in this borehole. The one-inch diameter probes were screened at the following depths: 45-50, 95-100, 145-150, 195-200, 245-250, and 295-300 feet bgs. A description of the well construction is detailed in Table 1	
-	GP/GM	bla paper of bla paper of a of a of paper of a of page of a	ORLY GRADED GRAVEL WITH SILT, fine, gray, white, green, k, subangular to subrounded, maximum diameter of one-quarte ~85% gravel, ~15% silt. easing fines content, ~40%.	and	
100-1	GW/GM	wh	L GRADED GRAVEL WITH SILT, fine to coarse, gray, green e, pink, and black, subrounded to subangular, maximum diame ne-inch, ~85% gravel, ~15% silt.		
GW/GM		Lig	L GRADED SAND WITH GRAVEL, fine- to coarse-grained sal erate yellowish brown (10YR 5/4), subrounded to subangular, gravel with a maximum diameter of one-half inch, ~80% sand, % gravel. t brown (5YR 5/6), increasing fine gravel content with a imum diameter of one-quarter inch.	nd,	
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	SEC INTERNA			LOG OF BOI	RING DP-	-5
	Incorpo					(Page 3 of 4)
Bro	adway-Pantai 25 East Broad	Environmental Qual no WQARF Site way Boulevard	Finish Date Drilling Company Drilling Method	Finish Date : June 8, 2004 Well Casing Dia Drilling Company : WDC Exploration Slot Size		
	Tucson,	Arizona	SECOR Rep on-site	: Ron Brazeal		
Depth in Feet	nscs	GRAPHIC	D	ESCRIPTION		Well Construction Information
150		K mo	ORLY GRADED SAND derate yellowish brown (ine gravel.	WITH SILT, fine-grained sanc 10YR 5/4), ~90% sand, ~10%	l dominant, 5 silt, trace	NOTES Six PVC soil gas probes were installed in this borehole. The
- - - - -	SP/SM	Mo	derate brown (5YR 4/4),	brown (5YR 4/4), gravel content increasing. brown (5YR 4/4), gravel content increasing. centre dat the for 45-50, 95-100, 14 245-250, and 295 description of the construction is de		
175	GP/GM	• • • • • • • • • • • • • • • • • • •	orounded to subangular, 0% gravel, ~10% silt.	EL WITH SILT, fine, gray, whi maximum diameter of one-qu	arter Inch,	
-	SP/SM	ligi	nt brown (5YR 5/6), ~80- arse-grained sand and fi		e of	
	GW/GM	00000000000000000000000000000000000000	ite, subangular to angula arse-grained sand, ~90%		inch, trace	-
-	SP/SM	sa	own (5YR 5/6), ~85% sa nd and fine gravel.	WITH SILT, fine- to medium- nd, ~15% silt, trace of coarse	-grained	
200	SM	br sa	own (5YR 5/6), ~75% sa nd and fine gravel.	ed, fine to medium grained sa nd, ~25% silt, trace of coarse (10YR 5/4), increasing fine g	grameu	
-	GP/GM		ack, pink, subangular to	/EL WITH SILT, fine, gray, gr subrounded, maximum diame avel, ~15% silt, ~5% coarse- in size with a maximum diam	grained sand.	

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		LOG OF BORING DP	-5				
	rporated		(Page 4 of 4)				
Arizona Department Broadway-Par 7525 East Br	of Environmental Qual tano WQARF Site padway Boulevard	ity Start Date : June 7, 2004 Soil Logged b Finish Date : June 8, 2004 Well Casing D Drilling Company : WDC Exploration Slot Size Drilling Method : Air Rotary Casing Hammer ADWR No. SECOR Rep on-site : Ron Brazeal Slot Size	by : Debbie Kenyon Diameter : 1-inch PVC : 0.020-inch : 55-203807				
	n, Arizona						
Depth in S Feet S 225	GRAPHIC	DESCRIPTION	Well Construction Information				
- GP/GN	0 0 0 0 0 0 0 0 0		NOTES				
sw	dia	ELL GRADED SAND WITH GRAVEL, fine- to coarse-grained sand, oderate yellowish brown (10YR 5/4), fine gravel with a maximum ameter of one-half inch, ~80% sand, ~20% gravel, trace of silt.	Six PVC soil gas probes were installed in this borehole. The one-inch diameter probes were screened at the following depths: 45-50, 95-100, 145-150, 195-200, 245-250, and 295-300 feet bgs. / description of the well construction is detailed in Table 1				
250- - - - - - - - - - - - - - - - - - -	M	Gravel has increasing orange tint with increasing coarse-grained sand. Gravel has increasing orange tint with increasing coarse-grained sand. Fine gravel dominant with coarse-grained sand. Boring DP-5 terminated at 300 feet bgs.					

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SECOR INTERNATIONAL Incorporated				LOG OF BORING DP-6			
				(Page 1 of 5)			
Bro	adway-Panta	f Environmental Quality ano WQARF Site	Finish Date Drilling Company	Finish Date : June 9, 2004 Slot Size : 0.020-inch			
75		dway Boulevard Arizona	Drilling Method SECOR Rep on-site	: Air Rotary Casing Hammer : Debbie Kenyon	-=		
Depth in Feet	nscs	GRAPHIC	D	ESCRIPTION		Well Construction Information	
0+	FL	$K \times X \times X$ is brown	whish drav (5YR 4/1).	ewspaper scraps and plas olive gray (5Y 4/1), and da refuse was mixed with gra	urk greenish	NOTES Six PVC soil gas probes were installed in this borehole. The	
-	GW/GM	••••••••••••••••••••••••••••••••••••••	I, pink, green, white, b Finches, fine- to coarse (10YR 4/2), subangula I, ~20% sand, ~10% s		ter of two and vish brown d sand, ~70%	one-inch diameter probes were screened at the following depths: 45-50, 95-100, 145-150, 195-200, 245-250, and 295-300 feet bgs. A description of the well construction is detailed in Table 1	
25	sw	grave 7809	arate vellowish brown (TH GRAVEL, fine- to coars 10YR 5/4), slightly damp, s with a maximum diamete it 30 feet.	fine to coarse		
-	GP	gree one	n, white, subangular to and three-quarters inch wish brown (10YR 5/4)	EL WITH SAND, coarse gr subrounded, with a maxin n, coarse-grained sand, mo), ~85% gravel, ~15% sand a maximum diameter of on	ium diameter of iderate I.		
- - 50-	SP	mod	erate brown (5YR 4/4)	WITH GRAVEL, coarse-gu to moderate yellowish brov e gravel with maximum dia % gravel.	wn (10YR 5/4),		
	SM	SILT yellc	Y SAND, poorly grade wish brown (10YR 5/4	d, fine- to coarse-grained :), slightly damp, trace of fir	aand, moderate he white		
- 75—							

	SEC			LOG OF B	ORING DP-	-6	
				(Page 2 of 5)			
Br	oadway-Panta	Environmental Quality no WQARF Site	Start Date Finish Date Drilling Company Drilling Method	: June 8, 2004 : June 9, 2004 : Yellow Jacket Drilling : Air Rotary Casing Hammer	Slot Size ADWR No.	iameter : 1-inch PVC : 0.020-inch : 55-203808	
	Tucson,	lway Boulevard Arizona	SECOR Rep on-site	: Debbie Kenyon			
Depth S A Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y			DESCRIPTION		Well Construction Information		
75-	SM					NOTES	
-	GP/GM		ant gray black and y	L WITH SILT AND SAND white, maximum diameter sand, moderate yellowish ~15% gravel.	of one-inch,	Six PVC soil gas probes were installed in this borehole. The one-inch diameter probes were screened at the following depths: 45-50, 95-100, 145-150, 195-200,	
 	SM	SILTY yellow trace increa	Y SAND, poorly graded vish brown (10YR 5/4), fine gravel with a maxi asing gravel content. graded, fine- to coarse fine gravel content incr	l, fine- to medium-grained slightly damp, ~65% san mum diameter of one-qua -grained sand, pale reddis easing.	d, ~35% silt, inter inch. sh brown (10R	45-50, 95-100, 145-50, 185-200, 245-250, and 295-300 feet bgs. A description of the well construction is detailed in Table 1.	
- - - 125 -	- SW/SM		e-grained sand, light b ngular gravel with a ma sand, ~20% gravel, ~ erate yellowish brown (silt content.	10YR 5/4), increasing fine	amp, nne, juarter inch, e grained sand		
	SM	yellov	wish brown (10YR 5/4)	d, fine- to medium-grained , damp, with a trace of fin	e gravei.		
-	- SW/SM	coars fine, gray, Decr	se-grained sand, mode subangular gravel with	TH SILT AND GRAVEL, fi rate yellowish brown (10Y a maximum diameter of te, ~75% sand, ~15% gra at 140 feet.	r 5/4), damp, one-half inch,		
150 -]			ontent with a maximum di er.	ameter of		

	SEC	OR ATIONAL			g DP-(6		
Incorporated				(Page 3 of 5)				
Bre	oadway-Panta	Environmental Quality no WQARF Site dway Boulevard	Finish Date Drilling Company Drilling Method	: June 9, 2004 Slot	II Casing Dia t Size WR No.	ameter : 1-inch PVC : 0.020-inch : 55-203808		
	Tucson,	Arizona	SECOR Rep on-site					
Depth in Feet	nscs	GRAPHIC	DI	ESCRIPTION		Well Construction Information		
150	SW/SM				-	NOTES		
- - -	SM	4/4), diarr Incre	Y SAND, fine- to coarse slightly damp, trace fine eter of one-quarter inch easing gravel content.	Six PVC soil gas probes were installed in this borehole. The one-inch diameter probes were screened at the following depths: 45-50, 95-100, 145-150, 195-200, 245-250, and 295-300 feet bgs. A description of the well construction is detailed in Table 1.				
- - - 175 –	SP/SM	sight	POORLY GRADED SAND WITH SILT AND GRAVEL, fine- to medium- grained sand dominant, moderate yellowish brown (10YR 5/4), slightly moist, fine gravel with a maximum diameter of one-quarter inch, ~80% sand, ~10% gravel, ~10% silt. Light brown (5YR 5/6), increasing silt and fine-grained sand content.					
-			brown (5VP 5/6) slight	l, mostly fine- to medium-grained s ly damp, ~75% silt, ~25% sand, tr a maximum diamter of one-eighth	race			
]	Mod san	lerate yellowish brown (d content.	10YR 5/4), increasing coarse-grain	ned			
200 -	-		e- to coarse-grained sar	id, light brown (5YR 5/6).				
	- SM	Fin	e- to medium-grained sa easing silt content, no g	nnd, pale reddish brown (10R 5/4), Iravel.				
			reasing fine-grained sar	d content.				
0.05		Fire 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	e- to coarse- grained sa	nd.				

	SEC	OR TIONAL		LOG OF BO	RING DP-		
	Incorporated			(Page 4 of 5)			
Br	Arizona Department of Environmental Quality Broadway-Pantano WQARF Site 7525 East Broadway Boulevard		Finish Date Drilling Company Drilling Method	: June 8, 2004 : June 9, 2004 : Yellow Jacket Drilling : Air Rotary Casing Hammer	Well Casing D Slot Size ADWR No.	iameter : 1-inch PVC : 0.020-inch : 55-203808	
L	Tucson,	Arizona	SECOR Rep on-site	Debbie Kenyon			
Depth in Feet	nscs	GRAPHIC	D	ESCRIPTION		Well Construction Information	
225				ith a maximum diameter of o	one-quarter	NOTES Six PVC soil gas probes were installed in this borehole. The one-inch diameter probes were screened at the following depths: 45-50, 95-100, 145-150, 195-200, 245-250, and 295-300 feet bgs. A description of the well construction is detailed in Table 1.	
250 -	SM		erate brown (5YR 4/4).				
275			erate yellowish brown a maximum diameter o	TH GRAVEL, fine- to coarse (10YR 5/4), subrounded, gra of three-quarters inch, ~75%	averistine		
004 C.MTECHSIBP-DP6.BOR	- SW		easing coarse-grained reasing gravel content	sand content. with a maximum diameter o	f one-inch.		
12-16-2004	,		·····				

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	SEC		LOG OF BORING DP-6				
						(Page 5 of 5)	
Broa	epartment of adway-Panta	Environmental Quality no WQARF Site	Finish Date June 9, 2004 Slot Size			g Diameter : 1-inch PVC : 0.020-inch : 55-203808	
752	Tucson,	dway Boulevard Arizona	SECOR Rep on-site	: Debbie Kenyon			
Depth in Feet	SOS	GRAPHIC	D	ESCRIPTION		Well Construction Information	
300-	sw		DP-6 terminated at -	-305 feet bas.		NOTES	
325						Six PVC soil gas probes were installed in this borehole. The one-inch diameter probes were screened at the following depths: 45-50, 95-100, 145-150, 195-200, 245-250, and 295-300 feet bgs. A description of the well construction is detailed in Table 1.	
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1	SECC			LOG OF B	ORING DP-7	
Incorporated		(Page 1 of 5)				
Arizona Department of Environmental Quality Broadway-Pantano WQARF Site 7525 East Broadway Boulevard			Start Date Finish Date Drilling Company Drilling Method	: June 6, 2004 : June 7, 2004 : Yellow Jacket Drilling : Air Rotary Casing Hammer : Debbie Kenyon	Slot Size ADWR No.	neter : 1-inch PVC : 0.020-inch : 55-203809
T	Tucson, A	rizona	SECOR Rep on-site	Debble Kenyon		
Depth in Feet	nscs	GRAPHIC	D	ESCRIPTION		Well Construction Information
0+	FL	browr gray (sand.	hish gray (5YR 4/1), o (5GY 4/1), The landfil	spapers, plastic, and pape live gray (5Y 4/1), and da Il refuse was mixed with a	er, The refuse is rk greenish gravel and	NOTES Six PVC soil gas probes were nstalled in this borehole. The one-inch diameter probes were screened at the following depths: 44.5-49.5, 95-100, 145-150, 195-200, 245-250, and 295-300
	GW	white diam	, green, gray, pink, su eter of one-inch. um- to coarse-grained subrounded to suban	, fine to coarse, various sl ubrounded to subangular, d sand, moderate yellowis igular, ~20% sand.	hades of black, dry, maximum h brown (10YR	feet bgs. A description of the we construction is detailed in Table
-	SC	low r	lasticity, ~60% sand,	oarse-grained sand, olive ~40% clay, trace subang		
25-	GW	white wh	e, gray, and green gra to coarse-grained sa angular to subrounded reasing sand content,	WITH SAND, fine to coa avel with maximum diame nd, pale yellowish brown d, ~60% gravel, ~40% sar increasing gravel diamet	10YR 6/2), d. er.	
	- GP	diar	veter of one-quarter i vel, ~25% sand.	VEL WITH SAND, fine gr nch, brownish red tint as a L WITH SAND, fine to co		
	GW	fine	en, pink, purple, and g	gray gravel, ~65% gravel,	~35% sand.	-
50	- SM	sar sar Fin Lig	nd, moderate yellowis nd, ~35% silt, trace of ximum diameter of or ne- to coarse-grained ht brown (5YR 5/6), in	i coarse-grained sand and ne and a half-inches. sand, decreasing silt cont ncreasing silt content.	fine gravel with a ent.	
	- SW/SM	su Su	arse-grained sand, lig	WITH SILT AND GRAVE of brown (5YR 5/6), suba o coarse gravel with a may subangular to subrounded	imum diameter of	

	SEC	OR		7
		TIONAL	LOG OF BORING DF	(Page 2 of 5)
Br	roadway-Pantar	Environmental Quality no WQARF Site	Start Date : June 6, 2004 Well Casing Finish Date : June 7, 2004 Slot Size Drilling Company : Yellow Jacket Drilling ADWR No. Drilling Method : Air Rotary Casing Hammer	Diameter : 1-inch PVC : 0.020-inch : 55-203809
	Tucson, A	lway Boulevard Arizona	SECOR Rep on-site : Debbie Kenyon	1
Depth in Feet	nscs	GRAPHIC	DESCRIPTION	Well Construction Information
75	SW/SM		rate yellowish brown (10YR 5/4).	NOTES Six PVC soil gas probes were installed in this borehole. The one-inch diameter probes were screened at the following depths: 44.5-49.5, 95-100, 145-150, 195-200, 245-250, and 295-300 feet bgs. A description of the well construction is detailed in Table 1.
100	SP/SM	medii grave ~75% Incre (max Light Mode	RLY GRADED SAND WITH SILT AND GRAVEL, fine- to um-grained sand dominant, pale reddish brown (10R 5/4), fine I is subangular with a maximum diameter of one-quarter inch, sand, 15% gravel, ~10% silt. asing fine grained sand content with decreasing gravel content mum diameter is one-quarter inch). brown (5YR 6/4), increasing coarse gravel content. rate yellowish brown (10YR 5/4).	
	- SW/SM	coars coars ~20%	GRADED SAND WITH SILT AND GRAVEL, fine- to e-grained sand, grayish orange (10YR 7/4), damp, fine to e gravel with maximum diameter of one-inch, ~75% sand, gravel, ~5% silt. brown (5YR 6/4), decreasing gravel content.	
+007-41-71 150	SP			

12-16-2004 C.\MTECH5\BP-DP7.BOR

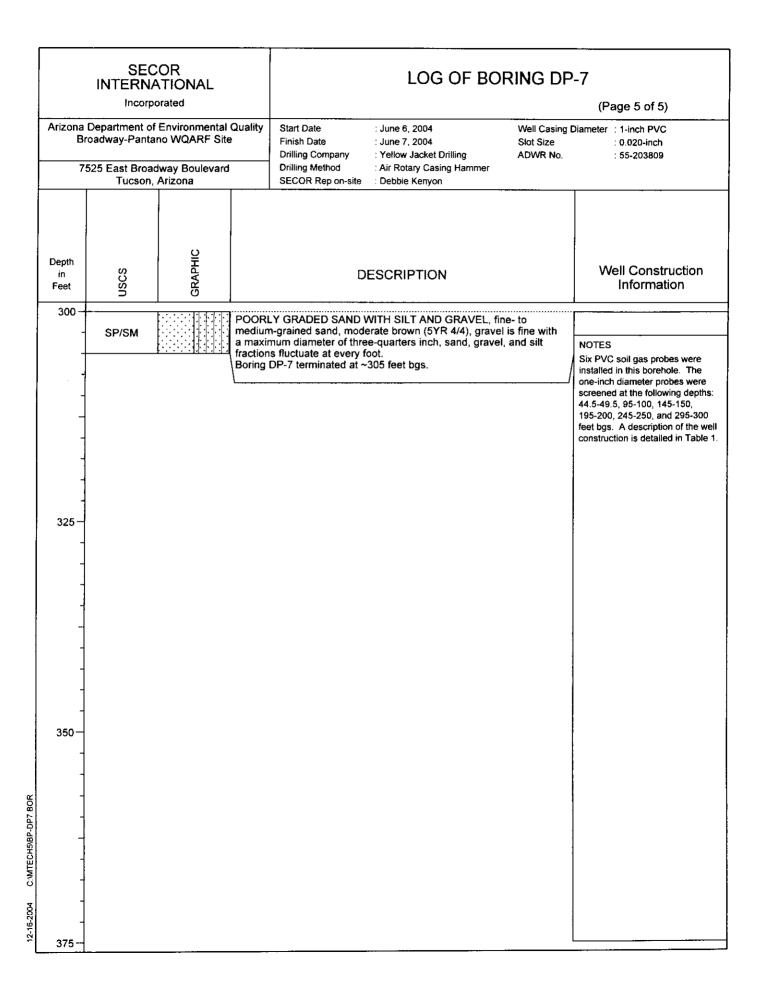
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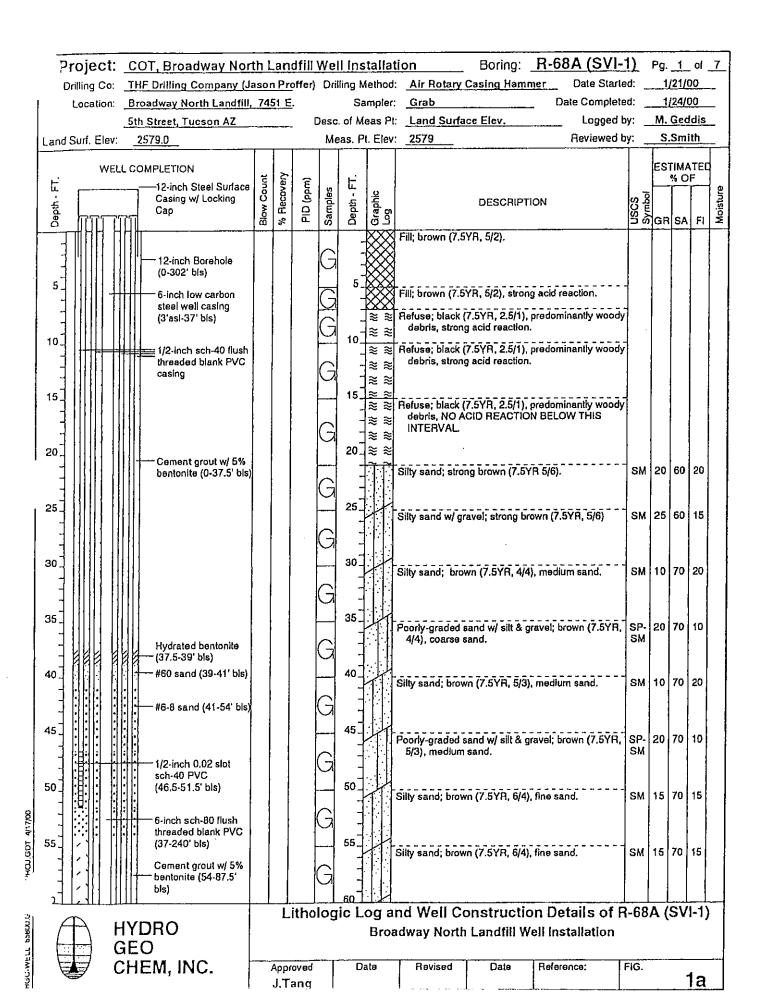
		COR NATIONAL			LOG OF BO	ORING DP	2-7
		rporated					(Page 3 of 5)
Br	oadway-Pan 525 East Bro	of Environmental (tano WQARF Site adway Boulevard n, Arizona	Fir Dri Dri	art Date lish Date lling Company lling Method COR Rep on-site	: June 6, 2004 : June 7, 2004 : Yellow Jacket Drilling : Air Rotary Casing Hammer : Debbie Kenyon	Well Casing I Slot Size ADWR No.	Diameter : 1-inch PVC : 0.020-inch : 55-203809
	10000						
Depth in Feet	nscs	GRAPHIC		D	ESCRIPTION		Well Construction Information
150-			POORLY G	RADED SAND	WITH SILT, fine- to medium	n-orained sand.	
			light brown coarse-grain one-quarter Moderate ye Increasing c	(5YR 6/4), slight	ly damp, ~85% sand, ~15% le gravel with a maximum d r. 10YR 5/4). and content.	6 silt, trace of	NOTES Six PVC soil gas probes were installed in this borehole. The one-inch diameter probes were screened at the following depths 44.5-49.5, 95-100, 145-150, 195-200, 245-250, and 295-300 feet bgs. A description of the we construction is detailed in Table
175 -	SP		Medium-grai	ned sand domir	nant with decreasing gravel	content.	
4			_	ne-grained sand parse-grained sa	l content. and with very little gravel.		
4			_				
200-	SW		pale yellowis gravel with n	h brown (10YR	H GRAVEL, fine- to coarse 6/2), subrounded, dry, fine ter of one-inch, subangular 0% gravel.	to coarse	
	SM		SILTY SANE yellowish bro 5/4), damp, -), well graded, fi own (10YR 6/2) t	ine- to coarse-grained sand to moderate yellowish brow % silt, trace fine gravel.	, pale n (10YR	
1							

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		SECOR RNATIONAL			LOG OF B	ORING D	
Ariz	ona Departme Broadway-P	nt of Environmental antano WQARF Site	Quality	Start Date Finish Date	: June 6, 2004 : June 7, 2004	Well Casing Slot Size	(Page 4 of 5) Diameter : 1-inch PVC
	7525 East B Tucs	Broadway Boulevard son, Arizona		Drilling Company Drilling Method SECOR Rep on-site	: Yellow Jacket Drilling : Air Rotary Casing Hammer : Debbie Kenyon	ADWR No.	: 0.020-inch : 55-203809
Dept in Feet	nscs	GRAPHIC		DE	SCRIPTION		Well Construction Information
	SM	F	Fine- to co gravel with	oarse-grained sand, h a maximum diame	grayish orange pink (5YR ter of one-half inch.	7/2), fine	NOTES Six PVC soil gas probes were installed in this borehole. The
	SW/SM				SILT AND GRAVEL, fine- brange (10YR 7/4), fine gra inch, ~70% sand, ~15% g		one-inch diameter probes were screened at the following depths: 44.5-49.5, 95-100, 145-150, 195-200, 245-250, and 295-300 feet bgs. A description of the well construction is detailed in Table 1.
250	SM	S. (5	ILTY SAN 5YR 6/4), ith maxim	ND, well graded, fine slightly damp, ~65% num diameter of one-	- to coarse-grained sand, sand, ~35% silt, trace fin quarter inch.	light brown e gravel	
-	GP	of	one-inch, oderate b	CORISE-Grained con	/ITH SAND, fine to coarse rray, green, pink, maximur d, ~75% gravel, ~25% sar , mostly fine gravel with a	n diameter	
- - ?75 -	SM				e- to medium-grained, mo ∼60% sand, ~40% silt, tra of one-quarter inch.	derate ce fine	
				oarse grained sand a			
	SW/SM	dry.	fine grame		T AND GRAVEL, fine- to age pink (5YR 7/2), subrou iameter of one-quarter inc	inded, h, ~70%	
4	GP/SP	POC layer suba	DRLY GR	ADED GRAVEL ANI rel and sand, gravel i	O SAND WITH SILT, interi s subangular to angular, s	mittent and	
	SP/SM		ie foot sai		o to three feet gravel with	one half	

12-16-2004 C:MTECH5\BP-DP7.BOR





Drilling Co: <u>THF Drilling Company (Ja</u> Location: <u>Broadway North Landfill,</u> <u>5th Street, Tucson AZ</u>			•		Sa	mpler	: <u>Air Rotary Casing Hammer</u> Date Started: <u>1/21/00</u> : <u>Grab</u> Date Completed: <u>1/24/00</u> : Land Surface Elev. Logged by: <u>M. Geddis</u>
Land Surf. Elev: 2579.0							2579 Reviewed by: S.Smith
	Ĕ	ery	Ê		Ŀ.		ESTIMATED % OF
Depth - FT	Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT.	Graphic Log	
			(G			Silty sand; brown (7,5YA, 5/3), medium SM 10 75 15 sand.(continued)
65				G	65		Silty sand; light brown (7.5YR, 6/4), fine sand. SM 10 70 20
70 / /) bentonite (54-87.5' bis)			-		70_ 		Silty sand; light brown (7.5YR, 6/4), fine sand. SM 10 70 20
75 6-inch sch-80 flush threaded blank PVC casing					- 75_ - -		Poorly-graded sand w/ silt and gravel; light brown SP- 20 70 10 (7.5YR, 6/4), coarse sand. SM
80			-	3	80_ 		Well-graded sand; white (7.5YR, 8/1), medium SW 5 90 5 sand.
85Hydrated bentonite					85_ 		Poorly-graded sand w/ gravel; white (7.5YR, 8/1), SP 15 80 5 medium to coarse sand.
90 (87.5-89.5' bls) 90 (87.5-89.5' bls) #60 sand (89.5-90' bls) #6-8 sand (90-105'					90 _ - -	///	Poorly-graded sand w/ gravel; white (7.5YR, 8/1), SP 15 80 5 medium to coarse sand.
951/2-inch 0.02 slot) (95		Poorly-graded sand w/ gravel; white (7.5YR, 8/1), SP 15 80 5 medium to coarse sand.
00 bls)			-		100_ - - -		Poorly-graded sand w/ gravel; white (7.5YR, 8/1), SP 10 80 10 medium to coarse sand.
05 - Hydrated bentonite (105-107' bls)					105 _ - - -		Poorly-graded sand w/ silt & gravel; brown (7.5YA, SP- 20 70 10 5/4), medium sand, trace cobbles.
10 Cement grout w/ 5% bentonite (107-136.5' bls)					110 _ - - - -		Poorly-graded sand w/ silt & gravel; light brown (7.5YR, 6/4), medium to coarse sand. SM
					115 _ - - -		Poorly-graded sand w/ silt & gravel; brown (7.5YR, SP- 5/4), coarse sand.
		 Li	thol	ogi	120 ic Lo		nd Well Construction Details of R-68A (SVI-1) Idway North Landfill Well Installation
GEO CHEM, INC.		Appro J.Ta		Ţ	Da	te	Revised Date Reference: FIG. 1b

Project: <u>COT, Broadway No</u>							
Drilling Co: <u>THF Drilling Company (</u> Location: <u>Broadway North Landfi</u>				Un			Grab Date Completed: 1/24/00
5th Street, Tucson AZ)esc		•	Land Surface Elev. Logged by: M. Geddis
Land Surf. Elev: _2579.0				Me	as. Pl	t. Elev:	2579 Reviewed by: S.Smith
	t	εry	2		<u>ب</u>		ESTIMATED % OF
Depth - FT	Blow Count	% Recovery	PiD (ppm)	Samples	Depth - FT.	Graphic Log	
				G	-		Silty sand w/ gravel; strong brown (7.5YR, 5/6), SM 20 40 40 medium sand (continued)
125 Cement grout w/ 5%	5'			G	125		Poorly-graded sand w/ silt & gravel; brown (7.5YR, SP- 5/4), medium to coarse sand. SM
				G	130		Well-graded sand w/ silt; pink (7.5YR, 7/3), medium SW- sand. SM 10 80 10
135 Hydrated bentonite (136.5-136.7' bis)				G	135	لمستعن	Water injected to free-up bit - sample lost
140(138.7-139.1'bls)					140_		Well-graded sand w/ silt; pink (7.5YR, 7/3), medium SW- 5 85 10 SM
145 (139.1-151' bls) 145 (139.1-151' bls) 145 (139.1-151' bls)					145_ 145_		Well-graded sand w/ silt; brown (7.5YR, 5/4), SW- 10 80 10 SM SM 10 80 10
150(144-149' bis)					150_ 		Well-graded sand; light brown (7.5YR, 6/4). SW 0 95 5
					 155 		Silty sand; light brown (7.5YR, 6/4), medium to fine SM 5 80 15 sand.
					- 160 -		Silty sand; brown (7.5YR, 5/4), medium to fine SM 5 80 15 sand,
165					- 165 -		Poorly-graded sand w/ slit; light brown (7.5YR, 6/4), SP- 5 85 10 medium sand. SM 5
170 , , , , , , , , , , , , , , , , , , ,					170 _ - -		Silty sand; light brown (7.5YR, 6/4), medium sand. SM 5 80 15
					- 175_ 		Poorly-graded sand w/ sit; light brown (7.5YR, 6/4), SP- 10 80 10 medium sand. SM
				Ч	-		
HYDRO GEO		LL	itho	log	jic L		nd Well Construction Details of R-68A (SVI-1) adway North Landfill Well Installation
CHEM, INC.			roved anci		D	ate	Revised Date Reference: FIG.

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_	Broadway North Landfill,			ı.		Sa	mpler:	Air Rotary Casing Hammer Date Started Grab Date Completed Land Surface Elev. Logged by:	:	1/	21/0 24/0 Gedi	0
- Land Surf. Elev:	5th Street, Tucson AZ 2579.0			Ĺ				<u>2579</u> Reviewed by:	_		Smit	
		Τ								FOT	IMA'	nat
Depth - FT.	COMPLETION	Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT.	Graphic Log	DESCRIPTION	USCS Symbol	•	6 OF	
					G				sw			
	Hydrated bentonite				G	185 _ 		Well-graded sand; pinkish gray (7.5YR, 6/2), medium sand.	sw	tr	95	5
190	#60 sand (189-190' bis)				G	190_	//	Well-graded sand; pinklsh gray (7.5YR, 6/2), medium sand.	sw	tr	95	5
195	1/2-inch 0.02 slot				G	195		Well-graded grave! w/ sand; brown (7.5YR, 5/3).	GW	50	45	5
200	<pre></pre>				G	200		Well-graded sand; light brown (7.5YR, 6/3).	sw	tr	95	5
	bls)				G	205		Well-graded sand w/ gravel; light brown (7.5YR, 6/3).	sw	25	70	5
					G	210_ - - -	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Well-graded sand w/ gravel; light brown (7.5YR, 6/3).	sw	5	90	5
	Cement grout w/ 5% bentonite (203-230' bls)				G	215 		Well-graded sand w/ gravel; light brown (7.5YR, 6/3),	sw	5	90	5
220					G	220_ - - -		Well-graded gravel; problems lifting cuttings out of hole - begin injecting water and foam down to 235'.	эw	90	5	5
					G	225		NO RETURN - Can't drive conductor casing any deeper - remainder of borehole drilled open				
230	Hydrated bentonite (230-231' bls) #6-8 sand (231-233' bls)				G	230 _		Well-graded sand; brown (7.5YR, 5/4).	sw	10	85	5
35	1/4 to 3/4-inch washed gravel (233-369' bls)				G	235		Well-graded sand; light brown (7.5YR, 6/3). 5	sw	5	90	5
H A	러 YDRO		Ĺ	itho	log	240 I ic L	-	nd Well Construction Details of R- dway North Landfill Well Installation	68/	4 (S	 SVI	 -1)

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Drilling Co: <u>THF Drilling Company (Ja</u> Location: <u>Broadway North Landfill,</u> <u>5th Street, Tucson AZ</u>			•		Sa	mpler:	Air Rotary Casing Hammer Date Star Grab Date Comple Land Surface Elev. Logged	ted: _	<u>1</u> М.	(21/0 (24/0 Ged	dis_
Land Surf. Elev: <u>2579.0</u>			,	Me	eas. P	t. Elev:	_2579 Reviewed	by:	<u></u>	Smi	<u>th</u>
WELL COMPLETION										TIMA	
Depth - FT.	Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT.	Graphic Log	DESCRIPTION	USCS Symbol	GR	% OI	H Moisture
				G	-		Well-graded sand; light brown (7.5YR, 6/4), abundant mica <i>(continued)</i>	SW	tr	100	tr
245				G	245_ - -		Well-graded sand; light brown (7.5YR, 6/4).	sw	5	90	5
				G	250		Well-graded sand; light brown (7.5YR, 6/3).	sw	tr	100	tr
255					255	مستعمر	Well-graded sand; light brown (7.5YR, 6/4), medium to fine sand.	sw	tr	100	tr
260					260		Well-graded sand; light brown (7.5YR, 6/4), medium to fine sand.	sw	tr	100	tr
265 6-inch sch-80				510	265		Wall-graded sand w/ gravel; light brown (7.5YR, 6/3).	sw	15	80	5
270 (240-368' bls)				G	- 270_		Well-graded sand; light brown (7.5YR, 6/4).	sw	tr	100	tr
275				G	 275		Well-graded gravel w/ sand; coarse angular grave	ī. gw	70	30	tr
				G	280_						
				G	285		Well-graded sand w/ gravel; brown (7.5YR, 5/4).	SW	50	50	Υ Υ
				G			Well-graded gravel w/ sand; pinkish gray (7.5YR, 6/2).	GW	60	40	tr
				G	290 _ - -		Well-graded gravel w/ sand; plnkish gray (7.5YR, 6/2), very angual gravel.	GW	60	40	tr
295				L G	295	\$ 0°]	Well-graded sand; white (7.5YR, 8/1).	sw	40	60	tr
			itho		300 jic L		nd Well Construction Details of adway North Landfill Well Installation	R-68	A (SV	-1)
GEO CHEM, INC.			oved					FIG.			

	adway North Landfill, Street, Tucson AZ	74	51 E.)esc			Grab Date Complete Land Surface Elev. Logged b			24/0 Ged	
	79.0							: <u>2579</u> Reviewed t	у: 	<u>S.</u>	Smi	th
WELL COM	MPLETION	ŧ	λ	~		Ŀ.					ГІМА % О	
Depth - FT		Blaw Count	% Recovery	PID (ppm)	Samples	Depth - F	Graphic Log		USCS Symbol	GR	SA	FI
					G	-		Well-graded gravel w/ sand; brown (7.5YR, 4/3).(continued)	GW	60	40	tr
305					G	305 _ 		Well-graded gravel w/ sand; brown (7.5YA, 4/3).	GW	60	40	tr
310					G	310_ - -		Well-graded sand w/ gravel; light brown (7.5YR, 6/3).	sw	50	50	tr
315_ [] - [_ 1/4 to 3/4-inch washed gravel					315		Well-graded gravel w/ sand; light brown (7.5YR, 6/3).	GW	60	40	tr
	(233-369' bis)				2	320 _ -		Well-graded sand w/ gravel; light brown (7.5YR, 6/3).	sw	30	70	tr
925						325		Well-graded sand w/ gravel; light brown (7.5YR, 6/3).	sw	30	70	ъ
330						330 _ 		Well-graded gravel w/ sand; light brown (7.5YR, 6/3)	GW	60	40	tr
335						335		Well-graded gravel w/ sand; light brown (7.5YR, 6/3)	GW	70	30	4
340]	- 10 3/4-Inch Borehole (302-370' bís)					340.		Well-graded sand w/ gravel; light brown (7.5YR, 6/3).	sw	50	50	tr
345				(G	- 345 -	روم	Well-graded gravel w/ sand; pinkish gray (7.5YR,	GW	80	20	tr
350					G	350		7/2), angular gravel. Well-graded sand w/ gravel; pinkish gray (7.5YR,	sw	50	50	tr
J55					G	355_	, К	7/2). Well-graded gravel w/ sand; pinkish gray (7.5YR,	GW			tr
				(G			Weil-graded gravel w/ sano; pinkish gray (7.5 YH, 7/2), angular gravel.	GW	00	-	
HYE		1	Li	tho	log	ic L	-	nd Well Construction Details of F adway North Landfill Well Installation	}-68	Α (sv	l-1)

	Landfill Well Installation Boring: <u>R-68A (S</u>	
		Started: 1/21/00
Location: Broadway North Landfi		
<u>5th Street, Tucson AZ</u>		ged by: <u>M. Geddis</u>
Land Surf. Elev: 2579.0	Meas. Pt. Elev: <u>2579</u> Revie	wed by: <u>S.Smith</u>
		ESTIMATED % OF
Depth -	Noitdiadad Noitdiadad	Moisture Moisture
	G	YA, SW 40 60 tr
365	365. Well-graded gravel w/ sand; pinkish gray (7.5 2007/2), coarse gravel.	YR, GW 80 20 tr
370 370 end-cap	370 - 370 - TD of househole @ 270' bla	
	TD of borehole @ 370' bls.	
417/00		
00/14/12/00-14/12/00-14/12/00-14/12/00-14/12/00-14/12/00-14/12/00-14/12/00-14/12/00-14/12/00-14/12/00-14/12/00		
<u>۲</u>		
HYDRO GEO	Lithologic Log and Well Construction Details Broadway North Landfill Well Installat	
HYDRO GEO CHEM, INC.	Approved Date Revised Date Reference; J.Tang	FIG.

Drilling C		Jaso	n Pro	offer)		ling M	lethod	Air Rotary Casing Hammer Date Starter	d: _	2	<u>1</u> /15/	00	_7
Locatio	n: Broadway North Landfil Sth Street, Tucson AZ	1, 74	51 E)esc		•	Grab Date Completer Land Surface Elev. Logged by	_		/18/ //cG		 R
Land Surf. Ele								2572 Reviewed by	-		McG		
1	VELL COMPLETION	E	۲€	÷		н. Н				ES	TIMA % O		ď
		Blow Count	% Recovery	РІО (ррт)	Samples	Depth - FT.	Graphic Log		USCS Symbol				
	12-inch Borehole (0-307' bls)				GG	5	N	(7.5YB, 6/4), topsoil/fill, strong acid reaction.	SW- SM SW- SM		70 70		
	6-inch low carbon steel well casing (3'asl-29.67' bls)				GC	. 1 1 1	$\sim \sim$	acid reaction, PASTE pH-8.5. Refuse, black (7.5YR, 2.5/1), not composted, predominantly wood, rubber, glass, newspaper and metal, strong acid reaction, PASTE pH-7.5./					
10	1/2-inch sch-40 flust threaded blank PVC casing				Ğ	10_ _ _ _	≈ ≈ ~ ~ ≈ ≈	Refuse, brown, not composted, predominantly					
15					G	15_ 	* *	Refuse; predominantly paper, wood and glass. strong acid reaction, PASTE pH=6.9. Refuse; dark gray (7.5YR, 4/1), predominantly glass, paper and plastic, strong acid reaction,				-	
20	Cement grout w/ 5% bentonite (0-35' bis)			-	G	20 _ - - -	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	PASTE pH=7.8. Refuse; dark gray (7.5YR, 4/1), predominantly glass, paper and plastic, strong acid reaction,					
25					G	25 - - -	7	glass, paper and plastic, strong acid reaction, PASTE pH=7.3, Refuse; dark gray (7.5YR, 4/1), predominantly glass, paper and plastic, strong acid reaction,	SM		75		
30					G G	30 _ - - -		Silfy sand: brown (7.5YR, 5/2), medium sand, ''''' strong acld reaction, PASTE pH=8.3 (24-26' bls), PASTE pH=8.4 (26-28' bls). Low plasticiy clay w/ sand; brown (7.5YR, 4/2), ''	CL CL		25 30		
35	Hydrated bentonite (35-37.75' bls)				G	35	·	medium sand, strong acid reaction, PASTE pH~B.3,	SP- SM	15	75	10	
40	#60 sand (37.75-39' bls) #6-16 sand (39-50'			(3	40 _ - -			SP- SM	20	70	10	
45	bls)				27	45		Poorly-graded sand; light brown (7.5YR, 6/4), medium sand.	SP	5	90	5	
50	sch-40 PVC (44-49' bls) 6-inch sch-80 flush			(27	50		Poorly-graded sand w/ gravel; light brown (7.5YR, 6/4), medium sand.	SP	35	60	5	١
55	threaded blank PVC casing (29.67-256.99 bls) Cement grout w/ 5% bentonite (50-86' bls)					55		Poorly-graded sand w/ gravel; light brown (7.5YR, 6/4), medium sand.	SP	40	55	5	٨
	HYDRO GEO		 Li	thol	ogi			nd Well Construction Details of R- dway North Landfill Well Installation	-69 <i>/</i>	 4 (:	sv	-2))
	CHEM, INC.	1	Appro J T a			Da	te	Revised Date Reference: F	ig.			la	

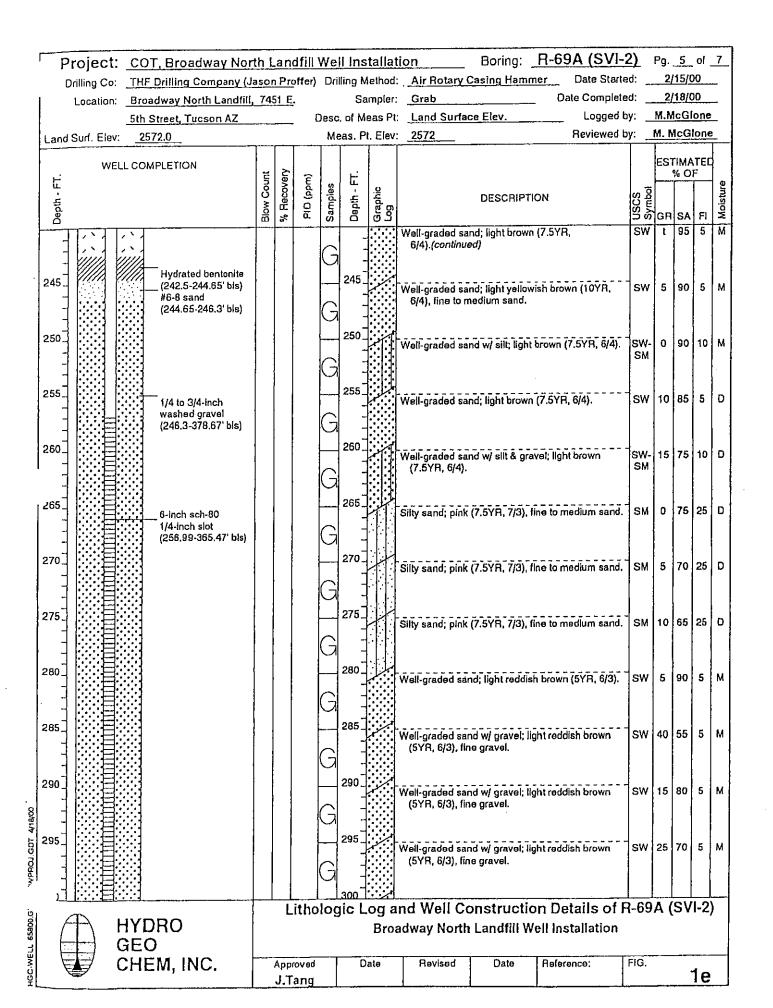
Project: <u>COT, Broadway Nor</u>							
Drilling Co: <u>THF Drilling Company (Ja</u>				Dri			Air Rotary Casing Hammer Date Started: 2/15/00 Grab Date Completed: 2/18/00
Location: <u>Broadway North Landfill,</u> 5th Street, Tucson AZ	74	51 E		-		-	Land Surface Elev. Logged by: M.McGione
Land Surf. Elev: 2572.0							2572 Reviewed by: <u>M.McGlone</u>
	<u> </u>			T			
WELL COMPLETION	1	5					ESTIMATED % OF
Coption - the state of the stat	Blow Count	% Recovery	P\D (ppm)	Samples	Depth - FT,	Graphic Log	
				G	-		Well-graded sand w/ silt and gravel; light brown (7.5YR, 6/4), fine to medium sand(continued) SW- SM 25 65 10
65 _ / / Cement grout w/ 5%				G	65		Well-graded sand w/ silt and gravel; light brown (7.5YR, 6/4), fine to medium sand. SM
70				G	70		Poorly-graded sand; light brown (7.5YR, 6/4), SP 5 90 5 medium sand.
75 - 6-inch sch-80 flush threaded blank PVC casing				G	75_ - -		Poorly-graded sand; reddish yellow (5YR, 6/6), SP 10 85 5 medium sand,
				G	80_ - - -		Well-graded sand w/ silt; reddish yellow (5YA, 6/6), SW- 10 80 10 fine to coarse sand.
85 Hydrated bentonite (86-88.5' bls)				G	85_ 	المنكنز	Poorly-graded sand w/ gravel; reddish yellow (5YR, SP 20 75 5 6/6), medium sand.
90 90 10 10 10 10 10 10 10 10 10 1				G	90 _ - - -		Silty sand w/ gravel, tight brown (7.5YR, 6/4). SM 25 60 15
95 (10-10-1.3 bis) 95 (10-10-1.3				G	95_ 		Poorly-graded sand w/ silt & gravel; light brown SP- 20 70 10 (7.5YR, 6/4).
00 SCR-40 PVC (95-100				G	100		Silly sand; light brown (7.5YR, 6/4). SM 5 75 20
				G	105 _ 		Well-graded sand w/ silt; light brown (7.5YR, 6/4). SW- 10 80 10 SM
10 + Cement grout w/ 5% bentonite (101.5-135.9' bis)				G	110 	المبلور المبلور	Well-graded sand; light reddish brown (5YR, 6/4). SW 5 90 5 1
				G	115_ 	,	Well-graded sand w/ gravel; light reddish brown SW 30 65 5 (SYR, 6/4).
		L	itho	log	120 ic Li		nd Well Construction Details of R-69A (SVI-2) dway North Landfill Well Installation
CHEM, INC.		Appr J.T:	oved ang		De	ate	Revised Date Reference: FIG. 1b

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	•		T, Broadway Nor Drilling Company (Ja								(SVI-2		-	3		
_	-		adway North Landfill,					-			Complete	d:	2	18/0	0	
		<u>5th</u>	Street, Tucson AZ				Jesc	. of M	eas Pt	Land Surface Elev.	Logged by	y: _	<u>M.N</u>	cGl	one	<u>.</u>
Land Sur	rf. Elev:	_2!	572.0				Ме	eas, P	t. Elev:	<u>2572</u> R	eviewed by	y: _	<u>M. N</u>	lcG	on	<u>e_</u>
 '	WEL	LCO	MPLETION	ţ	ery	(L		Ŀ.						IMA % OI		
Depth - FT.				Blow Count	% Recovery	PiD (ppm)	Samples	Depth - FT.	Graphic Log	DESCRIPTION		USCS Symbol				
							G	-		illy sand; light reddish brown (SYR, 6/4) coarse sand <i>.(continued)</i>	, fine to	SM	5	75	20	
125			Cement grout w/ 5% bentonite (101.5-135.9' bls)				G	125 		Vell-graded sand w/ gravel; light reddish (5YR, 6/4).	brown	sw	35	60	5	'
130 / /							G	130 		/ell-graded sand w/ gravel; light reddish (5YR, 6/4).	brown	sw	15	80	5	
135			Hydrated bentonite (135.9-137.33' bls) #60 sand				G	135	,,	/ell-graded sand w/ gravel; light reddish (5YR, 6/4).	brown	sw	40	55	5	
140_		• • • • • • • • • •	(137.33-139' bls) — #6-16 sand				G	140_ - - -	//	/ell-graded sand; light brown (7.5YR, 6/	4 <u>)</u> .	sw	0	95	5	
145_ _ _		• • • • • • • • • • • •	(139-151.83' bls) — 1/2-inch 0.02 slot sch-40 PVC				G	145_	محبيهم	fell-graded sand w/ gravel; light brown (6/4).	7.5YR,	sw	25	70	5	
150			(145-150' bls)				G	150		fell-graded sand w/ gravel; light brown (; 6/4).	7.5YR,	sw	30	70	t	
155							G	155		ell-graded sand; light brown (7.5YR, 6/4		sw	10	85	5	
160						ļ	G	160 - - -	//	ell-graded sand w/ gravel; light brown (7 6/4).	7.5YR,	sw	25	70	5	
165			- Cement grout w/ 5% bentonite (151.83-186' bis)	i			G	165 _ 	/	ell-graded sand w/ gravel; light brown (7 6/4).	7.5YR,	sw	25	70	5	
			- 6-inch sch-80 flush Ihreaded blank PVC casing				G	170 _ 		ell-graded sand; light brown (7.5YR, 6/4).	sw	5	90	5	
75							G	175 _ 		ell-graded sand; light brown (7.5YR, 6/4	j	sw	t	95	5	1
]_ V「			Li	tho	log	180 ic Lo		d Well Construction Detai		-69,	4 (:	 svi	-2))
	-) G	iΕC	DRO D EM, INC.		Аррго	wed		Da		Way North Landfill Well Instal		1G.				
-		4.16			J.Ta						·· [, الي او		1	С	

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Drill	ling Co:	THF (Broad	way North Landfill,	asor	<u>ı Pr</u>	offer)	Dril	ling M Sa	ethod: mpler:	on Boring: <u>R-69A (SVI-2</u> <u>Air Rotary Casing Hammer</u> Date Starte <u>Grab</u> Date Complete <u>Land Surface Elev.</u> Logged b	d:	2/15/ 2/18/ .McG	00	-
Land Su	urf. Elev		treet, Tucson AZ 2.0	`		. .				2572 Reviewed by		. McC		_
Depth - FT.			PLETION	Blow Count	% Recovery	PID (ppm)	Sampies	Depth - FT.	Graphic Log		USCS Symbol	STIM % C	F Fl	Moisture
185_			Hydrated bentonite (186-188.5' bls)				GGG	- 185_ -		Well-graded sand w/ gravel; light brown (7.5YR, 6/4). <i>(continued)</i> Well-graded sand w/ gravel; light brown (7.5YR, 6/4).	sw a		ļ	м
90			#60 sand (188.5-190' bls)				G	190_ - - 195_		Well-graded sand w/ gravel; light brown (7.5YR, 6/4).	sw s			
200_			1/2-inch 0.02 slot sch-40 PVC (195-200' bls)				G	200		Well-graded sand w/ gravel; light brown (7.5YR, 6/4). Well-graded sand; light brown (7.5YR, 6/4).	sw 2	0 95		м
205_			#6-8 sand (190-204.5' bls)				G G	205_	,	Well-graded sand; light brown (7.5YA, 6/4).	sw	tr 95	5	м
210							G	210		Well-graded sand w/ silt; light brown (7.5YR, 6/4).	SW- SM	0 90	10	D
215			Cement grout w/ 5% bentonite (204.5-242.5' bls)				G	215.		Well-graded sand w/ silt; light brown (7.5YR, 6/4).	SM	t 90 t 95	10 5	D
225						1	G	- - - 225 -		Well-graded sand; light brown (7.5YR, 6/4). Well-graded sand; light brown (7.5YR, 6/4).		5 90		M
230 -							G	230_ - -		Well-graded sand w/ gravel; light brown (7.5YR, 6/4).	sw 2	0 7 5	5	м
235							G	235 _ - -		Well-graded sand w/ gravel; light brown (7.5YR, 6/4).	sw	0 75	5	м
		<u> </u>			L.	.itho		<u>240</u>] Jic L		nd Well Construction Details of F dway North Landfill Well Installation	-69A	. (S\	⊥. /I-2)
			M, INC.			roved ang		D	ate	Revised Date Reference:	FIG.		1d	 (



	COT, Broadway Nor								
-					Dril			Air Rotary Casing Hammer Date Started: 2/15/ Grab Date Completed: 2/18/	
Location:	Broadway North Landfill		<u>51 E</u>				•		
	5th Street, Tucson AZ			L					
Land Surf. Elev:	2572.0	· ·	1I			as. P	t. Elev:	Reviewed by: M. McG	
WE	L COMPLETION							ESTIM	
Ľ.		Blow Count	Recovery	PID (ppm)	Ś	Jepth - FT.	0	<u>% 0</u>	
÷ Ę		Ŭ ≩	lec	9	Samples	£	Graphic Log		
Depth		8	%	ā	Sal	ð	ت ق		
	:::					-		Well-graded sand w/ gravel; light reddish brown SW 25 70 (5YR, 6/3), fine gravel(continued)	5
					IG	-			
305						305	:::;		
						-	1	Silty sand; pinkish gray (7.5YR, 7/2). SM 10 65	25
- h∶⊟					G				
J10] [–	310			i
""] :目							601	Well-graded gravel w/ silt & sand; predominantly GW- 65 25 coarse sand and fine gravel. WATER INJECTED GM	10
					G	_	မြေျ	FROM THIS DEPTH DOWN	
						315_	603		
						313_	601	Well-graded gravel w/ silt; pinkish gray (7.5YR, 7/2) GW 75 20	5
	1/4 to 3/4-inch washed gravel				G	-	60	medium sand, fine gravel.	
_111:1日	(246.3-378.67' bls)					320	603		1
³²⁰						320_	\mathcal{A}	Silly gravel w/ sand; pinkish gray (7.5YR, 7/2), fine GM 60 20	20
-11:3					G	-	rt D	gravel.	l
					\square		145		
125	10 3/4-inch Borehole					325_	M	Silty gravel w/ sand; pinkish gray (7.5YR, 7/2), fine GM 60 25	15
111:13	(307-378.67 bis)					-	/[])	gravel.	
					\square		145		
330- : 目						330_	R	Well-graded gravel w/ sand; pinkish gray (7.5YR, GW 65 30	5
111:1目						-	Pool	7/2), fine gravel.	
					\square				
35- :::目						335_	66	Well-graded gravel w/ sand; pinkish gray (7.5YR, GW 65 30	5
						-	00	7/2), fine gravel.	
					М				
¹⁴⁰ =					\square	340	R	Well-graded gravet w/ silt & sand; pinkish gray GW- 50 40	10
						-	PJq	(7.5YR, 7/2), fine gravel. GM	
					\smile		1		
45 :目						345_	K)	Well-graded grave) w/ sand; pinkish gray (7.5YA, GW 70 25	5
					\cap		201	7/2).	
					\lor	-	00 00		
50] ::目						350_	X	Well-graded gravel w/ sand; pinkish gray (7.5YR, GW 80 15	5
1112					\cap	· ~	20	7/2).	
					\cup		5 D D D		
155						355_	224	Well-graded gravel w/ sand; pinkish gray (7.5YR, GW 80 15	5
					\frown	-	201	7/2).	
					S	-	°ŏď		
ĭo] ∴∃				<u> </u>		360	SUN		
		1	L	itho	log	JIC L		nd Well Construction Details of R-69A (SV	I-2)
	HYDRO	1					Broa	adway North Landfill Well Installation	
	GEO			<u>_</u>	r			Revised Date Reference: FIG.	
	CHEM, INC.	1	Аррі	bevor		υ	ate	Revised Date Reference: FIG.	1f

Project:	COT, Broadway Nort	th La	and	fill V	Vel	l Insta	illat	ion	Boring:	R-69A (SVI-2	2)	Pg.	7	of _	7
Drilling Co:	THF Drilling Company (Ja	ison	<u>Prof</u>	ler)	Dril	ling Me	lhod:	Air Rotary C	asing Hamm	er Date Starte	d:		15/0		-
Location:	Broadway North Landfill,	7451	Ε.					Grab		Date Complete			18/0		-
	5th Street, Tucson AZ			Đ	esc.	. of Mea	s Pt:	Land Surfac	e Elev.	Logged b		<u>M.M</u>			_
Land Surf. Elev:	2572.0				Me	as. Pt.	Elev:	2572		Reviewed b	<u>y: _</u>	<u>M. M</u>	cGlo	one	
Deptr - H - T - T - T - T - T - T - T - T - T - T	_ COMPLETION	Blow Count	% Recovery	PiD (ppm)	Samples	Depth - FT.	Log		DESCRIPTIO	ол	USCS Symbol	GR		FI	Moisture
365					G	365	20°0	Well-graded gra (7.5YR, 7/2)(c Well-graded gra	continued)		GW- GM GW-				w
- - - 370	end-cap			(G	370 - 0		(7.5YA, 7/2). Well-graded gra	vel w/ sand; pi	nkish gray (7.5YA,	GM GW				w
375_				(G	375_0		7/2), fine to co Silty gravel w/ sa	earse gravel.		GM	55	30	15	w
					G			TD of borehole (@ 378.67' bls.	· 					
															i
															-
					-										
4/18/00															
00/11/7 T00 T0H															
	HYDRO GEO		Li	hol	log		_			n Details of F ell Installation	1-69	A (svi	-2)	,
	CHEM, INC.		ppro J.Ta			Dat	9	Revised	Date	Reference:	FIG.		1	g	

	OT, Broadway No. HF Drilling Company (C												. <u>1</u> 4/5/0		_7
ſ	roadway North Landfill							Grab		Date Complet	ed: _		1/19/		
	. 5th Street, Tucson AZ			. 0				: Land Surfa	nce Elev.	Logged	by: _	J,	Malı	lsa	
Land Surf. Elev:	2572.0	T		r	Me	eas. Pt	: Elev:			Reviewed	by: _	<u></u>			_
	OMPLETION ——12-inch Steel Surface Casing w/ Locking Cap	Blow Count	Recovery	PID (ppm)	Samples	Depth - FT.	Graphic Log		DESCRIP	TION	USCS Symbol		тім/ <u>% С</u>	F	
	Cement grout w/ 5% bentonite (0-9.5' bls)	ā	%	<u>a</u> .	G		ອ ''	Poorly-graded		nd gravel; very dark dominantly medium	ວັ ຫຼັ SP- SM	20	7 SA 70		
	Hydrated bentonite				G	5_ - - - - 10_		Refuse, very di predominant	ark brown (7. ly wood, pape	5YR, 2.5/2), ar and glass.					
15	#60 sand (10'-10.5' bls) #8-12 sand (10.5'-18' bls)				G	-		plastic and gl	ass.	predominantly paper,					1
20	1/2-inch 0.02 slot sch-40 PVC (12.5'-17.5' bis)				G	20			y 10% refuse	(plastic), fine sand.	SP		95		
25					G	- - - 25_			y 10% refuse	7.5YR, 5/2), (plastic), fine sand. 3, 5/2), fine sand w/	SP		95 85		
30 - / ` / / ` /	9.6-inch borehole				G	30		trace refuse a	nd clay.	, 5/2), line sand w/	SM		85		
35	(0-305' bis)				G	35		trace refuse a Well-graded san	nd clay.	SYR, 5/4), fine to		10		5	N
40				(G	40			d; brown (7.5	YR, 5/4), fine to	sw	10	85	5	٨
45	Cement grout w/ 5% (bentonite (18'-240.5'			(G	45		coarse sand, Well-graded san	d; light brown	(7.5YR, 6/4).	sw	10	85	5	ħ
	bls)				3	50		Well-graded san 6/4).	d w/ gravel; li	ght brown (7.5YR,	sw	15	80	5	N
55						55	Ż	Well-graded sand	d; light brown	(7.5YR, 8/4).	sw	0	95	5	N
нүі нүі	DRO		Litł	holo	ק gic					n Details of R-	69A	 r (\$	SVI	 2r)
GE CH	EM, INC.	A	ppro	ved		Dat	Ð	Revised	Date	Reference:	IG.		1	а	

				DT, Broadway Nor									R-69Ar (SVI	•	Pg.	2	ol	_7_
		ling C ocatio		F Drilling Company (C padway North Landfill				spril			: <u>Air Rotary</u> Grab	Casing Ham	mer Date Star	_		4/5/0 /19/0		_
		000110		5th Street, Tucson AZ		<u></u>)esc.		-	Land Surfa	ace Elev.	Logged	_		Malu		<u></u>
	Land St	urf. El		572.0							2572		Reviewed					_
	Depth - FT,	v	VELL CO	MPLETION	Blow Count	Recovery	P(D (ppm)	Samples	Depth - FT.	Graphic Log		DESCRIPT	ION	SCS Tho		TIMA % O	F 1	
-			<u> </u>		ā	%	<u>с</u> ,	S	å	63			- (7.5)(0					≚ M
	65							G G	65 - 	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			n (7.5YR, 6/4). n (7.5YR, 6/4).	sw		95	5	M
	70			 6-inch sch-80 flush threaded blank PVC casing (38.8'-255.7' bls) 				G	70		Well-graded sa			sw sw		95 95	5	м
	80							G	80 - - - -	~	Well-graded sa			sw		95	5	м
1 I I I	85			 Cement grout w/ 5% bentonite (18'-240.5' bls) 				G	85_ 		Well-graded sa 6/4).	nd w/ gravel; li	ght brown (7.5YR,	sw	15	80	5	м
	90- - - 95-							G	90		Wəll-graded sa 6/4).	nd w/ gravel; li	ght brown (7.5YR,	sw	15	80	5	м
1							(G	100	<u>, </u>	Well-graded sa	-		sw sw		90 95	5	M
1	05					ŀ	(G	105				ght brown (7.5YR,	sw	15	80	5	М
								7 1 7				nd w/ gravel; liç	ht brown (7.5YR,	sw	15	80	5	м
EWPROLIGDT 4/26/00								<u>}</u>			Nell-graded sar 6/4).	nd w/ gravel; lig	ht brown (7.5YR,	sw	40	55	5	м
•	20								20		1 117 11 -		<u> </u>				_l	<u>.</u>
/ELL 658(GEC			Lit	nolo	ogic					n Details of Re ell Installation	-69A	r (\$	5VI-	-2r)
HGC-WELL		7	CHE	EM, INC.	ł	\opro	wed	T	Da	0	Revised	Date	Reference:	FIG.		1	b	

				OT, Broadway N									<u>R-69Ar (S</u>	/I-2r)	Pg	3	_ of	_7_
		Drilling Locat		HF Drilling Company roadway North Landi				spri				y Casing Har				4/5/(
	1			. 5th Street, Tucson A		51		lesc	sa . of Me	mpler:		face Flev	Date Comp	leted: ed by:		1/19/		-
	Land	Surf. I	_	2572.0					eas. Pt			INCO LICY.	Review		J.	Mal	158	
	Depth - FT.		WELL C	OMPLETION	Blow Count	<u> </u>	PID (ppm)	Samples	Depth - FT.	Graphic Log		DESCRIP				TIM/ % C	F	Moisture
	ă	1.	115	Ţ <u></u>	- Iă	%	ā.	Sa	ő	ບັ້ງ								
	125 - - - 130 -							G G	125 - - - - - - - - - - - - -			-	vn (7.5YR, 6/4). vn (7.5YR, 6/4).	sw sw		85		M
	135			 G-inch sch-80 flush threaded blank PVC casing (38.8'-255.7' bls) 	;			G	135_			-	m (7.5YR, 6/4).			85		м
	140_ 						(G	140				n (7.5YR, 6/4).	sw 		95 90	5 5	M M
	145_			Cement grout w/ 5% bentonite (18'-240.5 bls)			-	GIG	145		Well-graded sa	and; light brow	n (7.5YR, 6/4).	sw	0	95	5	м
	150 _ - - 155 _							G	150_		Silty sand w/ g well-graded	ravel; light bros sand.	wn (7.5YR, 6/4),	sм	15	70	15	м
	- - 160_								160				brown (7.5YR, 6/4)	SM	0	90		
	1 165						(165			-	brown (7.5YR, 6/4)	SW- SM		90		м
	170								170		well-graded s	nd; light brown		sw		1		м
WPROJ.GDT 4/26/00	175								75_			nd; light brown		sw				M
	1 <u></u>	<u>~`/</u> D			<u> </u>	Lith		_1.1 aic	80_111 : Lon	anr	Well Co	nstructio	n Details of F	1		 \$\/}_	 2n	
HGC-WELL 656			GE	DRO O EM, INC.		pprov		7		road			ell Installation	FIG.	. (-	, v ("		
Ϋ́												5410	1.010101108,			1	С	

Project: <u>COT</u> ,									-	R-69Ar (SV	<u>-2r)</u>	Pg	4	of	7
	illing Company (C				Drillir				/ Casing Ham	mer Date Star	ted:		4/5/0		
	ay North Landfill		51				mpler:			_ Date Comple	-		/19/		
	treet, Tucson AZ							Land Surf	ace Elev.	Logged		J.	Malu	isa	
Land Surf. Elev: 2572.1	<u> </u>	1	···-		Mea	s. M	Elev:	2572		Reviewed	by:				_
WELL COMPLI	ETION											ES	TIMA		
Depth - FT		Blow Count	Recovery	PID (ppm)	S	Depth - FT	. <u>0</u>				-	_	% O T	F 	-
spth		N N	Rec	<u>0</u>	Samples	ti di	Graphic Log		DESCRIPT	ION	USCS Svæbol				
	· · · · ·	Ē	8	٩	μ δ	ő	G. G.						SA		
					\neg	-		vvell-graded s	and; light brow	n (7.5YH, 6/4).	SW	0	95	5	ľ
					기	-									
				-	_ 1	85]	مبنير	Well-graded s	and; light brown		- lew	1 50	85	5	
						1		TTOR GIBUOU S	ano, iight biom	n (7.5 m), 0(4).	31	1.0			["
		{			7			I							
	inch sch-80 flush			-	1	90_		Well-graded s	and; light brown	17 5YR 6/4)	- sw	0	95	5	N
	readed blank PVC Ising (38.8'-255.7'			0				June graded e						Ĩ	["
그 그 / / / 비					기										
					- 1	95_[للمستعد	Well-graded sa	and; light brown	(7.5YB. 6/4).	sw	0	95	5	_N
				C	2	-		,		. (-	
					1										
				-	- 2	00_[~	Well-graded sa	and; light brown	(7.5YR, 6/4).	sw	0	95	5	N
				C	긔	-						1			
205					1];									
	ement grout w/ 5% ntonite (18'-240.5'				72	05_[. ;		Well-graded sa	and; light brown	(7.5YR, 6/4).	sw	0	95	5	N
				C	7	Ŀ					1				
210					1.	10									
				[-	 ⁻	"-"		Well-graded sa	and; light brown	(7.5YR, 6/4).]sw	0	95	5	М
				(.	3										
215					21	15							ĺ		
-10101								Well-graded sa	ind; light brown	(7.5YR, 6/4).	์ รพ	0	95	5	М
				- C	J						}				
220	-				22	20									
						÷		Well-graded sa	nd; light brown	(7.5YR, 6/4).	sw	0	95	5	М
			ļ	C	à	-									
225				-	22	5						Í			
						ſ		Well-graded sa (7.5YR, 6/6),	nd w/ silt and g fine to medium	ravel; reddish yellow gravel.	SW-	15	75	10	М
				(-	Ż	-				•					
230 / / / / /					. 23	0	1						~	_	
1/:1/:1	1					ſ		weil-graded sai	nd; light brown	(7.5YH, 6/4).	SW	0	95	5	М
				C	2	- :									
235					23	5	\mathbf{i}	Noll araded	nd sut nits links t	prown (7.5YR, 6/4).			90		
						1		Men-Graded sai	nu w siit, itynt i	10wn (7.51 H, 6/4).	SW-	0	90		М
				P	1	-									
240			1 14		24	<u></u>	124	d Moll Ca	notrustia	Dotoila - 6 D				<u></u>	<u> </u>
	o I		ելլ	10106	μU					n Details of Re all Installation	-09A	1 (3	5 V I•	21)
GEO							nual			ninstanglion					
CHEM.	, INC.	A	\ppro	ved	F	Dat	6	Revised	Date	Reference:	FIG.				
· · · · · · · · · · · · · · · · · · ·													1	d	

Drilling Co: <u>THF Drilling Company (6</u> Location: <u>Broadway North Landfil</u> <u>E. 5th Street, Tucson A2</u>	Caudi 1, 745	le/Vi 51	llega	sDri	lling M Sa	lethod	ation Boring: R-69Ar (SVI-2r) Pg. 5 of d: Air Rotary Casing Hammer Date Started: 4/5/00 r: Grab Date Completed: 4/19/00 t: Land Surface Elev. Logged by: J.Malusa
Land Surf. Elev: _2572.0	<u> </u>	 7		Me	as. Pl	. Elev:	r: <u>2572</u> Reviewed by:
WELL COMPLETION 년 동 중	Blow Count	Recovery	P(D (ppm)	Samples	Depth - FT.	Graphic Log	DESCRIPTION SETIMATED
	Biov	H %	Dig	San	Dep	Gra _l Log	
Hydrated bentonite (240.5'-243.5' bls)				G	1 1 1		Silty sand w/ gravel; light brown (7.5YR, 6/4), SM 40 45 15 well-graded sand, fine gravel.
245 #8-12 sand (243.5'-246' bls)				G	245_	میلینی م	Well-graded sand; light brown (7.5YR, 6/4). SW 0 95 5
250 1/4 to 3/4-inch washed gravel (246'-375' bls)				G	250	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Well-graded sand; light brown (7.5YR, 6/4). SW 0 95 5
					255_	مر مربع	Well-graded sand; light brown (7.5YR, 6/4). SW 0 95 5
260					260	~	Well-graded sand; light brown (7.5YR, 6/4). SW 0 95 5
265					265		Well-graded sand w/ sill; pink (7.5YR, 7/3). SW- 0 90 10 SM
270 - 6-inch sch-80 1/4-inch slot (255.7'-363.4' bis)		-			270		Poorly-graded sand w/ silt; light brown (7.5YR, 6/4), SP- 0 90 10 fine sand.
			}		275		Poorly-graded sand w/ silt; light brown (7.5YR, 6/4), SP- 0 90 10 fine sand.
					280		Poorly-graded sand w/ sill; light brown (7.5YR, 6/4), SP- 0 90 10 M fine sand. SM
285					285_		Well-graded sand w/ sill; light brown (7.5YR, 6/4). SW- 0 90 10 M
290					290		Poorly-graded sand w/ silt; light brown (7.5YR, 6/4). SP-09010 N
295							Sifty sand; light brown (7.5YR, 6/4), predominantly SM 0 85 15 N
							d Well Construction Details of R-69Ar (SVI-2r)
		<u>-</u> !!		, ບິງເຕ			dway North Landfill Well Installation
CHEM, INC.	A	ppro	ved		Dai	le	Revised Date Reference: FIG. 1e

Drilling Co:		Caudle	<u>/Vi</u> lle		illing N	lethod	d: Air Rotary Casing Hammer Date Started: 4/5/00
Location:	Broadway North Landfill E. 5th Street, Tucson AZ			Dece	Sa Sa Sa	impler	
Land Surf. Elev:			<u> </u>		eas. Pl		
		TT			T		
wei E	L COMPLETION	E		-	<u>_</u>		ESTIMATED % OF
		Blow Count	% Recovery	Samples	Depth - FT.	hic Lic	
Depth		No C		i ling	Cepti	Graphic Log	
						11	Silty sand; light brown (7.5YR, 6/3), predominantly SM 0 85 15
305				G	-		fine sand.
				G	305_	λ	Silty sand; light brown (7.5YR, 6/3), predominantly SM 0 85 15 fine sand.
310_	8.5-inch borehole (305'-375' bls)			G	310 		Well-graded sand w/ silt; reddish yellow (7.5YR, SW 0 90 10 6/6).
315 -				G	315	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Well-graded sand w/ silt; reddish yellow (7.5YR, SW 0 90 10 6/6).
320 -	1/4 to 3/4-inch washed gravet (246'-375' bis)			G	320		Poorly-graded gravel w/ sand; pink (7.5YR, 7/4), GP 55 40 5 predominantly coarse sand w/ fine to medium gravel.
				G	325		Poorly-graded sand w/ gravel; pink (7.5YR, 7/4), SP 15 80 5 predominantly coarse sand w/ fine to medium gravel.
30 -				G	330		Poorly-graded gravel w/ sand; pink (7.5YR, 7/4), GP 75 20 5 predominantly coarse sand w/ fine to medium gravel,
35	6-inch sch-80 1/4-inch slot (255.7'-363.4' bis)			G	335_		Poorly-graded gravel w/ sand; pink (7.5YR, 7/4), predominantly coarse sand w/ fine to medium gravel.
				G	340		Poorly-graded gravel w/ sand; pink (7.5YR, 7/4), GP 75 20 5 y predominantly coarse sand w/ fine to medium gravel.
				G	345		Poorly-graded gravel w/ sand; pinkish gray (7.5YR, GP 75 20 5 V 7/2), predominantly coarse sand w/ fine to medium gravel.
				G	350_ _ _ _		Poorly-graded gravel w/ sand; pinkish gray (7.5YR, GP 75 20 5 V 7/2), predominantly coarse sand w/ fine to medium gravel.
				G	355		Poorly-graded sand; pinkish gray (7.5YR, 7/2), SP 5 90 5 V coarse sand.
-E > E > C	YDRO EO	 Li	itho	logic			d Well Construction Details of R-69Ar (SVI-2r) dway North Landfill Well Installation
	HEM, INC.	Арр	roved		Dat	ө	Revised Date Reference: FIG.
	,						1f

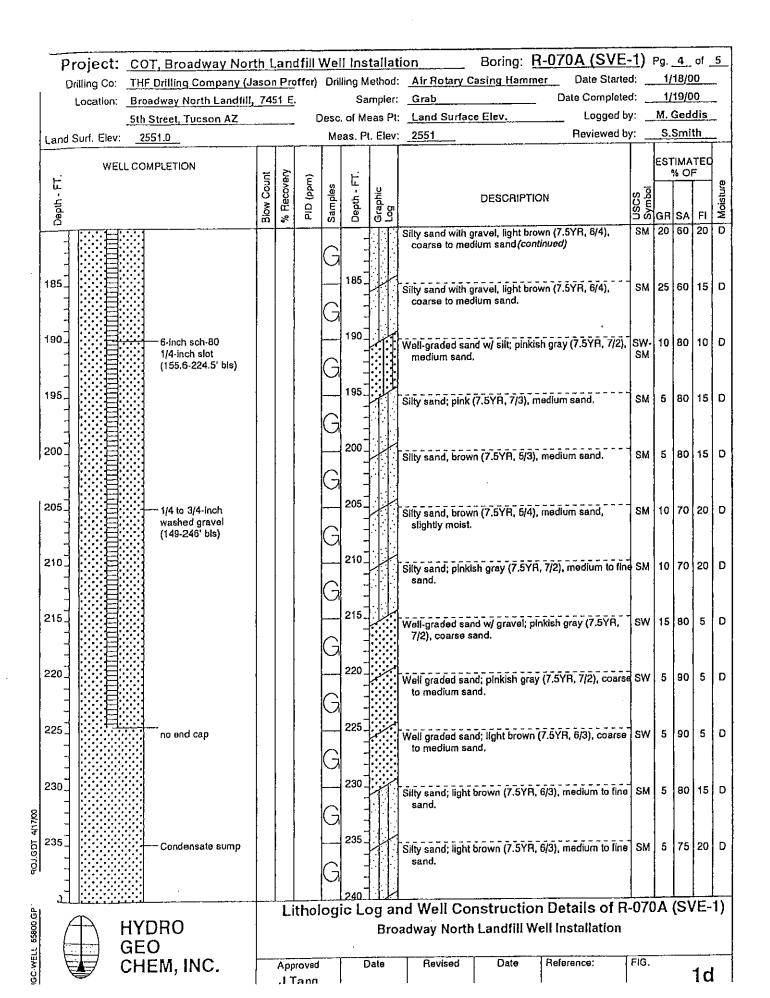
				oadway No									<u>R-69A</u>	· (SVI-:	<u>2r)</u>	Pg.	_7_	of	7
				ig Company (C				sDri				/ Casing Ham		ate Starte			/5/0		_
				North Landfill		51		_		Impler				Complete			/19/0		
	Land	J Surf. Elev:		et, Tucson AZ			C					ace Elev.		Logged b		J,I	Valu	sa	_
			2572.0		<u> </u>			T	as. Pi	i. Elev:	2572			eviewed b	<u>у:</u>	T.			<u>_</u>
	Ŀ.	WELL	COMPLETI	ON	tun	ery	नि		l H								ГІМА % ОІ		ł
	Depth - FT.				Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT.	Graphic Log		DESCRIPT	FION		USCS Symbol	GR	SA	FI	Moisture
								G	-		Poorly-gradec 7/2), coarse	I sand w/ grave sand and fine	l; pinkish gra gravel.	ay (7.5YR,				5	W
	365_		of we	cap (0.5 ft) - TD II = 363.9' bis	' 				365	/	Poorly-graded	sand w/ grave	l; pinkish gra	iy (7.5YR,	SP	40	55	5	w
	370							G	370		//2), coarse	sand and fine	graver.					-	
			•					G	-		Poorly-graded 7/2), coarse	sand w/ gravel sand and fine	l; pinkish gra gravel.	ý (7.5YŔ,	SP	40	55	5	w
	375								375		TD=375' bis								
ł																			
•								ļ						-		i			
							1			1									
										ļ									
															ļ				
4/26/00		5 																	
EWPROJ.GDT 4/26/00																			
ΗM.																			
		- B (2005) - 2003	YDRO EO			Lith	nolo	gio				nstructior Landfill We			9Ar	: (S	VI-	2r)	
HGC-WELL 658	F	·	HEM, II	NC.	þ	ppro'	ved		Dai	le	Revised	Date	Reference:	F	G.	-	1	q	

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	•	COT, Broadway Nor							
	-					Dri			d: Air Rotary Casing Hammer Date Started: 1/18/00
Lo	ocation:	Broadway North Landfill		<u>51 E</u>				-	r: Grab Date Completed: 1/19/00
		5th Street, Tucson AZ			Ļ				It: Land Surface Elev. Logged by: M. Geddis
Land Su	urf. Elev:	2551.0	-1	7 7	r	Me	as. P	t. Elev:	r: 2551 Reviewed by: S.Smith
Ľ.	WEL		t	ery	Ê		ï.		ESTIMATED % OF
Depth - F	 ۲۲	12-inch Steel Surface Casing w/ Locking Cap	Blow Count	% Recovery	(mqq) Ciq	Samples	Depth - FT.	Graphic Log	
5		12-inch Bore hole (0-240' bis)		6		G			Silty Sand; brown (7.5YR, 5/4), no acid reaction. SM 5 80 15
10		6-inch low carbon steel well casing (2.8'asi-37.2' bis)				G	- 	$\sim \sim$	Refuse; dark reddish gray (2.5YR, 3/1) compost,
		threaded blank PVC casing				G	15	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	wood fragments and glass, no acid reaction. Refuse; dark reddish gray (2.5YR, 3/1) compost,
20		Cement grout w/ 5% bentonite (0-37' bls)				G	20 20	<i>** **</i> ** **	STRONG ANAEROBIC ODOR. Refuse; dark reddish gray (2.5YR, 3/1) abundant
25						G	25_ 	Ø	NO ACID REACTION BELOW THIS INTERVAL. SC Silty Sand; brown (7.5YR, 5/4), medium grain sand. SM 5 80 15
30					-	G	30		Well-graded sand w/ Clay; brown (7.5YR, 5/3), SW- 10 80 10 medium grain sand. SC
35		Hydrated bentonite (37-39' bis) Hos sand (39-40' bis)				G	35		Well-graded sand w/ Clay; brown (7.5YR, 5/3), fine SW- 10 80 10 grain sand. SC
45		#6-8 sand (40-53.5'			(G	- - 45		Sility Sand; pink (7.5YR, 7/4), sand is fine grained. SM 5 80 15 Poorly-graded sand w/ silt and gravel; light brown SP- 15 75 10
50		1/2-inch 0.02 slot sch-40 PVC (45-50 bls)				G	50]		(7.5YR, 6/3), sand is mainly fine. Poorly-graded sand w/ silt and gravel; pink (7.5YR, SP- 15 75 10
55		6-inch sch-80 flush threaded blank PVC (37.2-155.6' bls)				G	 55		7/3), sand is mainly fine. Poorly-graded gravel w/ silt; pink (7.5YR, 7/3), fine GP- 60 30 10 gravel. GM
		Cement grout w/ 5% bentonite (53.5-87.5' bls)		Lit	hold		[- c Lo	g an	nd Well Construction Details of R-070A (SVE-1
A						9.		-	adway North Landfill Well Installation
U		HEM, INC.		Appro J.Ta	oved ang		Da	nte	Revised Date Reference: FIG. 1a

Location: <u>Broadway North Landfill,</u> 5th Street, Tucson AZ	745	<u>1 E</u>)esc.		•	Grab Date Completed: 1/19/00 Land Surface Elev. Logged by: M. Geddis
and Surf. Elev: 2551.0							2551 Reviewed by: S.Smith
WELL COMPLETION	Blow Count	% Recovery	PID (ppm)	ples	Depth - FT.	it.	
Depth - FT	Blow	% Ве	ЫD	Samples	Dept	Graphic Log	
				G			Silty sand; pink (7.5YR, 7/4), coarse SM 10 75 15 D sand.(continued)
65				G	65 _ - -		Silty sand; pink (7.5YR, 7/4), coarse sand. SM 10 75 15 D
70 / / / / / bls)				G	70_ - -		Poorly-graded gravel w/ sand; pink (7.5YR, 7/4), GP 60 35 5 D medium sand.
				G	75_		Poorly-graded gravel; light gray (7.5YR, 7/1), fine GP 60 35 5 D gravel.
				G	80		Poorly-graded gravel w/ sand; pink (7.5YR, 7/3), GP 60 35 5 C fine grave).
85				G	85_ 		Poorly graded gravel w/ sand; pink (7.5YR, 7/4), GP 60 35 5 C fine gravel, slightly moist.
90 #60 sand (89.5-90' bis) #6-B sand (90-101'				G	90_ - -		Poorly-graded gravel w/ sand; pink (7.5YR, 7/4), GP 60 35 5 D medium gravel.
95bis) 95 1/2-inch 0.02 slot				G	95_		Silty gravel w/ sand; light brown (7.5YR, 6/4), GM 45 35 20 C medium gravel.
oobls)				G G	100_		Silty gravel w/ sand; light brown (7.5YR, 6/4), fine GM 45 35 20 C gravel.
					105		Silty sand w/ gravel; plnkish gray (7.5YR 7/2), SM 20 60 20 C coarse sand.
10 / / / / / Cement grout w/ 5% / bentonite (101-146'	i n			<u> </u>	110_		Poorly-graded sand w/ silt and gravel; light brown SP- (7.5YR, 6/4), fine gravel. SM
					115_ 		Silty sand w/ gravel; light brown (7.5YR, 6/4), SM 15 70 15 D coarse sand.
A HYDRO		Li	thol	ogi	 120 ic Lo		nd Well Construction Details of R-070A (SVE-1) adway North Landfill Well Installation

	-		T, Broadway Nort Drilling Company (Ja							tion Boring: <u>R-070A (SVE-1) Pg. 3</u> of : <u>Air Rotary Casing Hammer</u> Date Started: <u>1/18/00</u>
l	Location:	Broa	dway North Landfill,	74	51 <u>E</u>			Sa	mpler:	
	-	Sth S	Street, Tucson AZ		. <u> </u>	(Desc	. of M	eas Pt:	: Land Surface Elev. Logged by: M. Geddis
Land S	Surf. Elev:	25.	51.0	,	·,		Me	as. Pl	t. Elev:	: 2551 Reviewed by: <u>S.Smith</u>
Ľ.	WELL	.COM	IPLETION	oruț	very	(ma	5	Ē		
Depth - FT.				Blow Count	% Recovery	(mqq) OIq	Samples	Depth - FT.	Graphic Log	
							G			Silty sand; light brown (7.5YR, 6/3), medium SM 10 75 15 sand.(continued)
125_ - -	1 1 1		- Cement grout w/ 5% bentonite (101-146' bls)				G	125_ _ _ _		Poorly-graded sand w/ silt & gravel; light brown SP- 30 60 10 (7.5YR, 6/4), fine to medium sand. SM
130							l- G	130_		Poorly-graded sand w/ silt & gravel; light brown SP- 20 70 10 (7.5YR, 6/4), medium sand. SM
135							G	135_ ~		Poorly-graded sand w/ silt & gravel; light brown SP-20 70 10 (7.5YR, 6/3), medium sand. SM
140							G	140		Poorty-graded sand w/ silt & gravel; light brown SP- 20 70 10 (7.5YR, 6/3), medium sand. SM
145			Hydrated bentonite - (146-147' bls)				L G	145		Poorly-graded sand w/ silt & gravel; light brown SP- 20 70 10 (7.5YR, 6/3), medium sand. SM
150_ 			#6-8 sand (147-149' bls) 1/4 to 3/4-Inch				G	150		Silty sand; light brown (7.5YA, 6/4), medium sand. SM 10 75 15
155			washed gravel (149-246' bis)				G	165_ 		Poorly-graded sand w/ silt & gravel; brown (7.5YR SP- 5/4), coarse sand.
160							G	160_		Silty sand; plnk (7.5YR, 7/3), medium to fine sand. SM 10 70 20
165							G	165_ - -		Silty sand with gravel, light brown (7.5YR, 6/3), SM 20 60 20 medium sand,
170] 			- 6-inch sch-80 1/4-inch slot (155.6-224.5' bls}) G	170		Silty sand with gravel, light brown (7.5YR, 6/4), SM 20 60 20 coarse to medium sand.
75) G	175		Silty sand with gravel, light brown (7.5YR, 6/4), SM 20 60 20 medium sand.
		<u>네</u> .vr			Li	hol	ogi	180 c Lc		nd Well Construction Details of R-070A (SVE-
	G	EC	DRO D M, INC.		Apor	oved		D	Broa	adway North Landfill Well Installation
E	∌		,			ang				



		COT, Broadway No			-						R-070A (S		_,	Pg.	5	of	5
1		THF Drilling Company (.				Dri				Casing Ham					18/0		-
		Broadway North Landfil	, 74	51 E	-	. .		•	: <u>Grab</u>		Date Com	•			19/0		-
	Surf. Elev:	<u>5th Street, Tucson AZ</u> 2551.0	<u>-</u> .	•	- I				: <u>Land Surf</u>	ace Elev.	Loge Reviev	ged by			<u>Ged</u>		-
Lano.	5011. Elev.		T	Ţ	J	1	as. r		2351			veo oy	/:	<u>3.</u> Г	Smi	<u>.</u>	
	WEL	LCOMPLETION	±=	2		[ima % Oi		
			Doc	eve	mqq	sa)	L C	·5				ļ	'	<u> </u>	_		e e
Depth - FT.			Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT.	Graphic Log		DESCRIPT	ION		USCS Symbol		_		Moisture
	<u></u>	···	<u></u>	8	<u> </u>	N N		03	Silty sand: ligt	ht brown (7.5Yf	R, 6/3), medium to	n fine	NC N2	GR 5	SA 75	FI	
		9 7/8-inch Bore hole				\cap	-		sand.(contin	nued)	ii eleji medisin k					20	
		(240-250' bis)				\square											
245.							245_	11	Silty sand; ligh	ht brown (7.5YF	1, 6/3), medium to	5 fine	SМ	5	75	20	D
						G	_		sand.								
250		Slough				\sim	250										
200				'			200-		Total hole dep	th = 250' bis		·					
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Д	2 11			Lit	holo	gio					۱ Details of		707	4 (S	SVE	E-1)
\square		YDRO						Broa	dway North	i Landfill W	eli Installatio	n					
		EO	<u></u>			r	···- <u>-</u>			m		<u></u> -					
E		HEM, INC.		.ppro I.Ta			Dai	6	Revised	Date	Reference:	FI	G.		1	e	
		•	9			•			•	•		ł			•	~	

MUL WELL BERUDGH VPROJ. GDT 4/17/00

	COT, Broadway Nor THF Drilling Company (Ja							ion Boring: <u>R-071A (SVE</u> <u>Air Rotary Casing Hammer</u> Date Starte	•	2/	10/0	0	5
Location:	Broadway North Landfill,	74	51 E					Grab Date Complete	-		<u>11/0</u>		
	5th Street, Tucson AZ			[Land Surface Elev. Logged b 2572 Reviewed b			<u>/lalu</u> Smi'		—
Land Surf. Elev		Γ	<u>, </u>	<u></u>	IV/E				<u>, </u>				Ī
•		17	چ ا	2		Ē					'IMA % Ol		
	12-inch Steel Surface Casing w/ Locking Cap	Blow Count	% Recovery	(mqq) CIA	Samples	Dapth - F	Graphic Log	DESCRIPTION	USCS Symbol	GR	SA	FI	
		<u> </u>		•	G			Well-graded sand w/ gravel; light brown (7.5YR, 6/4), strong acid reaction, PASTE pH=11.6				5	T
	(0-249' bis)				Ğ	-	æ ≈ ≈ ~	Well-graded sand w/ gravel & REFUSE; strong brown (7.5YR, 5/8), sample is 90% soil and 10%, refuse, the refuse is predominantly glass, paper,	SW SP		80 85		
5	6-inch low carbon steel well casing				9 G	- U		, & plastic, strong acid reaction, PASTE pH=8.5 , Poorly-graded sand; strong brown (7.5YR, 5/6).	sw			5	
	(2'asi-28.8' bis)				Ğ	- 10_	بسمبر اسر	strong acid reaction, PASTE pH=8.4 Well-graded sand w/ gravel; brown (7.5YR, 5/3), medium to fine sand; strong acid reaction,	sw		75		
	1/2-inch sch-40 flush threaded blank PVC casing				G	-		PASTE pH=8.4 Well-graded sand w/ gravel; brown (7.5YR, 5/3). fine gravel, strong acid reaction, PASTE pH=8.4	SW	15	80	5	
						15_		Well-graded sand w/ gravel; brown (7.5YR, 5/3), fine gravel, strong acid reaction, PASTE pH=8.5, Well-graded gravel w/ sand; light brown (7.5YR 6/3), strong acid reaction.	GW	65	30	5	
20	Cement grout w/ 5%				0	20		Poorly-graded sand; plnk (7.5YR, 7/4), fine sand,	SP	5	90	5	
25	bentonite (0-33.5' bis)				G	25		strong acid reaction, PASTE pH=8.7					
					G	-		Well-graded gravel w/ sand; light brown (7.5YR 6/3), strong acid reaction.	GW	70	25	5	
30					— G	30		Well-graded sand w/ gravel; strong brown (7.5YR, 5/6), fine to medium sand; moderate acid reaction.	sw	20	76	5	
35	Hydrated bentonite (33.5-37.4' bls)					35_	,, A	Well-graded sand w/ gravel; light brown (7.5YR, 6/4), medium to fine sand, NO ACID REACTION	sw	40	55	5	
40	#60 sand (37.4-39.5'				5	- 40_		BELOW THIS INTERVAL.	014	40		-	
					G			Well-graded sand w/ gravel; strong brown (7.5YR, 5/6), fine to medium sand, trace clay.	SW	40	55	5	
45_					$\overline{\Box}$	45 _ -	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Well-graded sand; strong brown (7.5YR, 5/8), fine to coarse sand, trace clay.	sw	5	90	5	ŀ
50	sch-40 PVC (45-50' bls)					50_ -		Well-graded sand; reddish yellow (7.5YR, 6/6), line to coarse sand.	sw	тя	95	5	
55	6-inch sch-80 flush threaded blank PVC (28.8-158' bls)				G	55	· · · · ·		out	_		F	
	Cement grout w/ 5%				G			Well-graded sand; light brown (7.5YR, 6/4), fine to coarse sand.	SW	D	90	5	
ц.,Ц А	HYDRO	l	Lit	:hol	ogi	_60_ c Lo	-	d Well Construction Details of R- adway North Landfill Well Installation	071	A ((SV	Έ-	2
	GEO CHEM, INC.		Appr	oved	r	D	ate		FIG.		<u> </u>	<u> </u>	
W	,		J.T	and	I						•	1a	ł

Drilling C	t: <u>COT, Broadway Nort</u> o: <u>THF Drilling Company (Ja</u> n: <u>Broadway North Landfill,</u> <u>5th Street, Tucson AZ</u>	1501	<u>n Pro</u>	offer)	Dril Desc.	ling M Sa . of Mi	lethod: impler: eas Pt:	Air Rotary Casing Hammer Date Started: 2/10/00 Grab Date Completed: 2/11/00 Land Surface Elev. Logged by: J.Maiusa
Land Surf. El	ev: <u>2572.0</u>	r			Me	as. Pl	t. Elev:	2572 Reviewed by: <u>S.Smith</u>
Depth ' FT. A	VELL COMPLETION	Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT	Graphic Log	DESCRIPTION
65				.	G	65_		Well-graded sand; light brown (7.5YR, 6/4), fine to SW 5 90 5 1 coarse sand.(continued) Well-graded sand w/ gravel; light brown (7.5YR, 6/4), fine to coarse sand.
	Cement grout w/ 5%				G G	70		Well-graded sand; light brown (7.5YR, 6/4), fine to SW 5 90 5 coarse sand.
75 / / / /					G	75 - - - - 80 -		Well-graded sand; light brown (7.5YR, 6/4), fine to SW 10 85 5 coarse sand.
85	Hydrated bentonite (85-88' bls)				G	- - 85		Well-graded sand; reddish yellow (7.5YR, 6/6), fine SW 5 90 5 to coarse sand. Well-graded sand; reddish yellow (7.5YR, 6/6), fine SW 10 85 5 Well-graded sand; reddish yellow (7.5YR, 6/6), fine SW 10 85 5
90	#60 sand (88-90' bls) #6-8 sand (90-103'				G G	90	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Well-graded sand w/ gravel; reddish yellow (7.5YR, SW 15 80 5 6/6), fine to coarse sand.
95	bls)				G	95 		Well-graded sand w/ gravel; reddish yellow (7.5YR, SW 25 70 5 6/6), fine to coarse sand.
	U'bls)				G	100		Well-graded sand w/ gravel; reddish yellow (7.5YR, SW 25 70 5 6/6), fine to coarse sand. 5 Well-graded sand w/ gravel; reddish yellow (7.5YR, SW 25 70 5 5 70 5 70 5 70 5 70 5 70 5 70 5
	 Cement grout w/ 5% bentonite (103-149) 				G	110		Well-graded sand w/ gravel; light brown (7.5YR, SW 20 75 5 6/4), fine to coarse sand.
	, , , , , , , , , , , , , , , , , , ,				G G	115_ - 		Well-graded sand w/ gravel; light brown (7.5YR, SW 20 75 5 6/4), fine to coarse sand.
	HYDRO GEO		Lit	thol	ogi	120 c Lc		nd Well Construction Details of R-071A (SVE-4 adway North Landfill Well Installation
-	CHEM, INC.			oved ang		D	ate	Revised Date Reference: FIG. 1b

Location: Broadway North Landfill,	sor	<u>Pro</u>	ffer)	Dril	ling M Sa	ethod: mpler:	ion Boring: R-071A (SVE-4) Pg. 3 of 5 Air Rotary Casing Hammer Date Started: 2/10/00 Grab Date Completed: 2/11/00 Land Surface Elev. Logged by: J.Malusa
<u>5th Street, Tucson AZ</u> and Surf. Elev: <u>2572.0</u>			ι				2572 Reviewed by: <u>S.Smith</u>
	Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT,	Graphic Log	DESCRIPTION
	<u> </u>	6		G			Well-graded sand; reddish yellow (7.5YR, 6/4), fine SW 5 90 5 to coarse sand <i>(continued)</i>
25 / / / / Cement grout w/ 5% / bentonite (103-149' / bls)				G	125_		Well-graded sand; reddish yellow (7.5YR, 6/4), fine SW 5 90 5 to coarse sand.
30_ / ` / / ` / - / ` / ` / ` / - / ` / ` / ` /				G	130		Well-graded sand; reddish yellow (7.5YR, 6/6). SW 5 90 5
				G	135_		Well-graded sand w/ gravel; light brown (7.5YR, SW 35 60 5 6/4), fine to medium gravel.
				G	140_		Well-graded sand; reddish yellow (7.5YR, 6/6), fine SW 5 90 5 to coarse sand.
				G	145_	میکند ارز از	Well-graded sand; reddish yellow (7.5YR, 6/6), fine SW 5 90 5 to coarse sand.
50 Hydrated bentonite (149-151' bis) #6-8 sand (151-152' bis)				G	150_		Well-graded sand; reddish yellow (7.5YR, 6/6), fine SW 5 90 5 to coarse sand.
551/4 to 3/4-inch washed gravel (152-249' bis)				G	155_		Well-graded sand; plnk (7.5YR, 7/4), fine to coarse SW 5 90 5 sand.
				G	160_ 165_		Well-graded sand; pink (7.5YR, 7/4), fine to coarse SW 5 90 5 sand.
				G	165		Well-graded sand; pink (7.5YR, 7/4), fine to coarse SW 5 90 5 sand.
70 - 6-inch sch-80 1/4-inch slot (158-227.5' bis)				G	170_		Well-graded sand w/ gravel; light brown (7.5YR, SW 20 75 5 6/4), fine gravel.
				G			Well-graded gravel w/ sand; light brown (7.5YR, GW 55 40 5 6/4), fine to coarse gravel, broken cobbles.
HYDRO GEO	I	Lit	hol	ogi			d Well Construction Details of R-071A (SVE-4 adway North Landfill Well Installation
CHEM, INC.		Appr J.Ti			D	ate	Revised Date Reference: FIG.

5th Street, Tucson AZ 2572.0						•	Grab Date Completed: 2/11/00
			. 0				: Land Surface Elev, Logged by: J.Malusa
	. –	+	<u> </u>	Me	eas. Pt	. Elev:	: 2572 Reviewed by: S.Smith
L COMPLETION	Count	Recovery	PID (ppm)	les	Depth - FT.	yic	
	Blow	% Re	PID (Samples	Depth	Graphic Log	
				G	- + -		Well-graded sand; light brown (7.5YR, 6/4), fine to SW TR 95 5 coarse sand (continued)
			5	G	185_ -		Well-graded sand w/ gravel; light brown (7.5YR, SW 20 75 5 6/4), fine to coarse sand.
6-inch sch-80 1/4-inch slot (157-227.5' bls)				G	190_ - - -	, <i></i>	Well-graded sand w/ gravel; light brown (7.5YR, SW 25 70 5 6/4), fine to coarse sand.
				G	195_ - - -		Well-graded sand w/ gravel; light brown (7.5YA, SW 25 70 5 6/4), fine to coarse sand.
				G	200		Well-graded sand; light brown (7.5YR, 6/4), fine to SW 5 90 5 coarse sand.
1/4 to 3/4-inch washed gravel (152-249' bls)				G	205		Well-graded sand w/ gravel; reddish yellow (7.5YR SW 15 80 5 6/6), coarse to fine sand.
			ŝ	G	210_	م. مرکز م	Well-graded sand; reddish yellow (7.5YR 6/6), SW 10 85 5 coarse to fine sand.
				G	215_ - - -		Well-graded sand; reddish yellow (7.5YR 6/6), SW 10 85 5 coarse to fine sand.
				G	220	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Well-graded sand; light brown (7.5YR, 6/4), coarse SW 0 95 5 to fine sand.
no end cap				G	225		Poorly-graded gravel w/ sand; pinkish gray (7.5YR, GP 50 45 5 6/2), fine gravel with coarse to fine sand.
				G	230		Well-graded sand; light brown (7.5YR, 6/3), coarse SW 0 95 5 to fine sand.
Condensate sump					235	~~~	Well-graded sand; light brown (7.5YR, 6/3), coarse SW 10 85 5 to fine sand.
					240		
		Li	thol	ogi	c Lo		nd Well Construction Details of R-071A (SVE adway North Landfill Well Installation
(1/4-inch slot (157-227.5' bis)	6-inch sch-80 1/4-inch slot (157-227.5' bis) 1/4 to 3/4-inch washed gravel (152-249' bis) no end cap Condensate sump	no end cap	- 6-inch sch-80 1/4-inch slot (157-227.5' bis) - 1/4 to 3/4-inch washed gravel (152-249' bis) - no end cap - Condensate sump - Condensate sump Lithol	6-inch sch-80 1/4-inch slot (157-227.5' bis) 1/4 to 3/4-inch washed gravel (152-249' bis) no end cap Condensate sump Lithologi HYDRO	6-inch sch-80 190 1/4-inch slot 190 1/4-inch slot 190 1/4-inch slot 195 1/4-inch slot 200 1/52-249' bls) 195 1/52-249' bls) 195 1/1/52-249' bls) 110 1/1/52-249' bls 110 1/1/52-249' bls 110 1/1/52-249' bls 110 1/1/52-249' bls 110	B-inch sch-80 Image: scheme sche

Opling Cor. THE Drilling Company Lakaon Perfore) Samphot Carl Samp	Project: _C	OT, Broadway Nor	th I	and	tfill \	Nel	l Ins	tallat			071A (SVE					5
Land Surf Lenning, 1991 E. Construction Details of R-071A (SVI)	Drilling Co: _T	IF Drilling Company (Ja	ason	<u>Pro</u>	offer)	Dril	ling M	ethod:	Air Rotary Cas	ing Hammer	Date Starte					-
Land Surf. Elev: 2572. Reviewed by: S.Smith WELL COMPLETION L: STATURE 2572. Reviewed by: S.Smith Well completion Completion Condensate sump Condensate			745	5 <u>1 E</u>	I											-
Land Suff, Erk 212.2 WELL COMPLETION Image: Suff of the series of the serie					D					Llev.						-
Well counterion End	Land Surf. Elev:	2572.0	·	ر		Me (*	as. Pl	, Elev:	2572			<u>y. </u>				
245 245 Condensate sump Condensate su	•	OMPLETION	Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT.	Graphic Log				USCS Symbol	GR	SA		
Lithologic Log and Well Construction Details of R-071A (SVI		Condensate sump				G	245		to fine sand <i>(con</i> i	tinved)					5	
Lithologic Log and Well Construction Details of R-071A (SVI	245	•				G	·		to fine sand.		.5YH, 6/4), coarse	SW		95	5	V
Lithologic Log and Well Construction Details of R-071A (SVI																
HYDRO GEO CHEM, INC. Approved J.Tang																L
	GI GI	EO		L	ithol	log	ic Lo		adway North L	.andfill We	II Installation			(SV	'E-	4
	CI	HEM, INC.					ן ד	Date	Revised	Dale	Reference:	FIG.			<u>1 e</u>	;

					Dril			Air Rotary Casing Hammer Date Started Grab Date Completed			[4]00 [5]00		
	roadway North Landfill,	7451	<u> </u>				•	Grab Date Completed Land Surface Elev. Logged by			<u>lalu</u>		
	th Street, Tucson AZ 2575.0			U				2575 Reviewed by	_		Smi		-
Land Sun, Elev.	2373.0		T	T					, <u> </u>	<u>.</u>		<u> </u>	Ĩ
	OMPLETION	=	2								rima % Of		1
	12-inch Steel Surface Casing w/ Locking Cap		% Hecovery	PID (ppm)	Samples	Depth - FT.	Graphic Log	DESCRIPTION	USCS Symbol		T 1		
╧┰╁╲┤╢╢				_	0		وم	Well-graded gravel w/ sand; brown (7.5YR, 5/2),	GW				t
	12-inch Bore holø (0-240.7' bls)			ļ	G	-		fine to medium gravel, strong acid reaction.					
5	6-inch low carbon steel well casing (3'asl-27' bls)			ļ	G	5 1 1	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Poorly-graded sand; light brown (7.5YR, 6/4), mainly fine sand, strong acid reaction, PASTE pH=8.3	SP	10	85	5	
	1/2-inch sch-40 (lush threaded blank PVC			(G G	10	≈ ≈	Refuse; dark gray (7.5YR, 4/1), predominantly newspaper, wood and plastic, strong acid reaction, PASTE pH=8.7 (6-8 ft bis), PASTE pH=8.9 (8-10 ft bis).	sw	10	85	5	
	casing				GG	- 15_ -		Well-graded sand; brown (7.5YR, 5/2), medium to fine sand, approx. 10% wood, strong acid reaction, PASTE pH=9.5 (10-12 ft bls), PASTE pH=9.3 (12-14 ft bls), PASTE pH=9.4 (14-16 ft					
				(G G	- - 20 _	ن اسور ا	fine sand; strong acid reaction, PASTE pH=9.6	sw				
	Cement grout w/ 5% bentonite (0-36' bls)	I		(G			Well-graded sand; brown (7.5YA, 5)4), medium to fine sand; strong acid reaction.	SW	5	90	5	
				-		25	,, <u>,</u> , ,,, ,,, ,,,,,,,, ,, ,,.,, ,, ,, ,, ,, ,, ,, ,, ,	Well-graded sand w/ gravel; brown (7.5YR, 5/4), coarse to fine sand; strong acid reaction.	sw	45	50	5	
30						30		Well-graded sand w/ gravel; brown (7.5YR, 5/4), fine to coarse sand; strong acid reaction.	sw	40	55	5	
35				-	ר 	35_ -	,, ¹		sw	55	60	5	
40_	Hydrated bentonite (36-38' bls) #60 sand (38-40' bls)			K	G	40		medium to coarse sand; strong acid reaction.		05	70	-	
	#6-8 sand (40-53' bls)			(G			Well-graded sand w/ gravel; strong brown (7.5YR, 5/6), fine to coarse sand; NO ACID REACTION BELOW THIS INTERVAL.	sw	23	10	כ	
45 	1/2-Inch 0.02 slot					45		Well-graded sand; strong brown (7.5YR, 5/6), fine to coarse sand, PASTE pH=9.8	sw	10	85	5	
50	sch-40 PVC (45-50' bls)					50 	~	Well-graded sand; strong brown (7.5YR, 5/6), fine to coarse sand.	sw	10	85	5	
55	6-inch sch-80 flush threaded blank PVC (27-157' bls)			-	ק ר	55_		Well-graded sand; strong brown (7.5YR, 5/6), fine	sw	10	85	5	
	Cement grout w/ 5% bentonite (53-87.5' bls)			(3	- 		to coarse sand.					
	DRO	 L	.itl	holo	gi	c Lo	-	d Well Construction Details of R-0 dway North Landfill Well Installation	072	Ā (<u>sv</u>	E-:	3
GE	:0 IEM, INC.		opro			Da		Revised Date Reference: F	ig.				_

[Project	: COT, Broadway Nor						
1	Drilling Co				ffer) Or			: <u>Air Rotary Casing Hammer</u> Date Started: <u>2/4/00</u> ; Grab Date Completed: <u>2/5/00</u>
	Location	 Broadway North Landfill, 5th Street, Tucson AZ 	745	<u>1 E</u> .	Des		•	Grab Date Completed: <u>2/5/00</u> Chand Surface Elev. Logged by: J.Maiusa
	Land Surf. Elev							: 2575 Reviewed by: S.Smith
	WE		t i	ž				ESTIMATED % OF
	Deptin - FT		Blow Count	% Recovery	PID (ppm) Samples	Depth - FT	Graphic Log	
					G			Well graded sand w/ gravel; strong brown (7.5YR, SW 30 65 5 M 5/6), coarse to fine sand(continued)
	65	/ Cemant grout w/ 5%			G	65_		Well graded sand w/ gravel; strong brown (7.5YR, SW 30 65 5 M 5/6), coarse to fine sand.
	70	<pre>bentonite (53-87.5' bls) </pre>			C	70	,	Well-graded sand: strong brown (7.5YR, 5/6), fine SW tr 95 5 M to medium sand.
	75				G	75		Well-graded sand; strong brown (7.5YR, 5/6), fine SW 10 85 5 M to medium sand.
	80				G	80_ 	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Well-graded sand; strong brown (7.5YR, 5/6), fine SW 5 90 5 M to medium sand.
	85	Hydrated bentonite			G	85_	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Well graded sand w/ gravel; brown (7.5YR, 5/4), SW 25 70 5 M coarse to fine sand.
	90	67.5-89' bls) #60 sand (89-90.5' bls) #6-8 sand			G	90_	مبريم	Well graded sand; light brown (7.5YR, 6/3), SW 10 85 5 M medium to fine sand.
	95	(90.5-101.7' bis)			G	95_		Well graded sand; light brown (7.5YR, 6/3), SW tr 95 5 D medium to fine sand.
	100	sch-40 PVC (95-100' bls)			G	100_ - -	مستعمر	Well graded sand; light brown (7.5YR, 6/3), SW tr 95 5 D medium to fine sand.
					G	105		Well-graded gravel w/ sand; pink (7.5YR, 7/3), GW 55 40 5 D medium to line gravel.
		Cement grout w/ 5% bentonite (101.7-142.5' bls)				110_ - -	Õ	Well-graded sand; light brown (7.5YA, 6/4), SW tr 95 5 D medium to fine sand.
VPROJ.GDT 4/17/00	115					- 115_ -		Well-graded sand; light brown (7.5YR, 6/4), coarse SW 10 85 5 D to fine sand.
d l	101	()			\square			
55800.GP	\overline{A}	HYDRO	J.	Lit	holog	ic Lo	-	nd Well Construction Details of R-072A (SVE-3) adway North Landfill Well Installation
HGC-WELL 55800 GF		GEO CHEM, INC.		\ppro		Di	ale	Revised Date Reference: FIG. 1b

Project: COT, Broadway Nor	th La	ndfill	Wel	l Inst	allat	ion Boring: <u>R-072A (SVE-3)</u> Pg. <u>3</u> of
-) Dril			Air Rotary Casing Hammer Date Started: 2/4/00 Grab Date Completed: 2/5/00
Location: Broadway North Landfill	7451		Dara		•	Grab Date Completed:2/5/00 Land Surface Elev Logged by:Malusa
<u>5th Street, Tucson AZ</u> and Surf. Elev: <u>2575.0</u>	<u> </u>					2575 Reviewed by: S.Smith
and Sult. Elev2373.0	<u> </u>					ESTIMATED
WELL COMPLETION	E	2		-		% OF
Depth - FT	Blow Count	PID (ppm)	Samples	Depth - FT	Graphic Log	
						Well-graded sand; brown (7.5YR, 5/4), coarse to SW 10 85 5
			G			(ine sand.(continued)
25				125		Well-graded sand w/ gravel; strong brown (7.5YR, SW 25 70 5
bentonite (101.7-142.5' bls)			6			5/6), coarse to fine sand.
			Μ	130		
				- 130	× _	Well-graded sand; brown (7.5YR, 5/4), coarse to SW 10 85 5 fine sand.
			G	-		
		1	<u> </u>	135_		Well-graded sand w/ gravel; light brown (7.5YR,SW 25 70 5
		4	6			6/4), fine to coarse sand.
			β	-		
40		1	-	140_	, ^,	Well-graded sand w/ gravel; brown (7.5YR, 5/3), SW 25 70 5
			G	-		fine to coarse sand.
45 Hydrated bentonite				145		Well-greded sand w/ gravel: light brown (7.5YR, SW 20 75 5
45 _ (142.5-147.5' bls)	1 1					Well-graded sand w/ gravel; light brown (7.5YR, SW 20 75 5 6/4), fine to coarse sand.
- #6-8 sand			G	-		
50 (147.5-149' bls)				150	أخرجهم	Well-graded sand; light brown (7.5YR, 6/4), fine to SW 0 95 5
			G			coarse sand.
			\square	155		
55 1/4 to 3/4-inch washed gravel				- 135	· · · ·	Well-graded sand w/ gravel; light brown (7.5YR, SW 25 70 5 6/4), fine to coarse sand and fine gravel.
(149-245' bis)			G			
60 1 1 1 1 1 1 1 1 1 1				160	/	Well-graded sand; light brown (7.5YR, 6/4), fine to SW 10 85 5
						coarse sand.
			9		• • • •	
65			-	165_	;	Well-graded sand w/ gravel; light brown (7.5YR, SW 20 75 5
			G			6/4), fine to coarse sand and fine gravel.
70 6-inch sch-80				170		Wall graded sand: light brown (7.5YB, 6/4), fine to SW tr 95, 5
- 1/4-inch slot						Well-graded sand; light brown (7.5YR, 6/4), fine to SW tr 95 5 coarse sand.
- [] (157-227' bls)			G			
75				175	//	Well-graded sand; light brown (7.5YA, 6/4), fine to SW tr 95 5
						coarse sand.
			Μ			
		Litho	log	ic Lo	نص og ai	nd Well Construction Details of R-072A (SVE-
HYDRO			-			adway North Landfill Well Installation
GEO CHEM, INC.		pprove)ate	Revised Dale Reference: FIG.
		J.Tan				

Drilling Loca		F Drilling Company (. Dadway North Landfil				Uril			: <u>Air Rotary Casing Hammer</u> Date Started: <u>2/4/00</u> : <u>Grab</u> Date Completed: <u>2/5/00</u>
	_5th	Street, Tucson AZ			D	esċ.	of M	eas Pt	: Land Surface Elev. Logged by: J.Malusa
Land Surf.	Elev: _2	575.0				Me	as. P	t. Elev:	: 2575 Reviewed by: S.Smith
	WELL CO	MPLETION	4	2					ESTIMATEC % OF
Oepth - FT.			Blow Count	% Recovery	(mqq) Oid	Samples	Depth - FT.	Graphic Log	
						G	-		Well-graded sand; light brown (7.5YA, 6/4), fine to SW tr 95 5 coarse sand (continued)
185					-	G	185		Well-graded sand w/ gravel; light brown (7.5YR, SW 20 75 5 6/4), line to coarse sand.
190 - - -		6-inch sch-80 1/4-inch slot (157-227' bls)				G	190		Well-graded sand; pink (7.5YR, 7/4), medium to SW tr 95 5 fine sand.
- 195 _ - -							195_ 	, <u> </u>	Well-graded sand w/ gravel; pink (7.5YR, 7/4), fine SW 25 70 5 gravel w/ coarse to fine sand,
200						2 (1	200 _ -		Poorly-graded gravel; pinkish gray (7.5YR, 6/2), fine GP 85 10 5 gravel,
205		1/4 to 3/4-Inch washed gravel (149-245' bis)					205 _ - -	2	Poorly-graded gravel; pinkish grav (7.5YR, 6/2), fine GP 80 10 10 gravel.
210						2 (210 		Poorly-graded gravel; pinkish gray (7.5YR, 6/2), fine GP 80 10 10 gravel.
215							215_		Poorly-graded gravel; pinkish gray (7.5YR, 6/2), fine GP 85 10 5 gravel.
220							- 220 _ - - -		Well-graded sand; light brown (7.5YR, 6/4), coarse SW 5 90 5 to fine sand.
225		no end cap					225	~	Well-graded sand; light brown (7.5YR, 6/4), coarse SW 5 90 5 to fine sand.
230]							230 		Well-graded sand w/ gravel; light brown (7.5YR, SW 15 80 5 6/4), coarse to fine sand.
35		Condensate sump					 235		Well-graded sand; light brown (7.5YR, 6/4), coarse SW tr 95 5 to fine sand.
							240		
	HYI GE	DRO O		Lit	holo	gio	: Lo	-	d Well Construction Details of R-072A (SVE-3 adway North Landfill Well Installation
		ĔM, INC.		Appro J.Ta	bevo		Da	ate	Revised Date Reference: FIG.

		OT, Broadway Norl IF Drilling Company (Ja									-072A (SVE r Date Starte			5 [4]0		
	-	roadway North Landfill,							Grab		Date Complete			/5/0		
	<u>5t</u>	h Street, Tucson AZ			. 0)esc	. of Mi	eas Pt:	Land Surfa	ce Elev.	Logged t			lalu		
Land S	Surt. Elev: _	2575.0				Me	as, Pi	. Elev:	2575		Reviewed b	y:	<u>S</u> .	Smi	th	_
Depth - FT.	WELL C	OMPLETION	Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT.	Graphic Log		DESCRIPTIO	N	USCS Symbol	ļ'	SA	F	
245		10 3/4-inch Bore hole (240.7-252' bls)				G	 245		to fine sand ((continued) and; light brown (7.5YR, 6/4), coarse 7.5YR, 6/4), coarse	SW	0	95	5	
250 _		Slough at bottom of hole (245-252' bis)	ļ			G	250		Total hole dept							
	2				ĺ											
				1 14		ogi			d Well Co	nstruction	Details of R-	.072	Δ (SV	F-	
	GE GE							Broa	adway North	n Landfill We	ll Installation		(-	-
É	CH	EM, INC.			oved ang		Di	ato	Revised	Date	Reference:	FIG.		-	1e	ļ

Drilling C	Co: <u>T</u>		asoi	n Pro	offer)		ling N	lethod	: Air Rotary Casing Hammer Date Started: 1/31/00
Locati		roadway North Landfill,	74	<u>51 E</u>					: <u>Grab</u> Date Completed: <u>2/1/00</u> : Land Surface Elev. Logged by: <u>J.Malusa</u>
Land Surf. E		h Street, Tucson AZ 2580.0			. L				2580 Reviewed by: <u>S.Smith</u>
			1						
	WELLC	OMPLETION	t	Š	ĉ		н.		ESTIMATED % OF
Depth - FT	<u>וורו</u>	12-inch Steel Surface Casing w/ Locking Cap	Blow Count	% Авсочвлу	PID (ppm)	Samples	Depth - FT.	Graphic Log	
						G	-		Fill containing brick chips and glass.
5_ / ` /		6-inch low carbon steel well casing (2'asl-38' bis)				G G	5_ 		
		1/2-inch sch-40 flush threaded blank PVC casing				G	10_ 	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	
						GG	15_ 20		Well-graded gravel w/ sand; white (7.5YR, 8/1), GW 55 45 5 trace refuse, NO ACID REACTION BELOW THIS
25		Cement grout w/ 5% bentonite (0-38' bls)				G	25		INTERVAL. GW 90 10 tr Well-graded gravel w/ sand; white (7.5YR, 8/1), trace refuse.
					ĺ	Gg	1	2 1	Well-graded gravel w/ sand; white (7.5YR, 8/1), GW 10 80 10 trace refuse. High plasticity clay; brown (7.5YR, 4/3). CH 0 0 100 Silt w/ sand; strong brown (7.5YR, 5/6). ML 0 0 100
30						9 G	30	مبليليل المبليليل	Well-graded sand w/ gravel; brown (7.5YR, 5/4), SW 20 75 5 mainly fine grain sand.
35		Hydrated bentonite (38-39' bis)				G	35_	,	Well-graded sand w/ gravel; brown (7.5YR, 5/4), SW 30 65 5 mainly medium grain sand.
40_		#60 sand (39-40' bls)				G	40	م. مربعهم	Well-graded sand w/ gravel; brown (7.5YR, 5/3), SW 25 70 5 mainly medium grain sand.
45						G	45_ _ _ _		Well-graded sand w/ gravel; brown (7.5YA, 5/3), SW 20 75 5 mainly medium grain sand.
50		sch-40 PVC (45-50' bls) 6-inch sch-80 flush threaded blank PVC				G	50_ 		Well graded gravel w/ sand; brown (7.5YA, 5/3), GW 75 20 5 fine gravel.
55		(38-157.5' bis) Cement grout w/ 5% bentonite (51-87' bis)				G	55_	<u>;</u> 0;]	Well graded sand w/ gravel; light brown (7.5YR, SW 25 70 5 6/3), medium to fine sand.
		DRO		Lit	holo	 ogi	60 C LO	-	nd Well Construction Details of R-073A (SVE-2 adway North Landfill Well Installation
	GE CH	O EM, INC.		Appr J.Ti	oved		Di	ate	Revised Date Reference: FIG. 1a

Drilling	ј Со: <u>ТН</u>		sor	<u>n Pro</u>	offer)		lling M	lethod	Air Rotary Casing Hammer		·	1/:	2	0	~~
Loca		adway North Landfill,	74	51 <u>E</u>				•	Grab	Date Completed			1/00		
		Street, Tucson AZ			Ē				Land Surface Elev.	Logged by			alu		-
Land Surf.	Elev: 2	580.0	r		·	Me	as. P	t. Elev:	2580	Reviewed by	; 	<u>s.</u>	Smil	<u>h</u>	Ŧ
FT.	WELL CO	MPLETION	ount	Recovery	(աժ	S	Ë	0		1 2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	ļ	9	IMA 6 OF	:	
Depth -			Blow Count	% Reco	PID (ppm)	Samples	Depth - FT.	Graphic Log	DESCRIPTION		Symbol Symbol	GR	SA	FI 5	
						G	-		Well graded sand w/ gravel; light 6/3), medium to fine sand <i>(cont</i>		544	20	/0	5	
65 _ / /		Cement grout w/ 5%				G	65_ - -		Well graded sand w/ gravel; light 6/3), medium to fine sand.	brown (7.5YR,	sw	25	70	5	
70 _ / /		bentonite (51-87' bls)					70_ - -		Well graded sand w/ gravel; pink medium to fine sand.	(7.5YR, 7/3),	sw	25	70	5	
							75		Well graded sand; pink (7.5YR, 7, fine sand.	/4), medium to	sw	10	85	5	
80						G 	80		Well graded sand; light brown (7.	5YA, 6/4),	sw	10	85	5	
85_						G	85_		medium to fine sand.		ew	15	80	5	
		Hydrated bentonite — (87-89' bls)				G			Well graded sand w/ gravel; redd 6/6), coarse to fine sand.	ואסווטא (ד.10, מ	517	10		5	
90_		#60 sand (89-91° bls) #6-8 sand (91-102' bls)				G	- - - -		Well graded sand; light brown (7. to fine sand.	5YR, 6/4), coarse	sw	10	85	5	
95						 (G	95	المبر المبر	Well graded sand w/ gravel; light 6/4), coarse to fine sand.	brown (7.5YA,	sw	20	75	5	
100		sch-40 PVC (95-100' bls)					100	, / A	Well graded sand; pink (7.5YR, 7, sand.	(4), coarse to fine	sw	t	95	5	
105						U —	- 105 _ -		Well graded sand w/ gravel; light 6/4), coarse to line sand.	brown (7.5YR,	sw	25	70	5	
110		— Cement grout w/ 5%				G	- - 110-		6/4), coarse to line sand. Poorly-graded sand; light brown (7.5YR, 7/4), fine	SP	tr	95	5	
115		bentonite (102-149.5' bls)				G	- - 115_	· · · · ·	sand.						
						G			Well-graded sand w/ gravel; light 6/4), fine to medium gravel.	brown (7.5YR	sw	40	55	5	
		DRO		l Lit	thol	ogi	120 c Lc	-	id Well Construction I adway North Landfill Well		073 <i>.</i>	A (sv	 E-:	2
	GE	0													_

·	Drilling Company (Ja Idway North Landfill,			÷		Sa	mpler:	Grab		Date Complete	-d: _	2	<u>31/0</u> /1/00)	-
	Street, Tucson AZ	<u> </u>		. (Land Surfac	ce Elev.	Logged I			nalu o		-
and Surf. Elev: 25	80.0	,	1	1	M	eas, P	t, Elev:	2580		Reviewed t	уу: Т	<u>s.</u>	Smi	<u>in</u> 	
WELL CON	IPLETION		2										rima % Oi		
		Blow Count	% Recovery	(mqq)	les	Depth - FT.	.u		DEDADIDT	C N1	0 2		<u>, </u>		nre
Depth		iow (Не) Qid	Samples)e pth	Graphic Log		DESCRIPTI	UN	USCS Symbol		94	FI	Moisture
		- CO	6	<u> </u>	<u>~</u>			Poorly-graded :	and; pink (7.5	YR 7/4), fine	SP		95	5	D
		ľ			h	-		sand.(continu	red)				ļ		
					\square	125								1	
	Cement grout w/ 5% bentonite (102-149.5)							Well-graded sa	nd w/ gravel; li vel and coarse	ght brown (7.5YR	sw	40	55	5	D
	bis)				G	-		oraj, inte grav		to fine sand.					
30					<u> </u>	130	استرز							5	D
						-		to coarse san		vn (7.5YR, 6/4), fine	SP	0	95	2	"
					G	-						ł			
35						135		Well-graded sa	nd w/ gravel: lid	ght brown (7.5YR,	sw	20	75	5	D
								6/4), fine to c	parse sand,						
					М	-	•••••								
						140_	بمبتم	Well-graded sa	nd; reddish yel	low (7.5YR, 6/6).	sw	tr	95	5	D
					G										
						145									
								Well-graded sau 6/6).	nd w/ gravel; re	addish yellow (7.5YR	sw	25	70	5	
1/1/1/1					G			01071							
	Hydrated bentonite (149.5-150.8' bis)					150	مبرز				sw	40	56	5	D
					\sim	-		6/4), fine to co	no w/ gravel; ili parse sand.	ght brown (7.5YR,	GYV	40	33	1	"
	(150.8-151.5' bis) -				Q	-									
55	1/4 to 3/4-inch washed gravel					155_	<i></i>	Well-graded sar	nd; light brown	(7.5YR, 6/4), fine to	sw	t	95	5	D
	(151.5-244' bls)				G	-		coarse sand.	-						
					\sim	160									
⁶⁰						160_ _	المجتمع المجتمع		nd w/ gravel; pl	Ink (7.5YR, 7/4), fine	sw	20	75	5	D
					G	-		gravel.							
65] .				1	Ŭ	165_									
				:		-		Well-graded sar coarse sand.	nd; light brown	(7.5YR, 6/4), fine to	sw	10	85	5	D
					G	-									
70] ②]][2]]	-6-inch sch-80					170					CW.	5	95	5	D
	1/4-inch slot				$ \neg $	_		Well-graded sar medium sand		(7.5YR, 6/4), fine to	sw	u,	50	0	"
	(157,5-227.5' bls)				Q	_									
75						175	أجربز	Well-graded sar	d; light brown	(7.5YR, 6/4), fine to	sw	tr	95	5	D
								medium sand		· · · · · · · · · · · · · · · · · · ·					
					Ű	-									
			 i	thol	l οσi		og an	d Well Co	nstruction	n Details of R	-073	A	′SV	E-2	5
	DRO				- 3'		-			ell Installation		1			1
GEC								,		-					
	M, INC.			roved		D	ate	Revised	Date	Reference:	FIG.				
			J.T	ang				1		I				<u> C</u>	

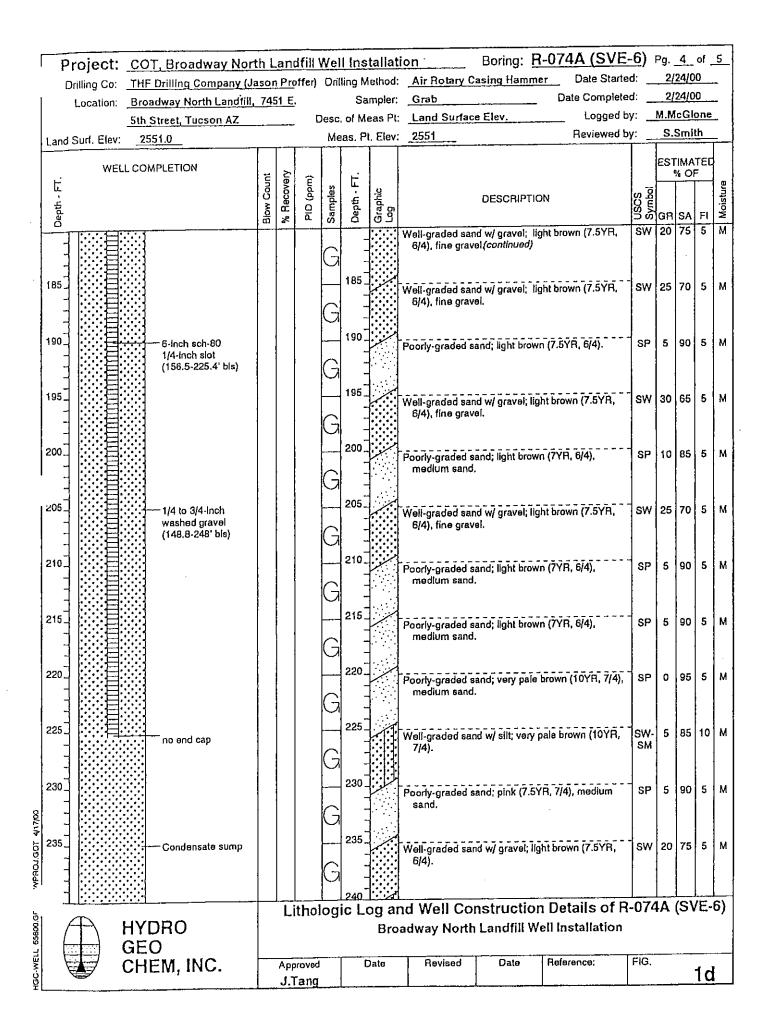
Project: <u>COT, Bro</u>		-							R-073A (SVE					
Drilling Co: THF Drilling				Dril				Casing Hamm				<u>'31/(</u>		
Location: Broadway		151 E				•	Grab		Date Complete	_		/1/0		
<u>Sth Street,</u>	lucson AZ		. C				Land Surfa	ce Elev.	Logged b			<u>Nalu</u>		
Land Surf. Elev: 2580.0	······································			Me	eas. P	t. Elev:	2580		Reviewed b	у: Т	<u>S.</u>	<u>Smi</u>	<u>th</u>	Ŧ
		erγ	(u		<u>+</u>							ГІМА % О		ł
Depth - FT	Blow Count	Recovery	PID (ppm)	Samples	Depth - FT	лі С		DESCRIPTI	ON	က္က ခြ	ſ			
Jept	3low	ŭ %		Sam	Dept	Graphic Log		02001011		USCS Symbol	6B	SA	FI	
							Well-graded sa	nd; light brown	(7.5YR, 6/4), fine to	SW				┢
					- 1		coarse sand.	(continued)						
				\square										
185					185_		Well-oraded sa	nd w/ gravel; lid	ht brown (7.5YR,	sw	15	80	5	
				\frown				vel w/ coarse to		1				
				Q	_									
	sch-80				190_	بمرمز	Well-oraded sa	od w/ gravel: lig	ht brown (7.5YR,	sw	15	80	5	l
	h slot -227.5' bis)			\sim	-			vel w/ coarse to					-	l
	-221.0 013)			여										l
195] []]					195_	المبرز			ht brown (7.5YR,	sw	15	80	5	
				$ \neg $			6/4), fine grav	vel w/ coarse to	fine sand.			00		
	ł			5	-					'				ł
20011111目1111			ļ		200	المبرز ا						~~	~	
	ľ				-		Well-graded sa to fine sand,	nd; light brown	(7.5YR, 6/4), coarse	SW	Б	90	5	
			1	Gl										ļ
205	N/d is also		[205								_	
	3/4-inch d gravel				_		Well-graded sai to fine sand.	nd; light brown	(7.5YR, 6/4), coarse	sw	5	90	5	
	244' bis)			GI			to fille salio.							
210] [[]] [[]] [[]] [[]] [[]] [[]] [[]] [210									
			ſ				Well-graded san to fine sand.	nd; light brown	(7.5YR, 6/4), coarse	sw	tr	95	5	
				G	-		to nne sano.							ľ
215				<u> </u>	215									
			Ĭ		- "-	<u>''''</u>		nd; light brown	(7.5YR, 6/4), coarse	sw	tr	95	5	
	ļ		k	G	-	•••••	to fine sand,							
			ſ]									
220			ŀ		220	<i>,</i> ~ , ,		nd; light brown	(7.5YR, 6/4), coarse	sw	tr	95	5	
			1		-		to fine sand.							
			ľ	4										
225	1		┢	-	225	: !: !!	Well-graded sar	nd w/ gravel; lig	ht brown (7.5YR,	sw	15	80	5	
]	-		6/4), fine grav	el w/ coarse to	fine sand,					
no enc	сар		ľ	4	1									
30_			⊦		230	إمبنيه	Well-graded sar	nd; light brown i	(7.5YR, 6/4), coarse	sw	tr	95	5	
] []	inch Bore hole		/	\sim			to fine sand.							
	244' bls)		ľ	3										
35			-		235	إسبنوز	Well-preded ear	id: light brown ((7.5YR, 6/4), coarse	sw	tr	95	5	
					Ţ		to fine sand.	is, igneorown (,, or-y, coarse		"		5	
- Conde	isate sump		N N	フ	-									
		ĻĹ			240									_
		Lit	hole	ogi	c Lo	-			Details of R-	073	A (SŅ	E-2	2
HYDRO						Broa	adway North	Landfill We	ell Installation					
GEO					<u></u>	. <u> </u>		· · · · · ·						
CHEM, I	NC.	Appr			Da	ate	Revised	Date	Reference:	FIG.		-	ہ ا	
—		J.Ta	ang				.L		L				d	

r	-		, Broadway Nor Drilling Company (J									R-073A (S	SVE-2) Started:		_ <u>5</u> /31/0		5
Τ		-	dway North Landfill							Grab		 Date Cor			2/1/0		
			treet, Tucson AZ				Desc		-	Land Surfa	ice Elev.	_	iged by:	_ J.	Malu	Isa	_
	Land Surf. E									2580			wed by:		.Smi		
		WELL COMP	· · · · · _ _ _	Blow Count	Recovery	PID (ppm)	Samples	Depth - FT.	Graphic Log		DESCRIPT		s.		TIMA % O	۲ ۲	1
	Cept			1 See	Ч 2		San	Dep	ទី១				nsc	토] 최GF	ISA	FI	Moi
			,Condensate sump				G			Well-graded se to fine sand (Total hole dept	(continued)	n (7.5YR, 6/4), c	oarse				
1					Lit	holo	ogi	c Lo	g an	d Well Co	nstructio	n Details c	of R-07	3A	(sv	E-2	2)
		HYDF GEO							Broa	dway North	Landfill W	/ell Installati	on		· -		,
		CHE	M, INC.		Аррю Ј.Та			Da	ate	Revised	Date	Reference:	FIG.		-	le	

· Di	rilling Co:	COT, Broadway No THF Drilling Company (Broadway North Landfi 5th Street, Tucson AZ	Jaso	n Pro	offer)	Dril	ling M Sa	ethod: mpler:		ising Hamme	-074A (SVE <u>r</u> Date Starte Date Complete Logged b	d:	2	24/0 24/0	0	
Lands	Surf. Elev:								2551		Reviewed b			Smi		
	WEI										<u></u>			ГІМА		q
Depth - FT.		12-inch Steel Surfac Casing w/ Locking Cap	Blaw Count	% Recovery	PID (ppm)	Samples	Depth - FT.	Graphic Log		DESCRIPTION	N	USCS Symbol	—	% 01 SA		
		12-inch Bore hole				G			strong acid read Silty Sand; brown strong acid read	ction. 1 (7.5 YR, 5/4), 1 ction.	ine sand, backfill, ine sand, backfill,	SM SM	5 5	70		
5		6-inch low carbon steel wall casing (2'asl-28' bis)	1			Ĝ	5_		Silly Sand; brown strong acid real	ī (7.5ŸR, 5/4), † ction, ī (7.5ŸR, 5/4), f	ine sand, backfill, ´ Ine sand, backfill, ´	SM SM	5 5	70 70	25	
-1 10 -		1/2-inch sch-40 flus			-	Ĝ	10_ -		Silty Sand; brown strong acid read Well-graded sand 5/4), strong acid	ī (7.5ŸĀ, 5/4), f ction. I w/ sīlt & grave	ine sand, backlill, ´ I; brown (7.5YR, ´	SM SW- SM		70 70	10	
- 15_		casing			- - -	G	15_		Well-graded sand (7.5YR, 6/3), fir Well-graded sand	l ŵ/ silt & grave 1e gravel, stron 1 ŵ/ silt & grave	g acid reaction. 🗳	SW- SM SW- SM	30	60		Į
20						G	20	/ //// ///	veil-graded sand 6/4), fine gravel	Ŵ gravel; lighi , NO ACID RE	1	sw sw	10	85	5 5	
-		Cement grout w/ 5% bentonite (0-36.3' bl				G			THIS INTERVA Well-graded sand coarse gravel, Well-graded sand	; ilght brown (7	.5YR, 6/4), fine to	SW	10	85	5	
25						G	25	المبنية. المراجعة	Well-graded sand 6/4), fine gravel	w/ gravel; light .	t brown (7.5YA,	sw	20	75	5	
30 - - -							30_ -	مبر مربع	Well-graded sand 6/4), fine gravel		t brown (7.5YR,	sw	25	70	5	
35		Hydrated bentonite				$\overline{\mathbf{a}}$	35.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Well-graded sand 6/3), fine to coa	w/ gravel; light rse gravel.	brown (7.5YR,	sw	35	60	5	
40_		(36.3-39' bls) 					40 _ 	,	Well-graded sand 6/4), fine to coa		t brown (7.5YR,	sw	40	55	5	
- - 45 _		#6-9 silica sand (40.5-53' bis)				G	- - 45_	مبر مربعه	6/4), fine to coa Well-graded sand		reddish brown	sw	25	70	5	
50		1/2-inch 0.02 slot sch-40 PVC (45-50'			¢	G	50		(5YR, 6/4), fine	to coarse grave	əî.					
		6-inch sch-80 flush			ľ	G			Well-graded sand (5YR, 6/4), fine	w/ gravel; light gravel.	reddish brown	sw	25	70	5	
55] - -		(28-156.5' bls) Cement grout w/ 5%				G	55		Well-graded sand (SYR, 6/4), fine		reddish brown	sw	20	75	5	
2		, bis)		_!			60				Dotaila of P	074				
	1 1	HYDRO GEO		LI	nolo	ogli	C LO	-	id Well Con: adway North L		Details of R- I Installation	074	HA (<u>,</u> 3V	C-	C
E		CHEM, INC.	<u> </u>	Appr	oved	-1	D	ate	Revised	Date	Reference:	FIG.		. <u> </u>		-

Drilling Co Locatio	n: Bro	oadway North Landfill,			•		Sa	mpler:	Air Rotary Casing Hammer Date Started: <u>2/24/00</u> Grab Date Completed: <u>2/24/00</u> Land Surface Elev. Logged by: <u>M.McGlone</u>
and Surf. Ele		Street, Tucson AZ			Ľ				2551 Reviewed by: S.Smith
	<u></u> .	MPLETION		۲					ESTIMATED % OF
Depth - FT.			Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT.	Graphic Log	
						G			Poorly-graded sand w/ gravel; brown (5YR, 5/4), SP 20 75 5 fine gravel.(continued)
		Cement grout w/ 5% bentonite (53-86,5'				G	65_ 	· · · ·	Poorly-graded sand w/ gravel; brown (5YR, 5/4), SP 30 65 5 fine gravel.
		bis)				G	70_	/	Well-graded sand w/ gravel; light reddish brown SW 25 70 5 (5YR, 6/4), fine gravel.
						G	75 - - -	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Well-graded sand w/ gravel; light reddish brown SW 25 70 5 (5YR, 6/4), fine gravel.
						G	80_ - - -		Well-graded sand w/ gravel; light reddish brown SW 15 80 5 (5YR, 6/4), fine gravel.
85		Hydrated bentonite (86,5-89' bls)			:	G	85_ - -		Well-graded gravel w/ sand; light reddish brown GW 65 30 5 (5YR, 6/4), medium sand.
90 - 00		#60 sand (89-90' bis) #6-9 silica sand (90-106' bis)				G	90 _ - - - -		Well-graded sand; light reddish brown (5YR, 6/4). SW 5 90 5
95		1/2-inch 0.02 slot sch-40 PVC (95-100'				G	95] 		Well-graded sand w/ gravel; light reddish brown SW 15 80 5 (5YR, 6/4), fine gravel.
	B	b(s)				G	100	مبر معرم مراجع	Well-graded sand w/ gravel; light reddish brown SW 15 80 5 (5YR, 6/4), fine gravel.
						G	105	مبر بند <u>م</u>	Well-graded sand w/ gravel; reddish brown (5YR, SW 25 70 5 5/4), fine gravel.
		Cement grout w/ 5% bentonite (105-145' bls)				G	110_		Well-graded sand; light reddish brown (5YR, 6/4). SW 5 90 5
						G	115_ - - -		Well graded sand w/ gravel; light reddish brown SW 20 75 5 (5YR, 6/4), fine gravel.
	HY GE	DRO		Li	thol	ogi	120_ c L.c	-	nd Well Construction Details of R-074A (SVE-6 adway North Landfill Well Installation
		EM, INC.		Арри	roved			ate	Revised Date Reference: FIG. 1b

PI	roject:	COT, Broadway Nort	h L	and	ifill \	Wel	l Ins	tallat	tion Boring: <u>R-074A (SVE-6) Pg. 3 of 5</u>
	rilling Co:								: <u>Air Rotary Casing Hammer</u> Date Started: <u>2/24/00</u>
1	Location:	Broadway North Landfill,	745	<u>61 E</u> .			Sa	mpler:	: Grab Date Completed: 2/24/00
		5th Street, Tucson AZ			C)esc.	of Me	eas Pt:	Land Surface Elev. Logged by: M.McGlone
Land	Surf. Elev:	2551.0				Ме	as. Pt	. Elev:	: 2551 Reviewed by: S.Smith
		L COMPLETION	It	2	~				ESTIMATED % OF
Depth - FT			Blow Count	% Recovery	PiD (ppm)	Samples	Depth - FT.	Graphic Log	
						G			Poorly-graded sand; light brown (7.5YR, 6/4), SP 5 90 5 M medium sand.(continued)
125	1.1	Cement grout w/ 5%	-			G	125	/	Well-graded sand w/ gravel; light brown (7.5YR, SW 20 75 5 M 6/4), fine gravel.
130_						G	130	<i></i>	Poorly-graded sand w/ gravel; light brown (7.5YR, SP 25 70 5 M 6/4), fine gravel.
135						 G	135		Poorly-graded sand; light brown (7.5YR, 6/4), SP 10 85 5 M medium sand.
140	1 1 1					G	140_		Poorly-graded sand; light brown (7.5YR, 6/4), SP 0 95 5 M medium sand.
145_ -		Hydrated bentonite (145-147.5' bls)				C C	145_ - -		Poorly-graded sand; light brown (7.5YR, 6/4), SP 5 90 5 M medium sand.
150 _ -		#6-9 silica sand (147.5-148.8' bls)) G	150		Well-graded sand w/ gravel; light brown (7.5YR, SW 25 70 5 M 6/4), fine to coarse gravel.
155_ -		1/4 to 3/4-inch washed gravel (148.8-248' bls)				C G	155_		Poorly-graded sand: light brown (7.5YR, 6/4). SP tr 95 5 M
160_ -						G	160		Poorly-graded sand; light brown (7.5YR, 6/4). SP 5 90 5 M
165_) G	165		Poorly-graded sand w/ gravel; light reddish brown SP 25 70 5 M (5YR, 6/4), fine gravel.
170 - 170 - - 8/2		6-inch sch-80 1/4-inch slot (156.5-225.4' bls)				G	170		Well-graded sand; light brown (7.5YR, 6/4), fine SW 20 75 5 M gravel.
<u>играна 4/17/00</u>						G	175 _ - -		Well-graded sand w/ gravel; light brown (7.5YR, SW 15 80 5 M 6/4), fine gravel.
. 1				Li Li	thol	logi	 ic Lo	انت cg ar	nd Well Construction Details of R-074A (SVE-6)
L 65800.0		HYDRO GEO				-			padway North Landfill Well Installation
HIGC WELL 65800.GP		CHEM, INC.			roved ang		<u>с</u>)ate	Revised Date Reference: FIG.



Duffing Ca: THE Duffing Campany (Jason Proffer) Drilling Method: <u>AIF Rotary Casing Hammer</u> Date Started: <u>2/24/00</u> Location: Breadway North Landfill, 7451 E Sample:: <u>Grab</u> Object Complete	5					074A (SVE		on	allat	l Ins	Wel	lfill '	and	h L	adway Nor	COT, Br	ject:	Pr	٢
Location: Broadway Notific Landing, Fight L. Desc. of Meas Pt: Land Surface Elev. Logged by: M.McGlone Land Surf. Elev: 2551.0 Meas. Pt. Elev: 2551 Reviewed by: S.Smith WELL COMPLETION Image: Stream of the stream o					_		asing Hamme				Dril								
Sth Street, Tueson A2 Desc. of medd 1 tr Condensate sump Land Surf. Elev: 2551 Reviewed by: S.Smith WELL COMPLETION tr street, Tueson A2 Meas. Pt. Elev: 2551 Reviewed by: S.Smith WELL COMPLETION tr street, Tueson A2 tr street, Tueson A2 tr street, Tueson A2 ESTIMATED % OF tr tr street, Tueson A2 tr street, Tueson A2 tr street, Tueson A2 ESTIMATED % OF tr tr street, Tueson A2 tr street, Tueson A2 WELL COMPLETION tr street, Tueson A2 tr tr tr tr tr tr tr tr tr tr tr tr tr tr tr tr tr tr tr tr tr tr tr tr tr tr <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Eler</td> <td></td> <td></td> <td></td> <td></td> <td>_</td> <td><u>51 E</u></td> <td>74:</td> <td></td> <td></td> <td></td> <td>Ĺ</td> <td></td>							Eler					_	<u>51 E</u>	74:				Ĺ	
Land Surf. Elev: 2551.0 Weas rt. Clev. Logi WELL COMPLETION is	<u> </u>		_									C			ucson AZ				1
WELL COMPLETION Image: Second ensate sump Image: Second en	T			Т	<u></u>			2551	, Elev:	as. Pi	Me		11	r		2551.0	nf. Elev:	Land S	1
Condensate sump Condensate sump Well-graded sand w/ silt; pink (7.5YR, 7/4). SW- 0 90 10 245	1	AATEI OF	STIN %	Ε						L.		~	کر اح	7	N	COMPLET	WEL		
Condensate sump Condensate sump Well-graded sand w/ silt; pink (7.5YR, 7/4). SW- 0 90 10 245	Moisture			ŝΓ	ုက္ ခြ	N	DESCRIPTIO		.e	ш. 	sel	mqq)	COVE	Sou				Ē	
Condensate sump Condensate sump Well-graded sand w/ silt; pink (7.5YR, 7/4). SW- 0 90 10 245	Moi	A FI	R S	il Sig	USO Sym		DESONA NO		og og	Jept	amp	ũ	å	NO				apth	
245 Condensate sump Condensate sump G Well-graded sand w/ silt; pink (7.5YR, 7/4). SM		10 10	0 9	-1	SW-		d w/ silt; pink (i	Nell-graded san	ात				-	~				ă ————————————————————————————————————	
245 Well-graded sand w/ silt; pink (7.5YR, 7/4).					SM		d) - 1	7/4).(continue		_								-	Į
SW 10 00 10										-	\square				insate sump	Con		-	
	M	10 10	0 8			.5YA, 7/4).	d w/ silt; pink (i	Nell-graded san	2	245_	F							245_	ł
Total hole depth = 248' bis					- 310					-	G							-	ĺ
							= 248' bis	Total hole depth		_								-	
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Lithologic Log and Well Construction Details of R-074A (SVE-	-6)	SVE	A (5	4	3-07	Details of R	nstruction	d Well Co	 ר חר			l	L.						
HYDRO Broadway North Landfill Well Installation	,					ell Installation	Landfill W	a mon oo. adway North	ייק מ געק		JUY	itilo	L					Ĺ	Į
HYDRO GEO CHEM, INC. Approved Date Revised Date Reference: FIG. J.Tang								aaway north	DIC									Ĺ	Ś
CHEM INC. Approved Date Revised Date Reference: FIG.	_	<u></u>			FIG.	Reference:	Date	Revised)ate	i l			<u>An</u>	┣	INC				
CHEM, INC. Approved Date Revised Date Reference: FIG.	<u>e</u>									'							Ì	É	

Drilling	Co: <u>T</u> tion: <u>B</u>	iroadway North Landfill,	asoi	n Pro	offer)	Dril	ling M Sa	fethod impler:	: <u>Air Rotary Casing Hammer</u> Date Started: <u>2/21/00</u> : <u>Grab</u> Date Completed: <u>2/23/00</u>
المتعادية		th Street, Tucson AZ			ť				: Land Surface Elev. Logged by: M.McGlone : 2563 Reviewed by: S.Smith
Land Surf. I	CIEV.	2563.0	F				as. r		
	WELLO	COMPLETION	 	2	~		<u> </u>		ESTIMATED % OF
Depth - FT		12-inch Steel Surface Casing w/ Locking Cap	Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT.	Graphic Log	
		12-inch Bore hole (0-244' bls)				GG	-	\bigotimes	Fill; brown (7.5YR, 5/3), strong acid reaction, PASTE pH=8.5 (0-4 ft bls).
5		6-Inch low carbon steel well casing (2'asl-28' bis)				G	5_ 	≋ ≋	acid reaction, PASTE pH=7.8 Refuse, dark brown (7.5YR, 3/3), slightly
10		1/2-inch sch-40 flush threaded blank PVC casing				UGC	10	20 20 20 20 20 20 20 20 20 20 20 20 20 2	Refuse; dark brown (7.5YR, 3/3), slightly composted, abundant fill mixed w/ refuse,
		-				JGC	15_ 	2.2	, strong acid reaction, PASTE pH=7.5 Refuse; dark brown (7.5YR, 3/3), slightly composted refuse, predominantly brick, paper, i metal and glass, strong acid reaction, PASTE
20 _ / / / / / / / / / / / / / / / / / /		Cement grout w/ 5% bentonite (0-37' bis)				ĞG	20_		
25						Ğ	25		metal and glass, no acid reaction, PASTE pH=6.4 (14-16 ft bls), PASTE pH=7.1 (16-18 ft bls), Refuse; dark gray (7.5YR, 4/1), predominantly
30						G	30_		Fill/Refuse; dark gray (7.5YR, 4/1), mainly till with two and plastic refuse, very molst, strong acid reaction, PASTE pH~9.5
						G	35		Refuse; dark grav (7.5YR, 4/1), mixture of refuse and silty clay, moth ball odor, very moist, strong acid reaction, PASTE pH=9.1 High Plasticity Clay; dark grav (10YR, 4/1), trace
35_ 		Hydrated bentonite (37-39' bis)				U	37777		silt, settling pond deposit?, very molst, strong acid reaction, PASTE pH=8.9 (24-30 ft bls). GW 60 35 5
40 -		#60 sand (39-40' bls)				G	40		Well-graded gravel w/ sand; light brown (7.5YR, 6/4), predominantly fine gravel and medium sand, no acid reaction.
45_		(40-51.5' bls)			-		45.		Well-graded sand; light brown (7.5YR, 6/4), fine to SW 10 85 5 coarse sand, no acid reaction.
50 _		1/2-Inch 0.02 slot sch-40 PVC (45-50' bls)					- 50		Clayey sand; brown (7.5YR, 5/2), well-graded sand SC 10 50 40 w/ clay, strong acid reaction. (Suspect Sample,
55 / ` `		6-inch sch-80 flush threaded blank PVC (28-156.5' bls)				G	- - 55_		Clay may be from shallower zone) Well-graded sand w/ silt;, light brown (7.5YR, 6/4), SW- 5 85 10
		Cement grout w/ 5% bentonite (51.5-85' bis)			(G	- - - - - - - - - - 		no acid reaction. SM
	HY GE	DRO		Lit	holo	ogi		-	d Well Construction Details of R-075A (SVE-5 adway North Landfill Well Installation
		IEM, INC.		Appr J.Ta	oved		Da	ate	Revised Date Reference: FIG.

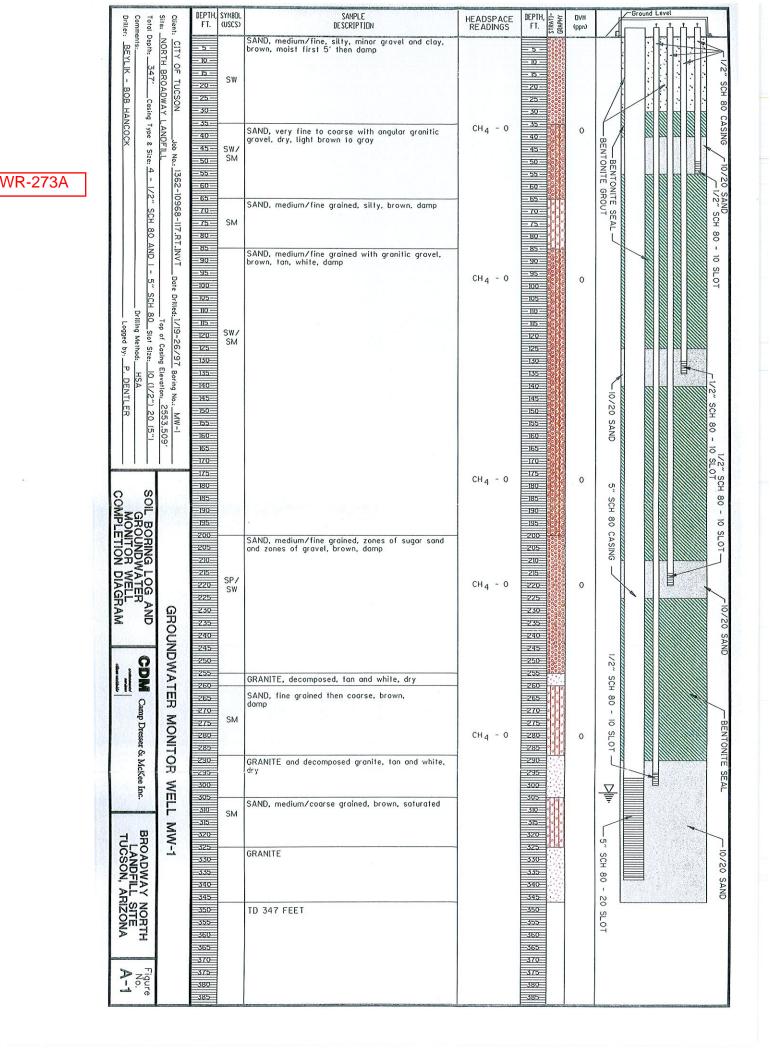
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Project: <u>COT, Broadway Nort</u> Drilling Co: <u>THF Drilling Company (Ja</u> Location: <u>Broadway North Landfill</u> ,	sor	<u>Pro</u>	ffer)	Dril	ling M Sa	ethod: mpler:	
<u>5th Street, Tucson AZ</u> and Surf. Elev:2563.0			L				2563 Reviewed by: <u>S.Smith</u>
							ESTIMATED
WELL COMPLETION	Blow Count	% Recovery	(mqq) Old	Samples	Depth - FT.	Graphic Log	
				G			Well-graded sand w/ fine gravel; light brown SW 25 70 5 (7.5YR, 6/4), NO ACID REACTION BELOW THIS INTERVAL(continued)
65				G	65_ 		Well-graded sand w/ fine gravel; light brown SW 25 70 5 (7.5YR, 6/4).
70 bis) 				G	70		Well-graded sand w/ fine gravel; light brown SW 25 70 5 (7.5YR, 6/4).
				H G	75 _ 		Well-graded sand; light brown (7.5YR, 6/4). SW 10 85 5
80 - / · · / / · · · · · · · · · · · · · ·				L G	80		Well-graded sand w/ fine gravel; light brown SW 25 70 5 (7.5YR, 6/4).
85 - Hydrated bentonite (85-88.25' bis)				L G	85 _ 		Well-graded sand w/ fine gravel; light brown SW 15 80 5 (7.5YR, 6/4).
90				G	90		Weil-graded sand w/ fine gravel; light brown SW 30 65 5 (7.5YR, 6/4).
95					95_		Well-graded sand; light brown (7.5YR, 6/4). SW 10 85 5
00				S I G	100	, <i>, , , ,</i>	Well-graded sand w/ gravel; light brown (7.5YR, SW 35 60 5 6/4), fine gravel.
				S L G	105_	///	Well-graded sand w/ gravel; light brown (7.5YA, SW 35 60 5 6/4), fine gravel.
10 Cement grout w/ 5% bentonite (102-134' bls)) 	110		Well-graded sand w/ gravel; light brown (7.5YR, SW 35 60 5 6/4), fine gravel.
					115		Well-graded sand w/ silt; pink (7.5YR, 7/4), fine to SW- 10 80 10 medium sand.
$\frac{1}{1}$		Lī	thol	ogi	120 c Lo	-	nd Well Construction Details of R-075A (SVE- adway North Landfill Well Installation
GEO CHEM, INC.		-	oved			ate	Revised Date Reference: FIG. 1b

Location: Broadway North Landfill,	sor	Pro	fler)	Dril	ling M Sa	lethod: .mpler:	Air Rotary Casing Hammer Date Starter Grab Date Completer Land Surface Elev. Logged by	d:	2/	21/0 23/0 cGlo)	
5th Street, Tucson AZ and Surf. Elev: 2563.0			L				2563 Reviewed by	_		Smit		_
WELL COMPLETION									EST	IMA	TEC	-
	Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT.	Graphic Log		USCS Symbol	GR			
			<u> </u>	G			Poorly-graded send w/ gravel; light yellowish brown (10YR, 6/4).(continued)	SP	15	80	5	
25) G	125	/	Well-graded sand w/ gravel; light yellowish brown (10YR, 6/4).	sw	25	70	5	
				G	130_ - -	مستعمر	Well-graded sand w/ gravel; light yellowish brown (10YR, 6/4).	sw	25	70	5	
35 Hydrated bentonite (134-137' bis) #8-12 silica sand				L G	135_		Well-graded sand w/ gravel; pink (7.5YR, 7/4).	sw	30	65	5	
40(137-139' bis)				G	140		Well-graded sand w/ gravel; pink (7.5YR, 7/4).	sw	20	75	5	
45				G	145		Well-graded sand w/ gravel; pink (7.5YR, 7/4).	sw	20	75	5	
50				G	150_		Well-graded sand w/ gravel; pink (7.5YA, 7/4).	sw	20	75	5	
55 1 1/4 to 3/4-inch washed gravel (139-250.6' bis)				G	155		Well-graded sand w/ gravel; pink (7.5YA, 7/4).	sw	15	80	5	
				G	160_		Well-graded sand w/ gravel; pink (7.5YR, 7/4).	sw	30	65	5	
				G	165		Well-graded sand w/ gravel; pink (7.5YB, 7/4).	sw			5	
706-Inch sch-80 1/4-Inch slot (156.5-225.4' bls)				G	170~		Well-graded sand w/ gravel; light brown (7.5YR, 6/4), fine gravel.	sw	35	60	5	
⁷⁵ -				G	175_		Well-graded sand; light brown (7.5YR, 6/4).	sw	10	85	5	
HYDRO GEO		L Li	thol	اـــــا logi	180 c Lo	-	nd Well Construction Details of R- adway North Landfill Well Installation	075	5A	ŝv	E-	, T
CHEM, INC.		Аррі	oved		D)ate	Revised Date Reference:	FIG.			1 c	

Drilling Co: <u>THF Drilling Company (Ja</u> Location: <u>Broadway North Landfill,</u> <u>Eth Street</u> Tuessen A7					Sa	mpler:	Air Rotary Casing Hammer Date Started: 2/21/00 Grab Date Completed: 2/23/00 Land Surface Elev. Logged by: M.McGione
and Surf. Elev: 2563.0			L				2563 Reviewed by: S.Smith
WELL COMPLETION							ESTIMATED
Here com renom	Blow Count	% Recovery	PID (ppm)	Samples	Depth - FT.	Graphic Log	
				C			Poorly-graded sand; light brown (7.5YR, 6/4), SP 5 90 5 medium sand (continued)
85				S I G	185 _ - -		Poorly-graded sand w/ gravel; light brown (7.5YR, SP 25 70 5 6/4), medium sand w/ fine gravel.
90 - 6-inch sch-80 - 1/4-inch slot - (156.5-225.4' bls)				G	190		Poorly-graded sand; very pale brown (10YR, 7/4), SP 0 95 5 medium sand.
95				G	195		Well-graded sand w/ gravel; pinkish gray (7.5YR, SW 30 65 5 6/2), fine gravel.
				G	200	,	Well-graded sand w/ gravel; pink (7.5YR, 7/4), fine SW 25 70 5 gravel.
205 - 1/4 to 3/4-inch washed gravel (139-250.6' bis)				G	205		Well-graded sand w/ gravel; light brown (7.5YR, SW 25 70 5 6/4), fine gravel.
				G	215		Well-graded sand; light brown (7.5YR, 6/4), fine to SW tr 95 5 medium sand.
				G	220		Well-graded sand w/ slit; light brown (7.5YR, 6/4). SW- 10 SM SM
				G	225		Silty sand; light gray (10YR, 7/2), tine to medium SM tr 85 15 sand.
no end cap				G	230		Silly sand; light gray (10YR, 7/2), fine to medium SM 5 70 25 sand. Silly sand w/ grayel: light gray (10YR, 7/2), fine to SM 20 60 20
35 Condensate sump				G	235		medium sand.
			_	G	- - - 240		Well-graded sand w/ silt and gravel; light brown SW- 40 50 10 (7.5YR, 6/4).
		Li	hol	ogi	c Lo		id Well Construction Details of R-075A (SVE-5 adway North Landfill Well Installation
CHEM, INC.		Ăρρι	oved		D	ate	Revised Date Reference: FIG.

–	Pro	ject:	COT	r, Broadway N	lorth	Lar	ndfill	Wel	l Ins	tallat	ion Boring: R-075A (SVE-5) Pg. 5 of	5_
	Drilli	ing Co:	THF	Drilling Company	(Jaso	n Pi	roffer)	Dril	ling M	ethod:	Air Rotary Casing Hammer Date Started: 2/21/00	
	Lo			dway North Land		51 1		_			Grab Date Completed: 2/23/00 Land Surface Elev. Logged by: M.McGlone	
				Street, Tucson AZ			_ (
Li	and Su	rf. Elev:		63.0	·	-1	T	Me	as. Pi	Elev:	2563 Reviewed by: S.Smith	Ī
	Depth - FT.	WEL	_COM	IPLETION	Blow Count	% Recovery	P(D (ppm)	Sampies	Depth - FT.	Graphic Log	DESCRIPTION	Moisture
	-			— Condensate sump				G			Well-graded sand; light brown (7.5YR, 6/4), fine to SW tr 95 5 coarse sand.(continued)	D
	45			— 10 3/4-inch Bore I (244-250.6' bls)	hole			G	245 _ - - 250 _		Well-graded sand w/ silt & gravel; light brown SW- 40 50 10 (7.5YR, 6/4), fine gravel.	D
	50										Total hole depth = 250.6" bls	
VPROJ.GDT 4/17/00												
HGC-WELL 65800.GT	A		HYI GE(DRO D		i	_itho	log	ic L		nd Well Construction Details of R-075A (SVE- adway North Landfill Well Installation	-ວ)
HGC-WEI	E		CHI	EM, INC.			.Tang			Date	Revised Date Reference: FIG.	<u>)</u>



	To Co Drl	Clien Site:	DEPTH,	SYMBOL	SAMPLE	HEADSPACE READINGS	DEPTH, -LILAN FT. J. AHdey	DVX	ŧ	Ground Le	vel
	Dep nent:		FT.	(USCS)	DESCRIPTION 0-2' SAND, silty with gravel cover material	READINGS	XXX	(ррл)			
		CITY OF	— 5 — — 10 —	MMF	REFUSE - plastic, paper, metal, glass, damp, Burned starting at 9'						1/2
	350' _IK - B	F TUO	— 15 — —20 —		SAND modium (fine grained alltu with miner alow		- 15 - XXX - 20				
	Casin BOB H/	F TUCSON BROADWAY	-25- -30-		SAND, medium/fine grained, silty with minor clay and gravel, brown, damp		-25-				SCH 80 (
	P g		- 35- - 40-			сн ₄ - о	-35-	0	F		CASING
	8 Size: X	Job No.: DFILL	-45- -50-	SW			-45-		SENTO		S S
	ى ۱		-55- -60-				-55-		ENTO		
	1/2″ S	-1096	-65- -70-				-65-		BENTONITE SEAL		10/20 SA
740	SCH 80	1362-10968-117.RT.JNVT	-75- -80-		SAND, fine grained, silty, tan, damp then sand	сн ₄ - о	- 75-	0	EAL -		
74A	AND 1	RT.JNV	-85- -90-		fine/medium grained, silty with granitic gravel, brown, tan, white, damp	014 0	-85-	Ū	9		SLOT-
	1 - 5"		-95-				-95-				
	SCH	te Drille	100 105				100				
	80 Drillin	Date Drilled: 1/8-16/97 Top of Casing	— 110 — — 115 —				-110-				
	<u>80</u> _Slot Slze: Drilling Method: Logged by:	-16/97 of Casing	—120— —125—	SM/ SW			-120-				
	P. H		130 135				-130 -135-				BENTONITE SEAL
) (1/2") 2 SA DENTLER	Boring No.: Elevation:	140 145				-140- -145-				ITE SE
	20 (5″) ER	MW-2 2566.209	150- 155-				-150				IO/20 SAND
	<u>"</u>	209	—160— —165—				-160- -165-				
			-170- 	3	SAND, medium grained with clay, brown, damp	сн ₄ - о	-175	0			
	co so	a.	-180- 185-	sc			-185		5" SCH		
	MAND		—190- —195-				-190-		80		BENTO
	SOIL BORING I GROUNDW MONITOR		-200 -205				200		CASING		BENTONITE SEAL
	NAND NAND		-210- -215-		e 220' moist clumps of sand		-210-		Š		SEAL
	LOG / ATER WELL DIAGR		-220 -225		SAND, medium grained, interbedded zones of: sand fine grained (sugar sand), damp, tan with		220				0
	RAND RAM	GROUNDWATER	-230 -235		sand medium grained with gravel, brown, damp		230				10/20 S
		CNE	-240 -245	3			240 245		1		SAND
	CDM	WA	250 255		dries with depth to ~280' where moisture increases		250 255		1/2" S(
		Ē	-260 -265	-		сн ₄ - о	260	0	SCH 80		
	amp D	1000	-270 -275	-			270 275		- 10 3		
	Camp Dresser & McKee Inc.	MONITOR	280				280 285		SLOT		BENTONITE SEAL
	t McKe	a second product	-290 -295		GRANITE, poorly cemented, ground to flour and subrounded quartz, feldspar, mafic gravel		290 295	-			TE SE
	e Inc.	WELL	-300		2' sand, brown, damp	10	300 305				P
			310- 315-				310-		 =		
	TUC	MW-2	-320 -325	1 01	SAND, medium/coarse grained, some gravel, brown, saturated	-	320 325	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	₹	~	
	ANDE		-330 -335	-	GRANITE, poorly cemented, ground to flour and subrounded quartz, feldspar, mafic gravels		<u>330</u> 335		-5" \$		10/20 SAND
	BROADWAY NORTH LANDFILL SITE TUCSON, ARIZONA		-340 345	-			340 345		SCH 80		SAND
	SITE		-350 -355		TD 350 FEET		350) - 20		
	IA		-360 -365				-360 -365-) SLOT		
			-370 -375				-370- -375-				
	Figure No.		-380 -385				-380 -385-				
							And Address of the local division	and the second			

WR-274A

Client: <u>Cl</u> Site: <u>NO</u> Total Dept Comments: Driller: <u>E</u>	DEPTH Ft.	, SYMBOL (USCS)	SAMPLE Description	HEADSPACE READINGS	DEPTH, LIVER	OVN (ppn)	
<u>CITY 0</u> NORTH Depth: BEYLL	- 5 - - 10 -	SM MMF	SAND, silty, damp, brown REFUSE, plastic, paper, wood, solid waste odor, damp			The Real Property lies and the	
TUCSON ROADWAY - Cesin - BOB HJ	-20- -25- -30-	sc	SAND with clay, dark brown, moist cobbles up to 4″ at 18-20′		-20 -25 -30	XXXXXX	SCH 80 CA
NJob No.: AY LANDFIL Isling Type & Size: HANCOCK	- 35- - 40- - 45-	SW	SAND, medium to coarse grained, some gravel, brown, damp	сн ₄ - о	35 40 45 50	0	
	-50- -55- -60- -65-				55 55 60 65	000000000000000000000000000000000000000	LI CITAL SAND
68-117.R SCH 80	- 70- - 75- - 80-		SAND, medium grained, some silt, brown, damp	-	70 75 80 85	9 9 9 9	SCH 80 -
- Date	- 85 - - 90 - - 95 - - 100-		SAND, fine to medium grained, silty, granitic gravel, brown and white, damp	-	90 95 100	*	
Date Drilled: 12/1 5 <u>SSCH 80_s</u> Drilling	— 105- — 110 - — 115 -				-105 - 110 - 115 - 120	000000000000000000000000000000000000000	
sd: 12/11/96-1/4/S Top of Casing Elev <u>80</u> Stot Size: 10 Drilling Method: <u>H</u> 3 Logged by: <u>P</u>	-120- -125- -130- -135-	SW			-125 -130 -135	000000000000000000000000000000000000000	
97_Boring /atlon:25 (1/2"), 2 SA DENTLER	-140 -145 -150 -155				140 145 150	000000000000000000000000000000000000000	1/2" SCH 8
No.: MW-3 72.244' 0 (5″)	-160 -165 -170		SAND, medium grained with clay, plastic, brown, damp	-	-160 -165- -170	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	CINES
CON	=175 =180 =185 =190	sc			175 180 185 190	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	T 5″ SCH 80 -
SOIL BORING L GROUNDRY MONITORY COMPLETION	-195 -200 -205	L X			195 200 205	\$12/2/2/2/2/2	IO SLOT
	-210 -215 -220 -220		SAND, fine (sugar sand) to medium grained, interbedded with gravel and minor clay (clay balls), brown, damp		210 215 220 225		
G AND ER ILL IGRAM					230 235 240 245		, 10/20 SAND
GROUNDWATER AND CDM G RAM	24) 25) 25) 26)	SW			250 255 260	000000000000000000000000000000000000000	ANDBE
		0 5			265 270 275 280	000000000000000000000000000000000000000	80 - 10 SI
R MONITOR WELL Camp Dresser & McKee Inc.	-28 -29 -29	5 0 5		сн ₄ - о	285 290 295	0	IO SLOT
F		5	GRANITE (cobbles), drill rig is pulverizing rock to dust		300 305 310 315		
BROAD LANE TUCSO	-32 -32 -33	0 5 0	SAND, medium to coarse grained with angular gravel, minor clay, brown, moist	_	320 325 330 335	0000000	I.₹
IW-3 BROADWAY NORTH LANDFILL SITE TUCSON, ARIZONA		0 SV 5			340 345 350		5" SCH
ONA ONA	-35 -36 -36 -37	0 5	TD 360 FEET		355 360 365 370	000 000 000 000 000	80 - 20
A-3	-31 -37 -38 -38	'5 10			375 380 385		SLOT

WR-275A

APPENDIX B WELL CONSTRUCTION DIAGRAMS AND LITHOLOGIC LOGS BROADWAY SOUTH LANDFILL

Table B2 Broadway South Landfill Soil Gas Probe Construction Data

Well/Probe ID	Depth (ft bsl)	Probe Diameter (in)	Top of Screen (ft bsl)	Bottom of Screen (ft bsl)	Monitor Well Borehole Diameter (in)	Depth to Top of Probe Filter Pack (ft bsl)	Depth to Bottom of Probe Filter Pack (ft bsl)	Data Source
BP-22 : 200	200	1.0	195	200	10.75	190	205	(1)
BP-22 : 250	250	1.0	245	250	10.75	240	255	(1)
BP-22 : 300	300	1.0	295	300	10.75	290	305	(1)
BP-22 : 438	350	4.0	358	438	10.75	358	458	(1)
BP-23 : 200	200	1.0	195	200	10.75	190	205	(1)
BP-23 : 250	250	1.0	245	250	10.75	240	255	(1)
BP-23 : 300	300	1.0	295	300	10.75	289	305	(1)
BP-23 : 440	350	4.0	350	440	10.75	345	455	(1)
BSDP-1:100	100	1.0	95	100	10.75	90	106	(1)
BSDP-1:150	150	1.0	145	150	10.75	140	155	(1)
BSDP-1:200	200	1.0	195	200	10.75	190	205	(1)
BSDP-1 : 248 BSDP-1 : 300	248 300	1.0 1.0	243 295	248 300	10.75 10.75	238 290	253 305	(1)
BSDP-1 : 300 BSDP-1 : 350	300	1.0	295 345	300	10.75	290 340	305	(1)
BSDP-1:350 BSDP-2:100	100	1.0	95	100	10.75	90	105	(1)
BSDP-2 : 100 BSDP-2 : 150	150	1.0	95 145	150	10.75	90 140	156	(1)
BSDP-2 : 130	200	1.0	145	200	10.75	140	205	(1)
BSDP-2 : 250	250	1.0	245	250	10.75	240	255	(1)
BSDP-2 : 300	300	1.0	295	300	10.75	290	305	(1)
BSDP-2 : 350	350	1.0	345	350	10.75	340	351	(1)
BSDP-3 : 50	50	1.0	45	50	9	40	55	(1)
BSDP-3 : 100	100	1.0	95	100	9	90	105	(1)
BSDP-3 : 150	150	1.0	145	150	9	140	157	(1)
BSDP-4 : 48	48	1.0	43	48	9	38	53	(1)
BSDP-4 : 100	100	1.0	95	100	9	90	105	(1)
BSDP-4 : 150	150	1.0	145	150	9	140	157	(1)
MW-5	14.6**	4.0	-	-	-	-	-	(2)
MW-6	-	-	-	-	-	-	-	
MW-7	18.5**	4.0	-	-	-	-	-	(2)
MW-8	18.5**	4.0	-	-	-	-	-	(2)
MW-9	19.4**	4.0	-	-	-	-	-	(2)
PRUD-1	-	-	-	-	-	-	-	
PRUD-2	-	-	-	-	-	-	-	
PRUD-3	-	-	-	-	-	-	-	
PRUD-4	9.8**	0.5	-	-	-	-	-	(2)
PRUD-5	30.5**	0.5	-	-	-	-	-	(2)
PRUD-6	29.7**	1.0	-	-	-	-	-	(2)
PRUD-16	15	0.5	15	18	8	-	-	(3)
PRUD-16	25	0.5	25	28	8	-	-	(3)
PRUD-17	10	0.5	10	13	8	-	-	(3)
PRUD-17 PRUD-18	25 10	0.5 0.5	25 10	28 13	8	-	-	(3)
PRUD-18 PRUD-18	10 25	0.5	10 25	13 28	8	-	-	(3)
PRUD-18 PRUD-19	10	0.5	25 10	13	8	-	-	(3)
PRUD-19 PRUD-19	25	0.5	25	28	0 8	-	-	(3)
PRUD-20	10	0.5	10	13	8	-	-	(3)
PRUD-20 PRUD-20	25	0.5	25	28	8	-	-	(3)
WR-434A : 50	50	0.5	45	50	10.75*	35	60	(3)
WR-434A : 50 WR-434A : 150	150	0.5	145	150	10.75*	135	160	(4)
WR-434A : 250	250	0.5	245	250	10.75*	235	260	(4)
	350	0.5	345	350	10.75*	335	360	(4)

Notes:

ft bls = feet below land surface

in = inches

* Diameter was assumed to calculate purge volume

** Depth was measured on May 10, 2013 by Clear Creek and ADEQ. Possible obstructions may have been present, causing inaccurate measurements.
 Information not known

Sample ID (WR-273A : 50) = probe ID (WR-273A) colon sample depth (typically the bottom of the screen interval; 50 feet below land surface).

Data sources:

1 SECOR, 2006b

2 Measured by Clear Creek and ADEQ 5-10-13

3 Engineering and Environmental Consultants, Inc., 2007

4 City of Tucson, 2001

Full citations are provided in the References section of the LOU RI Report.



-	DRILLING INSTALL/ DRILLING DRILLING	DN: <u>T NUM</u> G: ATION G COM G EQU G METI	BER: STA : STA PANY IPMEN HOD:		Ad NOI LAT GRO INIT STA WE	RTHING (ft): TUDE: OUND ELEV TAL DTW (ft): TIC DTW (ft)	(ft): : 403.70 : DIAMETE	PAGE 1 0 0 5/5/06 ER (in): 1,4	F 14 EASTIN LONGI ^T TOC EL BOREH WELL I	TUDE: LEV (ft): IOLE DEF DEPTH (ft IOLE DIA	∑ E C © R → TH (ft): 458.0): 458.0 METER (in): 10 3/4 2. Pollock
	Time & Depth (feet)	Graphic Log	nscs	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count Headspace PID	(units) Depth (feet)		Well Construction
-	- - - 5- -		-sc	Fill Material consists of silt, clay, sand, and gravel, Boring post hole dug to approx. 2.5 feet bgs CLAYEY SAND WITH GRAVEL; SC; 5YR 4/4 brown; fine to coarse-grained; medium plasticity; dense; dry; no odor; none cementation; subangular; well graded; 55% sand, 30% clay, 15% fine to coarse (5-35mm), subangular gravel Medium dense; slight odor	A A A A A A A A A A A A A A A A A A A	1633 - soil		3.2		1 × 11 × 11 × 11 × 11 × 11 × 11 × 11 ×	 Above ground dog house vault with 1 inch and 4 inch PVC caps 4 inch schedule 80 PVC, Blank
06	- 10 - - - -			Loose; 55% sand, 30% fine (5-15mm), subangular gravel, 15% clay, trace of trash - glass, wood, plastic	X X X X X	1641 soil 1647		3.5		KU 1 KU 1 KU 1 KU 1 KU 1 KU KU 1 KU 1 KU	Casing with cement grout
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ SECOR INTL.GDT 10/23/06	15 - - - - 20 -		SM	SILTY SAND WITH GRAVEL; SM; 10YR 2/2 dark yellowish brown; fine to coarse-grained; non plastic; loose; dry; strong odor; none cementation; subangular; well graded; 40% sand, 25% silt, 25% (5-35mm), subangular gravel, 10% trash-glass, plastic, wood, metal 15% trash - glass pieces, wood fragments, plastic, paper, trace of clay	* * * * * * * * * * * * * * * * * * *	soil 1650 soil		6.8		1 X 1 1 X 1 1 X 1 1 X 1 1 X 1 1 X 1 1 X 1	
P-1, BSDP-2, BSDP-3, BSDP-4, BP-22, /	- 25		-sc	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; medium plasticity; medium dense; dry; slight odor; none cementation; subangular; well graded; 40% sand, 35% fine (5-15mm), subangular gravel, 25% clay	× × × × ×	1700 - soil		7.8	25-	1 × 11 × 11 × 11 × 11 × 11 × 11 × 11 ×	1 inch schedule 80 PVC, Blank Casing with cement grout
GEO FORM 304 BORING LOGS BSD	- 30 – - - - -			40% sand, 30% clay, 20% fine (5-15mm), subangular gravel	A V V V X X X	1706 soil 1710		12.0) 30-	<u>XVIIXIIIXIIXIIXIIXX</u> XVIIXIIXIIXIIXXI XVIIXIIXIIXIIXVIIXXI	

PROJEC LOCATIC PROJEC	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	d		OLE / BORE	2 OF	14		SECOR
DRILLING DRILLING DRILLING	ATION G COM G EQUI G METI	: STA PANY IPMEN HOD:		LAT GR INI ^T ST/ WE	RTHING (ft): FITUDE: OUND ELEV TIAL DTW (ft): ATIC DTW (ft): ELL CASING E GGED BY: K.	403.70 5/5 : DIAMETER (ir Harker	L 7 5/06 E 1,4 E 0): 1,4 E	VELL D BOREH(CHECKE	UDE: EV (ft): OLE DEP EPTH (ft) OLE DIAN	TH (ft): 458.0 : 458.0 1ETER (in): 10 3 . Pollock
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet) Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
		SM	SILTY SAND; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; slight odor; none cementation; subangular; poorly graded; 85% sand, 15% silt, trace of fine (5 mm), subangular gravel and clay	X X X X	- soil 1713		5.5		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
40-		SM	CLAYEY SAND WITH GRAVEL ; SM; 5YR 4/4 brown; fine to coarse-grained; low plasticity; medium dense to loose; dry; slight odor; none cementation; subangular; well graded; 55% sand, 30% fine (5-10mm), subangular gravel, 15% clay	X X X X	- soil		3.7	40	NY NY NY N NY NY NY N NY NY NY N	 4 inch schedule 80 PVC, Blank Casing with cement grout
45 -		SW	SAND WITH GRAVEL ; SW; 5YR 5/6 light brown; fine to coarse-grained; loose; dry; slight odor; none cementation; subangular; well graded; 75% sand, 25% fine (5-10mm), subrounded gravel, trace of silt	X X X X X	1755 - soil		1.6	45-	X	
		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; medium dense to loose; dry; slight odor; none cementation; subangular; well graded; 60% sand, 20% clay, 20% fine to coarse (5-40mm), subrounded gravel	X X X X	1800 - soil		6.9	50	1 X X	
55- 5 5		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 50% sand, 30% fine (5-7mm), subangular gravel, 20% silt, trace of clay	X X X X	1805 - soil		4.4	55-		— 1 inch schedule 80 PVC, Blank
5 60-			45% sand, 40% fine (5-7mm), subangular gravel, 15% silt, trace of clay	X X X X	1812 - soil		3.8	60	X (1 X 1 1 X 1 X 1 X 1 X 1 X 1 X 1 X 1	Casing with cement grout
			SILTY SAND ; 5YR 5/6 light brown; fine to medium-grained; poorly graded; 60% sand, 40% silt, trace of fine (5 mm), subrounded gravel	X X X X X	1814 - soil		4.2	65	LLAVILAVILAVILA 11/2/1/2/1/2/1/2/1/2/1/2/1/2/1/2/1/2/1/	
GEO FORM 304					1820					

	PROJECT LOCATIOI PROJECT	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	d WE	LL / PROBEH						SECOR
	DRILLING DRILLING DRILLING	TION: COM EQUI	STA PANY PMEN HOD:		LAT GRO INIT STA WE	RTHING (ft): TUDE: DUND ELEV TAL DTW (ft): TIC DTW (ft)	(ft): : 403.7 : DIAMETI	0 5/5/ ER (in) e r	E L 7 (06 E V : 1,4 E	ASTIN ONGIT OC EL OREH VELL D OREH CHECK	UDE: EV (ft): OLE DEP DEPTH (ft): OLE DIAM	TH (ft): 458.0 458.0 IETER (in): 10 3/4 . Pollock
	Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
	-		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; loose; dry; slight odor; none cementation; subangular; well graded; 60% sand, 30% clay, 10% fine (5-10mm), subangular gravel	X X X X	- soil 1828			6.8	-	AUNAUNAUNAU AUNAUNAUNAU AUNAUNAUNAU AUNAUNAUNAU	
	75 - - -			Non plastic; no odor; 70% sand, 15% clay, 15% fine to coarse (5-25mm), subangular gravel, trace of silt	X X X X	soil			5.8	75 — - - -	V A 1 1 VA 1 1 VA 1 1 VA 1 VA 1 1 VA 1 1 VA 1 1 VA 1 VA 1 1 VA 1 1 VA 1 1 VA 1 VA 1 1 VA 1 1 VA 1 1 VA 1 VA 1 1 VA 1 1 VA 1 1 VA	 4 inch schedule 80 PVC, Blank Casing with cement grout
	80 — - -			Low plasticity; 50% sand, 30% fine to cobbles (5-75mm), subangular gravel, 20% clay	X X X X	1830 - soil			4.1	80— - -	1121122112211221122 112112211221122 112112	
ECOR INTL.GDT 10/23/06	85 — - -			CLAYEY SAND ; 5YR 5/6 light brown; fine to medium-grained; low plasticity; loose; dry; no odor; none cementation; subangular; poorly graded; 80% sand, 20% clay, trace of fine (5-10mm), subrounded gravel	X X X X	0931 - soil			7.0	85— - -	1117211721172117 1117211721172117 111721172	
4, BP-22, AND BP-23.GPJ SI	- 90 — - -			WITH GRAVEL; 5YR 4/4 brown; medium plasticity; medium dense to loose; 70% sand, 15% clay, 15% fine to coarse (5-40mm), subrounded gravel	X X X X	0936 - soil			1.2	- 90 - - -	X11/X11/X11/X11 X11/X11/X11/X11 X11/X11/	— 1 inch schedule 80 PVC, Blank
2-1, BSDP-2, BSDP-3, BSDP-	- 95 — - -			CLAYEY SAND ; fine to coarse-grained; low plasticity; loose; well graded; 85% sand, 15% clay, trace of fine (5-7mm), subangular gravel	X X X X	0942 soil			1.7	- 95 — - -	1) 2) 2) 2) 2) 2) 2) 2) 2) 2) 2) 2) 2) 2)	Casing with cement grout
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ SECOR INTL.GDT 10/23/06	- 100 — - -			WITH GRAVEL; 60% sand, 20% clay, 20% fine to coarse (5-20mm), subangular gravel	X X X X	0945 - soil			0.7	- 100— - -	1112111221	
GEO FO.	-					0951						

	PROJECT LOCATIO PROJECT	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	d	BP-		BOREHOLE N PAGE 4 OF	14		S E C O R
	drilling Drilling Drilling	ATION G COM G EQUI G METI	: STA PANY IPMEN HOD:		LAT GR INIT ST/ WE	RTHING (ft): TIUDE: OUND ELEV TIAL DTW (ft): ATIC DTW (ft) LL CASING D GGED BY: K.	403.7	L T 70 5/5/06 E V ER (in): 1,4 E er C	OREH VELL D OREH CHECK	UDE: EV (ft): OLE DEP DEPTH (ft): OLE DIAM	ГН (ft): 458.0 458.0 IETER (in): 10 3/4 . Pollock
	Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count Headspace PID (units)	Depth (feet)		Well Construction
	- - -		SW	SAND WITH GRAVEL; SW; 10YR 7/4 grayish orange; fine to coarse-grained; loose; dry; no odor; none cementation; subangular; well graded; 85% sand, 15% fine to coarse (5-25mm), subrounded gravel, trace of silt	XXXXX	- soil 1004		2.2	-	X11XX11XX11X11 X11XX11XX11X11 X11XX11XX	
	- 110 - - -		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to medium-grained; low plasticity; medium dense to loose; dry; no odor; none cementation; subangular; well graded; 45% sand, 30% fine to coarse (5-40mm), subrounded gravel, 25% clay	X X X X	soil		0.0	110— - - -	•V111×111×111×111× 1×111×111×111×111× 1×111×111×111×111×	 4 inch schedule 80 PVC, Blank Casing with cement grout
	115 - -			CLAYEY SAND ; fine to coarse-grained; loose; 80% sand, 20% clay, trace of fine (5-7mm), subangular gravel	X X X X	1009 - soil		0.9	115— - -	1121122112211221122 112112211221122 112112	
SECOR INTL.GDT 10/23/06	120 - - -			WITH GRAVEL; 50% sand, 35% fine (5-15mm), subangular to subrounded gravel, 15% clay	X X X X	1013 - soil		2.7	120— - -	1117211721172117 1117211721172117 111721172	
-4, BP-22, AND BP-23.GPJ S	- 125 - -			CLAYEY SAND ; fine to medium-grained; subrounded; poorly graded; 80% sand, 20% clay, trace of fine (5-7mm), subrounded gravel and silt	X X X X	1017 soil		1.6	- 125 — - -	X1//X1//X1//X1//X1// X1//X1//X1//X1//X1/	— 1 inch schedule 80 PVC, Blank
DP-1, BSDP-2, BSDP-3, BSDP	- 130 — - -			WITH GRAVEL; fine to coarse-grained; medium plasticity; medium dense to loose; well graded; 45% sand, 35% fine to coarse (5-45mm), subangular to subrounded gravel, 20% clay	X X X X	1026 - soil		1.2	- 130— - -		Casing with cement grout
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ	- 135 — - -			Low plasticity; loose; 70% sand, 15% clay, 15% fine to coarse (5-20mm), subrounded gravel	X X X X	1044 - soil		5.1	- 135 — - -	X	
GEO F	-					1053					

	DRILLING INSTALLA DRILLING DRILLING DRILLING	N: - NUMI - NUMI 	BER: STA STA PANY PMEN HOD:	IT: Becker Hammer Percussion-Hammer	Ad NOF LAT GRO INIT STA WE	TIC DTW (ft)	(ft): : 403.7 : DIAMET	<u>PAGE</u> 70 5/5/ TER (in)	<u>5 OF</u> E L 7 (06 E V 2 : 1,4 E	14 ASTIN ONGIT OC EL BOREH VELL D BOREH	UDE: EV (ft): OLE DE EPTH (OLE DI	SECOR SECOR PTH (ft): 458.0 ft): 458.0 AMETER (in): 10 3/4
	Time & Depth (feet)	Graphic Log	JIPME	NT: Cyclone Description	Sample	GGED BY: K. Time Sample ID	Measured Recov. (feet)		Headspace PID (units)		ED BY:	C. Pollock Well
	ËQ£	es ///	SC	Medium plasticity; 50% sand, 30% fine to coarse (5-20mm), subangular gravel, 20%	Sa	Method - soil	Mea Re (f	οŭ Ω	неас Неас 4.1	Ŭ.		Construction
	- - - 145 - - -			45% sand, 35% clay, 20% fine to coarse (5-20mm), subangular to subrounded gravel	X X X X X X X X X	1100 soil			4.2	- - - 145 - -		4 inch schedule 80 PVC, Blank Casing with cement grout
	- 150 - -			Low plasticity; 65% sand, 20% clay, 15% fine to coarse (5-20mm), subangular gravel	X X X X	1117 soil			4.0		1 X 1 X	
R INTL.GDT 10/23/06	- 155 — - -			Poorly graded; 60% sand, 30% clay, 10% fine (5-15mm), subrounded gravel	X X X X	1124 soil			3.5	155		1 inch schedule 80 PVC, Blank Casing with cement grout
P-22, AND BP-23.GPJ SECC				Fine to medium-grained; 60% sand, 30% clay, 10% finr (5-10mm), subrounded gravel	XXXX	1133 - soil			5.8	160-		⊷4 inch schedule 80
, BSDP-2, BSDP-3, BSDP-4, B	- 165 — - -			Fine to coarse-grained; well graded; 55% sand, 30% fine to coarse (5/10mm), subangular gravel, 15% clay, trace of silt	X X X X X	1146 soil			4.9	- 165 — -		PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet seal
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ SECOR INTL.GDT 10/23/06	- 170 - - -		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 50% sand, 30% fine to coarse (5-20mm), subrounded gravel, 20% silt, trace of clay		1157 soil			5.7	- 170 — - - -		 — 1 inch schedule 80 PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet seal

[PROJECT LOCATIO PROJECT	N:	BER:	Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	d	LL / PROBEH	-	-	OF	14			S E C O R
	DRILLING DRILLING DRILLING	ATION: 6 COM 6 EQUI 6 METH	: STA PANY PMEN HOD:		LAT GR INIT ST/ WE	RTHING (ft): FITUDE: OUND ELEV (FIAL DTW (ft): ATIC DTW (ft): LL CASING D <u>GGED BY: K.</u>	403.70	ER (in): r	L T 06 E V 1,4 E	OREH VELL D OREH CHECKI	UDE: EV (ft): OLE DE EPTH (OLE DI	EPT (ft): /	н (ft): 458.0 458.0 ЕТЕR (in): 10 3/4 <u>Pollock</u>
	Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count Headsnare	(units)	Depth (feet)			Well Construction
-	-		SM	65% sand, 20% silt, 15% fine to coarse (5-20mm), subrounded gravel	X X X X	soil			2.9	-			-4 inch schedule 80 PVC, Blank
	- -			55% sand, 30% fine to coarse (5-20mm), subrounded gravel, 15% silt	X X X X X	1234 - soil			4.1	- 180 — - -			Casing with bentonite 3/8" chip and 1/4" pellet seal
	- 185 — - -			SILTY SAND ; fine to medium-grained; poorly graded; 80% sand, 20% silt, trace of fine (5-10mm), subrounded gravel and clay	X X X X	1310 - soil			2.8	- 185 — - -			- 1 inch schedule 80 PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet seal
SECOR INTL.GDT 10/23/06	- 190 — - -		SC	CLAYEY SAND WITH GRAVEL; SC; 5YR 4/4 brown; fine to medium-grained; medium plasticity; medium dense to loose; dry; no odor; none cementation; subrounded; poorly graded; 55% sand, 35% clay, 10% fine (5-10mm), subrounded to rounded gravel, trace of silt	X X X X	1323 - soil			1.8				← 1 inch and 4 inch schedule 80
, BP-22, AND BP-23.GPJ S	195 — - -		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 50% sand, 30% fine (5-7mm), subangular gravel, 20% silt, trace of clay	X X X X X	1342 soil			4.1	195			PVC, Blank Casing with filter sand 8-12 ← 1 inch schedule 80
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ	- 200 — - -		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; medium plasticity; loose; dry; no odor; none cementation; subrounded; poorly graded; 50% sand, 35% clay, 15% fine to coarse (10-30mm), subrounded to rounded gravel	X X X X	1350 - soil			1.8	200			PVC, 0.02 inch slotted casing, filter sand 8-12 1 inch PVC end plug, filter sand 8-12
RM 304 BORING LOGS BSD	- 205 — - -			Subangular; well graded; 50% sand, 30% clay, 20% fine (5-15mm), subangular to subrounded gravel	X X X X X	1416 soil			3.9	- 205			
GEO FO	-					1430				-			

PROJEC LOCATIC PROJEC	DN:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	we ad	IL / PROBEF						S E C O R
DRILLING INSTALL DRILLING DRILLING	G: ATION G COM G EQUI G METI	STA : STA PANY IPMEN HOD:	RTED5/2/06COMPLETED:5/11/06RTED5/2/06COMPLETED:5/11/06::Layne Christensen Company	LAT GR INI ^T ST/ WE	RTHING (ft): FITUDE: OUND ELEV FIAL DTW (ft) ATIC DTW (ft)	(ft): : 403.7): DIAMET	70 5/5/ ER (in) er	E L 7 /06 E V : 1,4 E	EASTIN LONGIT FOC EL BOREH WELL D BOREH CHECKI	UDE: EV (ft): OLE DE EPTH (OLE DI	EPTH (ft): 458.0 (ft): 458.0 AMETER (in): 10 3 <u>C. Pollock</u>
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
		GW- GC	GRAVEL WITH SAND AND CLAY ; GW-GC; N6 light gray; fine-grained; medium plasticity; loose; dry; no odor; none cementation; well graded; 45% (5-15mm), subangular to subrounded gravel, 35% fine to coarse-grained sand, 20% clay	X X X	- soil 1438			2.0	-		
215-		SC	CLAYEY SAND; SC; 5YR 4/4 brown; fine to medium-grained; medium plasticity; dense; dry; no odor; none cementation; subrounded; poorly graded; 60% sand, 40% clay	X X X	soil			0.5	215		 4 inch schedule 80 PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet seal
220-		SM	SILTY SAND; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 70% sand, 30% silt, trace of fine (5-7mm), subangular gravel and clay	X X X	1450 - soil 1455			1.3	220		
225 -		GP- GC	GRAVEL WITH SAND AND CLAY ; GP-GC; N7 - 5YR 4/4 light gray to brown; fine-grained; medium plasticity; loose; dry; no odor; none cementation; poorly graded; 55% (5-10mm), subangular to angular gravel, 30% fine to coarse-grained sand, 15% clay	X X X X X	soil			1.2	225		
230-			Low plasticity; 45% (5-15mm), subangular to subrounded gravel, 40% fine to coarse-grained sand, 15% clay	X X X X	1457 - soil			1.5	230-	-	- — 1 inch schedule 80 PVC, Blank Casing with
235-		SW	SAND ; SW; 5YR 6/4 light brown; fine to coarse-grained; loose; dry; no odor; none cementation; subangular; well graded; trace of fine (5-10mm), subrounded gravel and clay	X X X	1506 - soil			0.8	235-		bentonite 3/8" chip and 1/4" pellet seal
240-			Trace of silt	X X X X	1511 - soil			0.9	240		 1 inch and 4 inch
	- • • • • • • • • • • • • • • • • • • •				1522						schedule 80 PVC, Blank Casing with

PROJECT LOCATIOI PROJECT	N:	BER:	Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	ad			BOREH	3 OF	14		S E C O R
DRILLING DRILLING DRILLING	TION COM EQUI	: STA PANY IPMEN HOD:		LAT GR INI ^T ST/ WE	ATIC DTW (ft)	403.7	ER (in): er	L T 06 E V 1,4 E	SOREH VELL D SOREH CHECK	UDE: EV (ft): OLE DE DEPTH (f OLE DIA	PTH (ft): 458.0 i): 458.0 METER (in): 10 3 <u>C. Pollock</u>
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	neauspace PID (units)	Depth (feet)		Well Construction
		SC	CLAYEY SAND WITH GRAVEL; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; loose; dry; no odor; none cementation; subangular; well graded; 45% sand, 30% fine (5-15mm), subangular gravel, 25% clay		- soil 1535 - soil			<u>0.7</u>	- - - 250		filter sand 8-12 1 inch schedule 80 PVC, 0.02 inch slotted casing, filter sand 8-12 1 inch PVC
- - 255 -			CLAYEY SAND ; medium plasticity; medium dense to loose; 70% sand, 30% clay, trace of fine (5 mm), subangular gravel	A X X X X X X X X X X X X X X X X X X X	1548 - soil			2.3	- - 255— - -		end plug, filter sand 8-12
260			WITH GRAVEL ; low plasticity; 55% sand, 25% fine (5-10mm), subangular gravel, 20% clay	A X X X X X X	1601 - soil			0.9	- 260— - -		← 4 inch schedule 80 PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet
265-		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 65% sand, 20% silt, 15% fine (5-10mm), subangular gravel	× × × × × ×	1612 - soil			5.1	- 265— - -		seal
5 270 — 7 -			Fine (5-15mm), subrounded gravel	× × × ×	1628 soil			5.2	- 270- -		<- 1 inch
			65% sand, 20% fine (5-15mm), subrounded gravel, 15% silt	X X X X X X X	1640 - soil			5.7	- 275 - - -		schedule 80 PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet seal
GEO TOTA 304					1700				_		

PROJECT LOCATIO PROJECT	N:	BER:	Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	d	LL / PROBEHOL		9 OF	14	Secor
drilling Drilling Drilling	ATION G COM G EQUI G METI	: STA PANY PMEN HOD:		LAT GR INIT ST/ WE	<u>GGED BY: K. Ha</u>	03.70 5/ METER (iii arker	ן - 5/06 ני ח): 1,4 ני ע	BOREH WELL E BOREH CHECK	. ,
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	(feet) Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
- - -		SW	SAND; SW; 5YR 6/4 light brown; fine to coarse-grained; loose; dry; no odor; none cementation; subrounded; well graded; trace of fine (5 mm), subrounded gravel and silt	X X X	- soil 1715		7.9	-	- ← 4 inch - schedule 80 PVC, Blank - Casing with bentonite
285 — - - -		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; medium plasticity; loose; dry; no odor; none cementation; subangular; well graded; 50% sand, 35% clay, 15% fine (5-10mm), subrounded gravel	XXXXX	- soil 1727		5.5	285-	- 1/4" pellet - seal - 1 inch - schedule 80 PVC, Blank Casing with
290 — - - -			5YR 6/4 light brown; fine to medium-grained; low plasticity; 70% sand, 15% clay, 15% fine (5-10mm), subrounded gravel	X X X X	soil		6.3	290-	bentonite 3/8" chip and 1/4" pellet seal
295 — - -			5YR 4/4 brown; fine to coarse-grained; 50% sand, 35% clay, 15% fine (5-10mm), subangular gravel	X X X X	soil		6.9	295	Casing with filter sand 8-12 - 1 inch schedule 80 PVC, 0.02 inch slotted casing, filter
300 - -	00000000000000000000000000000000000000	GP- GM	GRAVEL WITH SAND AND SILT ; GP-GM; 5YR 6/4 light brown; fine-grained; non plastic; loose; dry; no odor; none cementation; subangular; poorly graded; 70% gravel, 20% fine to coarse-grained sand, 10% silt	X X X X	1751 - soil		5.4	300-	casing, filter sand 8-12 1 inch PVC end plug, filter sand 8-12
305 — - -		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; medium plasticity; dense; dry; no odor; none cementation; subangular; well graded; 55% sand, 30% clay, 15% fine to coarse (5-20mm), subangular gravel	X X X X	1030 - soil		6.2	305	
310 - -			Low plasticity; 50% sand, 30% clay, 20% fine (5-10mm), subangular gravel	X X X X	1042 soil		5.2	310-	
-					1105			-	

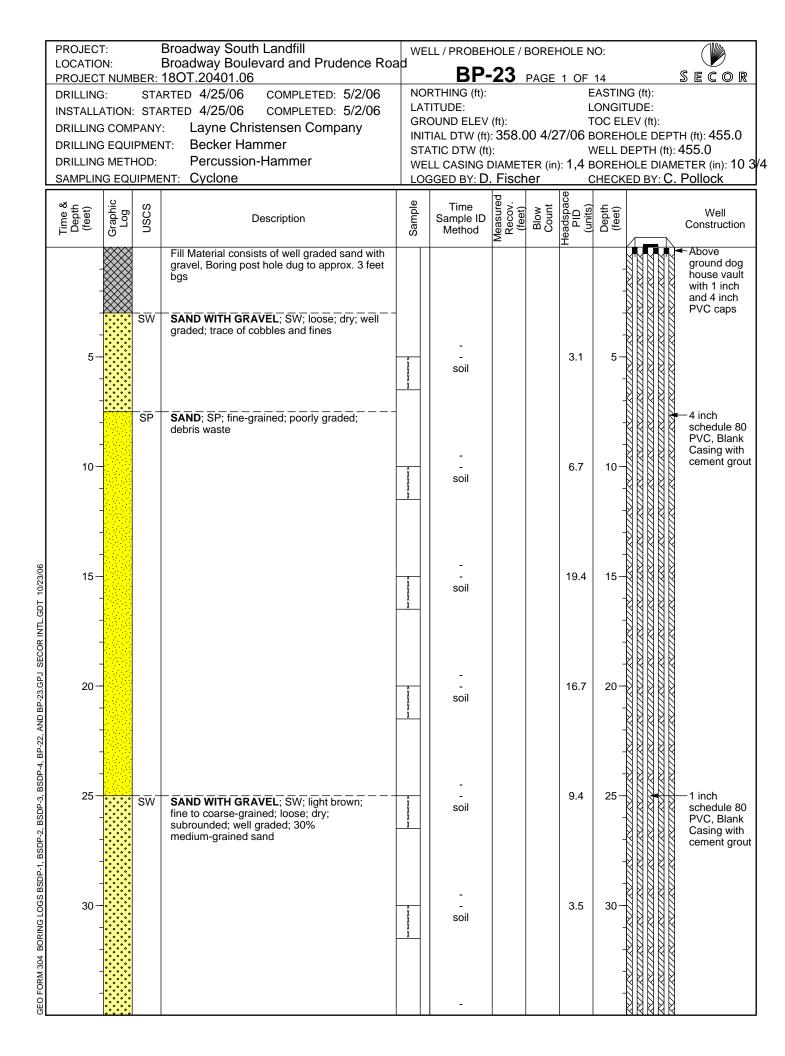
LOCATIO PROJECT			Broadway Boulevard and Prudence Roa 18OT.20401.06		BP-	22	PAGE	10 OF	14		SECOR
drilling Drilling Drilling	ATION: G COM G EQUI G METH	STA PANY PMEN IOD:		LA ⁻ GR INI ⁻ ST/ WE	ATIC DTW (ft) ILL CASING D GGED BY: K.	403.7 : DIAMET Harke	ER (in) er	L 7 /06 E 1,4 E	BOREH VELL D BOREH CHECK	UDE: EV (ft): OLE DEF DEPTH (ft) OLE DIAI	ттн (ft): 458.0 :: 458.0 метег (in): 10 :. Pollock
Time & Depth (feet)	Graphic Log	nscs	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
-		SC	Medium plasticity; subrounded; 45% sand, 40% clay, 15% fine (5-10mm), subangular gravel	X X X X	- soil			5.8	-		
- 320 — - -			Low plasticity; subangular; 50% sand, 30% clay, 20% fine to coarse (5-20mm), subangular gravel	X X X X	1121 - soil			4.5	- 320— - -		
- 325 — - -		SM	SILTY SAND; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subrounded; well graded; 75% sand, 25% silt, trace of fine (5 mm), subrounded gravel and clay	X	1131 - soil			7.0	- 325 — - -		← 4 inch schedule 80 PVC, Blank Casing with bentonite
- 330 — - -		SC	CLAYEY SAND WITH GRAVEL; SC; 5YR 4/4 brown; fine to coarse-grained; medium plasticity; dense; dry; no odor; none cementation; subangular; well graded; 60% sand, 25% clay, 15% fine (5-10mm), subangular sand	X X X X	1219 - soil			5.3	- 330— - -		3/8" chip an 1/4" pellet seal
- 335 — - -			CLAYEY SAND ; subrounded; 60% sand, 40% clay, trace of fine (5-10mm), subangular gravel	X X X X	1224 soil			4.4	- 335— - -		
- 340 - -		SW	SAND WITH GRAVEL; SW; 5YR 6/4 light brown; fine to coarse-grained; loose; dry; no odor; none cementation; subangular; well graded; 70% sand, 30% fine (5-7mm), subangular gravel, trace of clay	× × × ×	1251 - soil			4.3	- 340— - -		
- 345 — - -		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; loose; dry; no odor; none cementation; subangular; well graded; 55% sand, 35% clay, 10% fine (5-10mm), subangular sand	× × × ×	1308 - soil			4.4	- 345 — - -		
-					1325				-		

PROJECT LOCATION	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	ad WE	LL / PROBEH						SECOR
DRILLING INSTALLA DRILLING DRILLING DRILLING	: TION COM EQUI	STA STA PANY PMEN HOD:	RTED5/2/06COMPLETED:5/11/06RTED5/2/06COMPLETED:5/11/06::Layne Christensen Company	LAT GR INI ^T ST/ WE	RTHING (ft): TITUDE: OUND ELEV TIAL DTW (ft): ATIC DTW (ft)	(ft): : 403.7(: DIAMETE	0 5/5/(ER (in): : r	E L T 06 E V 1,4 E	ASTIN ONGIT OC EL OREH VELL D OREH CHECK	TUDE: LEV (ft): IOLE DEP DEPTH (ft) IOLE DIAN	TH (ft): 458.0
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	neauspace PID (units)	Depth (feet)		Well Construction
- - -		SW	SAND WITH GRAVEL; SW; 5YR 7/2 grayish orange pink; fine to coarse-grained; loose; dry; no odor; none cementation; subrounded; well graded; 80% sand, 20% fine (5-10mm), subrounded gravel, trace of clay	XXXXXX	- soil 1405			3.1	-		← 4 inch schedule 80 PVC, Blank Casing with filter sand
355 - - -		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 60% sand, 30% silt, 10% fine (5-15mm), subrounded gravel, trace of clay	X X X X X	- soil 1431			2.6	355		8-12
360 - - -		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; medium plasticity; loose; dry; no odor; none cementation; subangular; well graded; 40% sand, 35% clay, 25% fine to coarse (5-20mm), subangular to subrounded gravel	X X X X X	soil			4.6	360 — - - -		
365			Subrounded; 55% sand, 25% fine to coarse (5-20mm), subangular gravel, 20% clay	X X X X X	1442 - soil			4.2	365 — - -		
370 - - -		SW	SAND WITH GRAVEL ; SW; 5YR 7/2 grayish orange pink; fine to coarse-grained; loose; dry; no odor; none cementation; subangular; well graded; 75% sand, 25% fine to coarse (5-20mm), subangular to angular gravel, trace of clay	X X X X X	1451 - soil			3.3	370- - -		 4 inch schedule 80 PVC, 0.02 inch slotted casing, filter sand 8-12
375		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 6/4 - 4/4 light brown to brown; fine to coarse-grained; medium plasticity; medium dense to loose; moist; no odor; none cementation; subangular; well graded; 45% sand, 30% fine to coarse (5-20mm), subangular gravel, 25% clay	X X X X X X	1457 - soil			2.3	375		5anu 6-12
- 380 - -			5YR 4/4 brown; saturated; 60% sand, 25% clay, 15% fine to coarse (5-20mm), subangular gravel	X X X X X	1530 - soil			2.5	- 380		
-					1610				-		

PROJ DRILL INSTA DRILL DRILL DRILL	TION: IECT NUM ING: ALLATION ING COM ING EQU	IBER: STA : STA IPANY IPMEN HOD:		ad NC LA GR INI ST WE	DRTHING (ft): TITUDE: ROUND ELEV TIAL DTW (ft) ATIC DTW (ft)	(ft): : 403.7	PAGE 1 70 5/5/0 "ER (in):	2 OF E L T 06 E V 1,4 E	E 14 EASTIN ONGIT OC EL BOREH VELL D BOREH	rude: Lev (ft): Iole dep Depth (ft) Iole diam	<u>S E C © R</u> TH (ft): 458.0 : 458.0 IETER (in): 10 3/4 . Pollock
Time & Depth	(feet) Graphic Log	USCS	Description	Sample		Measured Recov. (feet)		PID (units)			Well Construction
		SC	50% sand, 25% clay, 25% fine to coarse (5-20mm), subangular gravel	X X X X	- soil 1616			2.5			
3	90	GW- GC	GRAVEL WITH SAND AND CLAY ; GW-GC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; dense; saturated; no odor; none cementation; subangular; well graded; 40% gravel, 30% fine to coarse-grained sand, 30% clay	XXXXXX	soil			2.5	390 - - -		
3	95	SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; medium plasticity; medium dense; wet; no odor; none cementation; subangular; well graded; 50% sand, 25% clay, 25% fine (5-10mm), subangular gravel	X X X	soil			1.9	395 - - -		
SECOR INTL.GDT 10/23/06			Saturated; 60% sand, 20% clay, 20% fine (5-10mm), subangular gravel	X X X X	1754 - soil			8.7	400 - - 		← 4 inch schedule 80 PVC, 0.02
	05-		45% sand, 35% fine (5-10mm), subangular gravel, 20% clay	XXXX	1815 - soil			6.8	405 - -		inch slotted casing, filter sand 8-12
P-1, BSDP-2, BSDP-3, BSDP	10		50% sand, 30% fine to coarse (5-25mm), subangular to subrounded gravel, 20% clay	X X X X	1830 soil			6.1	- 410 - -		
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ +	- 15 - - -	sw	SAND WITH GRAVEL ; SW; 5YR 6/4 light brown; fine to coarse-grained; loose; saturated; no odor; none cementation; subangular; well graded; 65% sand, 35% fine to coarse (5-25mm), subangular gravel, trace of clay	X X X X	0936 soil			6.4	- 415 - -		
GEO FC	- • • • • • • • • • • • • • • • • • • •				0942				-		

PROJECT LOCATIO PROJECT	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	ad			BOREHC				S E C O R
DRILLING INSTALLA DRILLING DRILLING DRILLING	B: ATION COM EQUI METI	STA : STA PANY IPMEN HOD:	RTED5/2/06COMPLETED:5/11/06RTED5/2/06COMPLETED:5/11/06::Layne Christensen Company	LA GR INI ST	ORTHING (ft): TITUDE: ROUND ELEV TIAL DTW (ft) ATIC DTW (ft)	(ft): : 403.7): DIAMET	70 5/5/0 ER (in): ⁻ er	E L T 06 B V 1,4 B <u>C</u>	ASTIN ONGII OC EL OREH VELL E OREH CHECK	rude: Lev (ft): Iole dep ⁻ Depth (ft): Iole diam	ГН (ft): 458.0
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count Headspace	PID (units)	Depth (feet)		Well Construction
- - - 425		SC	CLAYEY SAND WITH GRAVEL; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; medium dense; saturated; no odor; none cementation; subangular; well graded; 60% sand, 20% clay, 20% fine to cobbles (5-110mm), subangular gravel 70% sand, 15% clay, 15% fine to coarse (5-30mm), subangular gravel		soil 1000 soil			6.4	- - - 425		
- - 430 -		S₩- SC	SAND WITH GRAVEL AND CLAY ; SW-SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; loose; wet; no odor; none cementation; subangular; well graded; 60% sand, 30% fine (5-15mm), subangular gravel,	X Y X X X	1048 - soil			6.0	- - 430- - -		 4 inch schedule 80 PVC, 0.02 inch slotted casing, filter sand 8-12
			10% clay	XXXX	1059 - soil			5.9	- - 435 – -		
440		-sw	SAND WITH GRAVEL ; SW; 5YR 6/4 light brown; fine to coarse-grained; loose; wet; no odor; none cementation; subangular; well graded; 60% sand, 40% fine to coarse (5-40mm), subangular gravel, trace of silt	XXXX	1117 - soil			6.8	- - 440 -		
			Fine to cobbles (5-110mm), subangular gravel	X X X X X	1124 soil			5.8	- - 445 -		 4 inch schedule 80 PVC, Blank Casing with filter sand 8-12
1440				XXXXXX	1136 soil			5.8	- 450-		← 4 inch PVC end plug, filter sand 8-12
GEO FOKM 304					1248				-		

DRILLING INSTALLA DRILLING DRILLING DRILLING	DN: <u>T NUMI</u> G: ATION: G COMI G EQUI G METH	I STA STA I: STA IPANY: IPMEN HOD:		ad NC LA GF IN ST W	IOR ATI GRC NITI TA	ATIC DTW (ft) LL CASING E GGED BY: K.	SECOR NG (ft): ITUDE: :LEV (ft): HOLE DEPTH (ft): 458.0 DEPTH (ft): 458.0 HOLE DIAMETER (in): 10 3/4 KED BY: C. Pollock				
Time & Depth (feet)	Graphic Log	nscs	Description	Sample		Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID	(units) Depth (feet)	Well Construction
- - - 460 - -		SW	SAND; 5YR 4/4 brown; saturated; subrounded; trace of fine (5 mm), subangular gravel and clay Hole terminated at 458 feet.			- soil			5.2	460-	
- - 465 - -	-									465-	-
- 470 - -										470-	
- 475 — - -	-									475-	-
- 480 — - -	-									480-	
- 485 — - -	-									485-	-
-				 							-

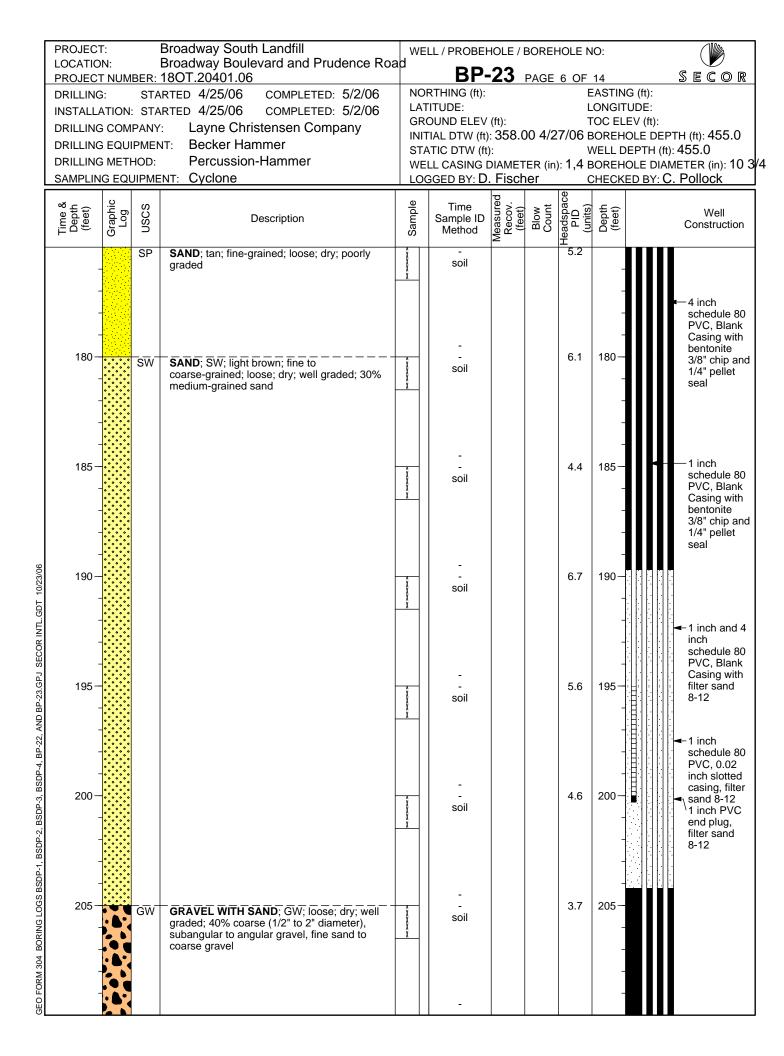


	DRILLING INSTALL DRILLING DRILLING	DN: <u>T NUM</u> G: ATION: G COM G EQUI G METH	BER: STA STA PANY PMEN HOD:	IT: Becker Hammer Percussion-Hammer	Ad NO LAT GR INIT ST/ WE	BP- RTHING (ft): TITUDE: OUND ELEV TIAL DTW (ft) ATIC DTW (ft) LL CASING E	(ft): : 358.0 :: DIAMET	ן - 00 4/27/06 ו י ER (in): 1,4 ו	14 EASTIN LONGIT TOC EL BOREH WELL D BOREH	IG (ft): I'UDE: LEV (ft): IOLE DEPTH DEPTH (ft): 4 IOLE DIAME ⁻	55.0 TER (in): 10 3/4
	Time & Depth (feet)	Graphic Log	JIPME SOSN	NT: Cyclone Description	Sample	GGED BY: D. Time Sample ID Method				<u>ed by: C. F</u>	Well Construction
-	40 -		SW	Some fines SAND; SW; tan; fine to coarse-grained;		- soil - soil - soil	2	<u><u></u> 7.9 6.7 4.7</u>		111 X 11	4 inch schedule 80 PVC, Blank Casing with cement grout
COR INTL. GDT 10/23/06	50-			30% fine-grained sand, trace of fine gravel	× × ×	- - soil		3.5		1 X 1 X 1 X 1	
-4, BP-22, AND BP-23.GPJ SE	55 -				XXXX	- soil		4.5	55		1 inch schedule 80 PVC, Blank
DP-1, BSDP-2, BSDP-3, BSDP	60 -				X X X X	- - soil		6.7	60	2211221122112211221 2211221122112211221	Casing with cement grout
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ SECOR INTL.GDT 10/23/06	65 -					- soil		9.3	65	10011100110011001100100000000000000000	

	DRILLING INSTALLA DRILLING DRILLING DRILLING	N: <u>F NUM</u> S: ATION S COM S EQU S METI	BER: STA : STA PANY IPMEN HOD:		Dad NC LA GF INI ST WE	ORTHING (ft): TITUDE: COUND ELEV TIAL DTW (ft) ATIC DTW (ft)	(ft): : 358.0 :: DIAMET	PAGE 3 00 4/27 FER (in): her	3 OF E T 7/06 B V 1,4 B	14 ONGIT OC ELI OREH VELL D OREH CHECKE	UDE: EV (ft): OLE DEP EPTH (ft) OLE DIAI	TH (ft): 455.0 : 455.0 METER (in): 10 3/4 . Pollock
	Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	nreauspace PID (units)	Depth (feet)		Well Construction
	- - - - 75 - -		SP	SAND; SP; light brown; fine to coarse-grained; dry; poorly graded; 50% medium-grained sand, trace of fine gravel and fines		- soil - soil			7.6		11XX/1XX/1XX/1XX/1XX/1XX/1XX/1XX/1XX/1X	4 inch schedule 80 PVC, Blank Casing with cement grout
	- 80 — - - -				X X X X	- - soil			4.0	80	K K	
GPJ SECOR INTL.GDT 10/23/06	85 - - - 90			Tan; 40% fine-grained sand, trace of fines	X X X X	soil			4.36.0	85		
-3, BSDP-4, BP-22, AND BP-23.GPJ	90 - - - - 95		SW	SAND; SW; light brown; fine to coarse-grained; dry; well graded; 30% fine-grained sand with fines, trace of fine gravel		soil			6.9	90		1 inch schedule 80 PVC, Blank Casing with cement grout
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22,	- - - 100-				X X X X	soil			7.0		1118/118/118/118/118/118/118/118/118/11	
GEO FORM 304 BORING	-				X X X							

	PROJEC ⁻ LOCATIO PROJEC ⁻	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	we ad	LL / PROBEH			4 OF	14		S E C O R
	DRILLING DRILLING DRILLING	ATION: G COM G EQUI G METH	: STA PANY PMEN HOD:		LAT GRO INIT STA WE	TIC DTW (ft)	: 358.0 :: DIAMET	ER (in) ier	L T 7/06 E V : 1,4 E	OREH VELL D OREH CHECK	UDE: EV (ft): OLE DEP DEPTH (ft) OLE DIAM	TH (ft): 455.0 : 455.0 /IETER (in): 10 3/4 . Pollock
	Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
	- - - - 110- -		SW	SAND ; light brown; fine to coarse-grained; loose; dry; well graded; 30% fine-grained sand with fines, trace of fine gravel	A Y Y Y Y Y X X X X X X X X X X X X X	- soil - - soil			17.4	- - - 110- - -	X [[X] [- 4 inch schedule 80 PVC, Blank Casing with cement grout
	- - - - -				X X X X	- - soil			6.8	- - 115— - -	11 X 1 1 X 1 1 X 1 X 1 X 1 X 1 X 1 X 1	
	- 120 - - -				X X X X	- soil			8.0	- 120— - -	7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.	
4, BP-22, ANU BP-23.GPJ St	- 125 - - -		sw	SAND WITH GRAVEL; SW; fine to coarse-grained; loose; dry; trace of fines	× × × × × × × × × × × × × × × × × × ×	- soil			5.4	- 125— - -		1 inch schedule 80 PVC, Blank
2-1, BSUP-2, BSUP-3, BSUP-1	- 130 - - -				X X X X X	- soil			6.2	- 130— - -	XX///XX///XX///XX// XX///XX///XX///XX/	Casing with cement grout
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ SECOR INTL.GDT 10/23/06	- 135 - - -				A X X X X X	- soil			5.1	- 135— - -	V 1 × 1 × 1	
6FC 70	-					-				_		

	DRILLING INSTALLA DRILLING DRILLING	N: <u>FNUM</u> S: ATION: COM GEQUI GMETH	BER: STA STA PANY PMEN HOD:		NOI LAT GRO INIT STA WE	TIC DTW (ft)	(ft): : 358.0 :: DIAMET	<u>PAGE</u> 00 4/2 ER (in)	<u>5 OF</u> E L 7/06 E V 5: 1,4 E	14 EASTIN LONGIT FOC EL BOREH WELL D BOREH	UDE: EV (ft OLE [DEPTH OLE [): DEP ⁻ I (ft): DIAN	∬ <u>S</u> <u>E</u> <u>C</u> <u>O</u> <u>R</u> (ft): 455.0 455.0 HETER (in): 10 3/4 Pollock
	Time & Depth (feet)	Graphic Log	nscs	Description	Sample		Measured Recov. (feet)		Headspace PID (units)			<u></u>	Well Construction
	- - - 145 -		SW	SAND ; fine to coarse-grained; loose; dry; 30% fine-grained sand with fines, trace of fine gravel		- soil - - soil			7.1	- - - 145 - -	X///X///X///X///X///X///X///X///X///X/	XV11XV11XV11XV11XV11XV11XV11X	 4 inch schedule 80 PVC, Blank Casing with cement grout
	- 150 — - -				X X X X	- soil			6.5	- 150- - -	1/1X/1/1X/1/1X/1/1X/1/1X 1/1X/1/1X/1/1X	<u> </u>	— 1 inch schedule 80 PVC, Blank Casing with cement grout
DR INTL.GDT 10/23/06	- 155 — - -				X X X X	- - soil			6.7	- 155 — - -			
BP-22, AND BP-23.GPJ SEC	- - 160 - -				X X X X	- soil			7.6	- 160 - -			← 4 inch schedule 80 PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet seal
P-1, BSDP-2, BSDP-3, BSDP-4,	- - 165 - -				X X X X	- soil			4.9	- 165 — - -			
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ SECOR INTL.GDT 10/23/06	- - 170 - - - -		SP	SAND; SP; tan; fine-grained; loose; dry; poorly graded	X X X X	- soil			9.2	- 170 - - -			 1 inch schedule 80 PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet seal



PROJEC LOCATIO PROJEC	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	WE d	LL / PROBEF						S e C	OR
DRILLING INSTALL/ DRILLING DRILLING DRILLING	3: ATION: G COMI G EQUI G METH	STA STA PANY PMEN IOD:	RTED4/25/06COMPLETED:5/2/06RTED4/25/06COMPLETED:5/2/06:Layne Christensen Company	LAT GRO INIT STA WE	RTHING (ft): TUDE: DUND ELEV TAL DTW (ft): TIC DTW (ft) LL CASING E GGED BY: D .	(ft): : 358.C : DIAMET	00 4/2 ER (in) ier	E L 7 7/06 E V 2 1,4 E	EASTIN LONGIT FOC EL BOREH WELL D BOREH CHECK	UDE: EV (ft) OLE D EPTH OLE D	EPTH (ft): 4 (ft): 455.0	n): 10 3/ 4
Time & Depth (feet)	Graphic Log	nscs	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		W Const	ell ruction
-		SW	SAND; SW; light brown; loose; dry; subangular; well graded; 25% medium-grained sand with fines, trace of fine to coarse (to 2' diameter) gravel	X X X X	- soil			7.3	-		■ —4 inct	
215				X X X X	soil			6.4	215		scheo PVC, Casir bento	dule 80 Blank og with nite ship and
220-				X X X X X	- soil			6.1	220			
225		SP	SAND; SP; light brown; medium-grained; loose; dry; subangular; poorly graded	X X X X	- soil			5.1	225 — - -			
- 230				X X X X X	- soil			6.6	- 230			n Jule 80 Blank
235			Tan; fine to coarse-grained; 50% medium-grained sand, trace of fines	X X X X X	soil			9.8	- 235		Casir bento	ig with nite hip and
			_	X X X X X	- - soil			7.9	- 240 -			and 4
					-				-		inch scheo PVC,	dule 80 Blank Ig with

-	DRILLING	N: <u>NUMI</u> :: ATION: 6 COMI	<u>BER:</u> STA STA PANY	NT: Becker Hammer	NOI LAT GRO INIT	BP- RTHING (ft): TITUDE: DUND ELEV	23 (ft): 358.0	L 1 00 4/27/06 e	14 EASTIN ONGIT FOC EL BOREH	FUDE: _EV (ft):	∑ E C © R TH (tt): 455.0 : 455.0
	DRILLING SAMPLIN			Percussion-Hammer		LL CASING D GGED BY: D.		er (CHECK	IOLE DIAI	METER (in): 10 3/4 . Pollock
	Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count Headspace PID (units)	Depth (feet)		Well Construction
-	- - - 250 - - - - - - - - - - - - - - - - - -		SP	SAND; SP; tan; fine to coarse-grained; loose; dry; subangular; poorly graded; 50% medium-grained sand, trace of fines and subrounded gravel		soil - - soil - soil		8.5 12.4			filter sand 8-12 1 inch schedule 80 PVC, 0.02 inch slotted casing, filter sand 8-12 1 inch PVC end plug, filter sand 8-12
COR INTL.GDT 10/23/06	- - 260 - - -				х Х Х Х Х	- soil		7.5	- 260- - -		 4 inch schedule 80 PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet
BP-22, AND BP-23.GPJ SE	- 265 - -				X X X X X	- soil		8.3	- 265 - - -		seal
3SDP-2, BSDP-3, BSDP-4,	- 270- - -				X X X X	- soil		7.7	- 270- -		 1 inch
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23, GPJ SECOR INTL.GDT 10/23/06	- 275 - -				X X X X	- soil		7.0	- 275- - -		schedule 80 PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet seal
GEO FOR	-					-			-		

PROJECT LOCATIO PROJECT	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	WE ad	LL / PROBEH		OREHOLE I	-		S E C O R
DRILLING INSTALL DRILLING DRILLING DRILLING	G: ATION: G COM G EQUI G METH	STA STA PANY PMEN HOD:	RTED 4/25/06 COMPLETED: 5/2/06 RTED 4/25/06 COMPLETED: 5/2/06 : Layne Christensen Company	LAT GR INIT ST/ WE	RTHING (ft): TITUDE: OUND ELEV TIAL DTW (ft): ATIC DTW (ft)	(ft): 358.00 : PIAMETE	4/27/06 R (in): 1,4 r	EASTIN LONGI ⁻ TOC EL BOREH WELL I BOREH <u>CHECK</u>	TUDE: _EV (ft): IOLE DE DEPTH (f	PTH (ft): 455.0 t): 455.0 METER (in): 10 3/ <u>C. Pollock</u>
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count Headspace PID	Depth (feet)		Well Construction
	Ō	SP	SAND; SP; tan; fine to coarse-grained; loose; dry; subangular; poorly graded; 50% medium-grained sand, trace of fines		Method soil soil soil soil soil		Top Top 7.9 13.6 6.8 9.2 8.1 7.1			 4 inch schedule 80 PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet seal 1 inch schedule 80 PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet seal 1 inch and 4 inch schedule 80 PVC, Blank Casing with filter sand 8-12 1 inch schedule 80 PVC, 0.02 inch slotted casing, filter sand 8-12 1 inch PVC end plug, filter sand 8-12
310 - - -				X X X X X	soil		5.1	310-	-	

PROJECT LOCATIO PROJECT	N:	BER:	Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	ad	ELL / PROBEH			10 OF	- 14		<u>Seco</u> r
DRILLING INSTALLA DRILLING DRILLING DRILLING	TION COM EQUI	STA STA PANY PMEN HOD:	RTED 4/25/06 COMPLETED: 5/2/06 RTED 4/25/06 COMPLETED: 5/2/06 : Layne Christensen Company	LA GF IN ST W	DRTHING (ft): .TITUDE: ROUND ELEV ITIAL DTW (ft) TATIC DTW (ft)	(ft): : 358.(): DIAMET	00 4/27 ER (in) <u>ier</u>	נ ר 7/06 פ 1,4 פ ג ג	EASTIN LONGIT FOC EL BOREH WELL D BOREH CHECK	rude: Lev (ft): Iole def Depth (ft Iole dia	PTH (ft): 455.0 :): 455.0 METER (in): 10 2. Pollock
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
- - 320 – - -		SP	SAND ; SP; tan; fine to coarse-grained; loose; dry; subangular; poorly graded; 50% medium-grained sand, trace of fines	× × × × × × × × × × × × × × × × × × ×	soil - - soil			6.2	- - - 320- - -		
- 325 — - -				X X X X X	- soil			12.0	- 325 - -		 4 inch schedule 8 PVC, Blank Casing with bentonite 3/8" chip au 1/4" pellet
- 330 — - -				X X X X X	- soil			5.3			seal
- 335 — - -			Tan; medium-grained; dry	× X X X X	- soil			8.1	- 335		
- 340 — -				× X X X X	- soil			8.0	- 340		
- 345 — -			Fine to coarse-grained; dry; 50% medium-grained sand, trace of fines and fine gravel	A X X X X X	- soil			8.9	- 345 — -		- 4 inch schedule 8
-					-				-		PVC, Blank Casing with filter sand

PROJECT LOCATIO PROJECT	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	ad	LL / PROBEF						SECOR
DRILLING INSTALLA DRILLING DRILLING DRILLING	TION: COM EQUI	STA STA PANY PMEN HOD:	RTED4/25/06COMPLETED:5/2/06RTED4/25/06COMPLETED:5/2/06:Layne Christensen Company	LAT GR INIT ST/ WE	RTHING (ft): TUDE: OUND ELEV TAL DTW (ft) ATIC DTW (ft) LL CASING E GGED BY: D.	(ft): : 358.(): DIAMET . Fisch	00 4/2 ER (in)	ני ן 7/06 ני 1,4 ני ע	EASTIN LONGI ^T FOC EL BOREH WELL E BOREH <u>CHECK</u>	DEPTH (ft):	TH (ft): 455.0 455.0 1ETER (in): 10
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
- - - 355 - - - -		SP	SAND; SP; tan; fine to coarse-grained; loose; dry; subangular; poorly graded; 50% medium-grained sand, trace of fines and fine gravel	А Х Х Х Х Х Х Х Х Х Х Х Х Х	- soil - soil			9.8	355 - 		8-12
- 360 — - -			Moist; 40% coarse-grained sand, trace of fines and fine gravel	XXXXX	- - soil			10.7	360-		
- 365 — -				X X X X	- - soil			5.2	365 -		t inch
- - 370 -				X X X X	- - soil			2.4	370-		schedule 8 PVC, 0.02 inch slotted casing, filte sand 8-12
- - 375 -				X X X X X	- - soil			3.1	375-		
- - 380 — -				X X X X X	- - soil			3.5	380-		
					-						

	DRILLING	N: <u>TNUM</u> 3: ATION: 5 COM 5 EQUI	BER: STA STA PANY PMEN		ad NOI LAT GRO INIT STA	RTHING (ft): TITUDE: OUND ELEV (ft) TIAL DTW (ft): 38 ATIC DTW (ft):	3 ра	<u>GE 12 OF</u> E L 4/27/06 E	E 14 EASTIN LONGIT FOC EL BOREH WELL D	. ,
L			JIPME	INT: Cyclone		GGED BY: D. F				ED BY: C. Pollock
	Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Recov. (feet) Blow	Count Count Headspace (units)	Depth (feet)	Well Construction
	- - - 390 - - - 395 - - - - - - - - - - - - - - - - - -		SP	SAND; SP; tan; fine to coarse-grained; loose; saturated; subangular; poorly graded; 50% medium-grained sand, trace of fines and fine gravel		soil		2.7	- - 390- - - 395- - - - -	
ECOR INTL.GDT 10/23/06	- 400 — - -		GW	GRAVEL ; GW; tan; fine to coarse-grained; loose; saturated; subrounded; well graded; 70% fine (to 3" diameter) gravel, trace of coarse-grained sand	X	- soil		2.7	- 400 - -	4 inch schedule 80 PVC, 0.02
DP-4, BP-22, AND BP-23.GPJ S	- 405 - -				X X X X	soil		2.0	- 405 - - -	inch slotted casing, filter sand 8-12
BSDP-1, BSDP-2, BSDP-3, BS.	410 - - -		SP	SAND; SP; tan; fine to coarse-grained; loose; saturated; subangular; poorly graded; 40% coarse-grained sand	X X X	soil		2.3	410	
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ SECOR INTL.GDT 10/23/06	415 - - - -			WITH GRAVEL; medium to coarse-grained; fine to coarse gravel		- soil		3.9	415— - - -	

DRILLING INSTALL DRILLING DRILLING	DN: <u>T NUM</u> G: ATION G COM G EQU	I <u>BER:</u> STA : STA IPANY IPMEN	IT: Becker Hammer	ad NO LA GR INI ST	ATIC DTW (ft)	(ft): : 358.(<u>PAGE</u> 00 4/2	<u>13 OF</u> E L 7 7/06 E	E 14 EASTIN LONGIT FOC EL BOREH WELL E	TUDE: _EV (ft): IOLE DEP DEPTH (ft):	
DRILLING SAMPLIN			Percussion-Hammer		ELL CASING E GGED BY: D		ner	(CHECK		1ETER (in): 10 3 . Pollock
Time & Depth (feet)	Graphic Log	nscs	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
425 - 430 - 430 - 435 - 440 - 440 -		SW	SAND; SW; brown; fine to coarse-grained; medium dense; saturated; subangular; well graded; 30% coarse-grained sand, trace of fines and fine to coarse (to 3" diameter) gravel					NR NR -	425 - - 430 - - - - - - - - - - - - - - - - - -		 4 inch schedule 80 PVC, 0.02 inch slotted casing, filter sand 8-12
* 445 - 445 -				X X X X X	-			-	- 445 - - -		 4 inch schedule 80 PVC, Blank Casing with filter sand 8-12
GEO FORM 304 BORING LOGS BSDP-1, BSDP-3, BSDP-4, BP-22, AND BP-23, CAN 304 BORING LOGS BSDP-1, BSDP-3, BSDP-4, BP-22, AND BP-23, CAN 304 BORING LOGS BSDP-1, DATA 445 -				X X X X X	-			-	450 - - -		← 4 inch PVC end plug, filter sand 8-12

DRILLING	N: <u>F NUM</u> 3: ATION: 5 COM 5 EQUI	E <u>BER: 1</u> STAI : STAI PANY: PMEN	•	COMPLETED: COMPLETED: COMPLETED: stensen Comp	5/2/06 5/2/06	NOI LAT GR(INIT ST/	RTHING (ft): TTUDE: OUND ELEV TAL DTW (ft) ATIC DTW (ft)	• 23 (ft): :: 358.0	<u>PAGE</u>)0 4/2	<u>14 OF</u> E L T 7/06 B	14 ASTINO ONGITI OC ELE OREHO	UDE:
Time & Depth (feet)	Graphic Log		NT: Cyclone	Description			GGED BY: D Time Sample ID		er	Headspace PID (units) O	HECKE	BY: C. Pollock Well Construction
j≞ ∩ ₩	<u>5</u> _	5				Sa	Method	Mea Re (f	шО	неа - Неа		
-											-	
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460 —											460-	
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-	-										-	
465-											465	
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ч11. GD1 10/23/06 											-	
											-	
- SECC	-										-	
9.5-475 - 											475	
22, AND											-	
SDP-4, BF											-	
8 r. 480 –											480-	
SDP-2, B(-	
SDP-1, B.											-	
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-2, BSDP-2, BSDP-4, BP-23, GPJ SECOR 											485	
- BORING											-	
- DRM 304											-	
GEO F(_	

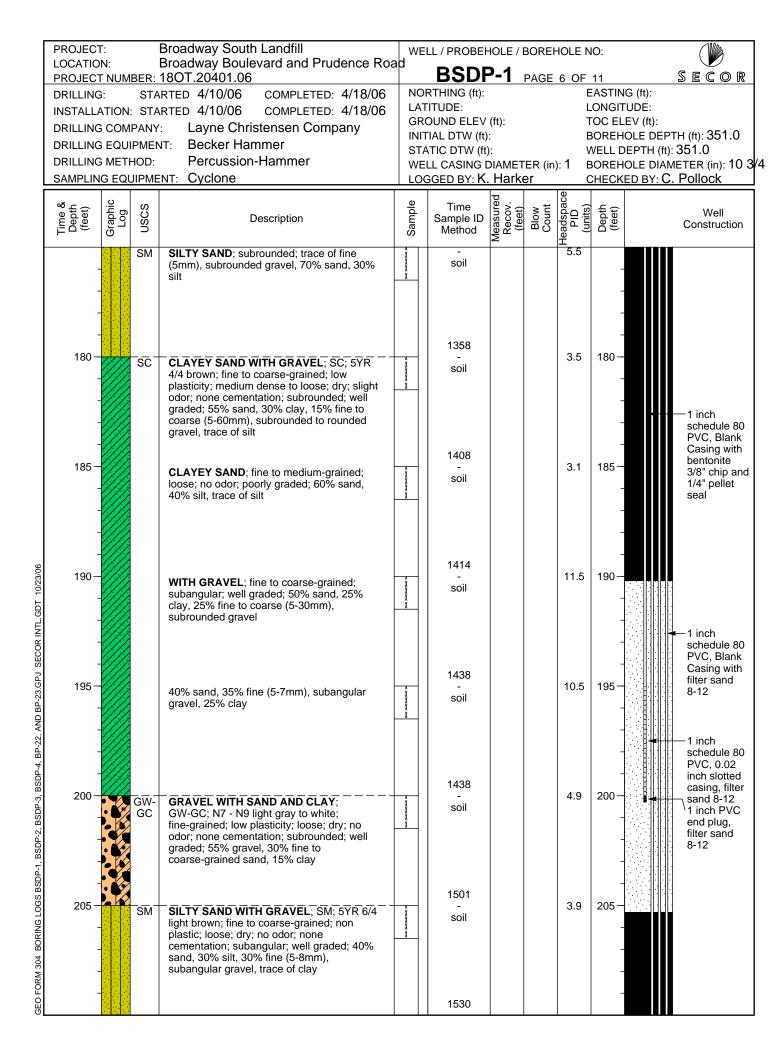
PROJECT LOCATIO	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	WE ad						S E C O R
DRILLING INSTALL DRILLING DRILLING DRILLING	B: ATION: COM EQUI METH	STA STA PANY PMEN HOD:	RTED 4/10/06COMPLETED: 4/18/06RTED 4/10/06COMPLETED: 4/18/06:Layne Christensen Company	LAT GR INIT ST/ WE	RTHING (ft): TIUDE: OUND ELEV TAL DTW (ft): ATIC DTW (ft): LL CASING E GGED BY: K.	(ft): : : DIAMETER (ir	E L T E N): 1 E	EASTING LONGIT FOC ELI BOREHO WELL D BOREHO CHECKE	UDE: EV (ft): OLE DEPT EPTH (ft):	н (ft): 351.0 351.0 eter (in): 10 3/4
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet) Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
- - - 5 -		SM	Fill Material consists of silt, clay, sand, and gravel, Boring post hole dug to approx. 2.5 feet bgs SILTY SAND; SM; 5YR 3/4 brown; fine to coarse-grained; non plastic; medium dense; dry; no odor; weak cementation; subangular; well graded; 70% sand, 30% silt	× × × × × × × × × × × × × × × × × × ×	1235 - soil		0.0	5-		 Above ground dog house vault with 1 inch PVC caps
- 10 - -			WITH GRAVEL; 5YR 4/4 brown; dry; no odor; 65% sand, 20% silt, 15% fine (5 mm), subrounded to subangular gravel	XXXXX	0904 - soil		5.3	10-		
- 15 -			10YR 2/2 dark yellowish brown; loose; dry; slight odor; 60% sand, 10% silt, 20% fine to coarse (5-70mm), subrounded gravel, 10% trash - fragments of wood	XXXX	0911 - soil		25.5	15-		—1 inch schedule 80
- 20 - -			Strong odor; 70% trash, 20% sand, 5% silt, 5% (5-25mm), subrounded gravel, cardboard, newspaper, wood	* * * * *	0918 - soil		52.4	20-	X///X///X///X///X// X///X///X///X// X///X///X///X// X////	PVC, Blank Casing with cement grout
- 25 - -		SW	SAND WITH GRAVEL ; SW; 10YR 6/2 pale yellowish brown; fine to coarse-grained; medium dense; dry; strong odor; weak cementation; subangular; well graded; 60% sand, 25% (5-30mm), subangular gravel, 15% trash - wood, paper, plastic, trace of silt	X X X X	0922 - soil		140.2	25		
- 30 - -		-sc	CLAYEY SAND; SC; 10YR 4/2 dark yellowish brown; fine to coarse-grained; medium plasticity; medium dense; dry; moderate odor; none cementation; subangular; well graded; 70% sand, 30% clay, trace of fine (5-7mm), subangular gravel and trash - plastic	X X X X X X	0928 - soil		7.9	30-		
					0935					

LOCATIC PROJEC			Broadway Boulevard and Prudence Roa 18OT.20401.06	ad	BSDF	P-1	PAGE	2 OF	11		SECOR
DRILLING DRILLING DRILLING	ATION: G COMI G EQUI G METH	STA PANY PMEN IOD:		LAT GR INIT ST/ WE	RTHING (ft): TITUDE: OUND ELEV TIAL DTW (ft): ATIC DTW (ft) LL CASING E <u>GGED BY: K.</u>	(ft): : : DIAMET	ĒR (in) ər	E L T E V : 1 E	EASTIN LONGIT FOC EL BOREH VELL D BOREH CHECK	TUDE: .EV (ft): IOLE DEF DEPTH (ft IOLE DIA	PTH (ft): 351.0): 351.0 METER (in): 10 2. Pollock
Time & Depth (feet)	Graphic Log	nscs	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
		SM	SILTY SAND WITH GRAVEL; SM; 5YR 4/4 brown; fine to coarse-grained; non plastic; loose; dry; slight odor; weak cementation; subangular; well graded; 65% sand, 20% silt, 15% fine (5-7mm), subrounded gravel	X X X X	- soil 0942			10.2	- - - 40-		
40 -		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; medium plasticity; medium dense; dry; no odor; none cementation; subangular; well graded; 70% sand, 20% clay, 10% fine to coarse (5-30mm), subrounded gravel	X X X X	soil			10.7	40 - -	N111N111N111N N111N111N111N N111N111N11	X7/1/X1/1/X1/1/X
45 -		sw	SAND ; SW; 5YR 4/4 brown; fine to coarse-grained; loose; dry; slight odor; none cementation; subangular; well graded; trace of silt and fine (5-7mm), subrounded gravel	X X X X	0952 - soil			7.1	45 - - -		
50		GW- GC	GRAVEL WITH SAND AND CLAY ; GW-GC; N7 - 5YR 4/4 light gray to brown; fine-grained; low plasticity; loose; dry; slight odor; none cementation; subangular; well graded; 70% gravel, 20% fine to coarse-grained sand, 10% clay	X X X X	1000 - soil			21.3	50		1 inch schedule 80 PVC, Blank Casing with
55 - - - -		SM	SILTY SAND; SM; 5YR 4/4 brown; fine to coarse-grained; loose; dry; slight odor; none cementation; subangular; well graded; 90% sand, 10% silt, trace of fine (5 mm), subangular gravel	X X X X	1009 - soil			8.0	55		cement grout
60 - - - -		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; medium dense; dry; slight odor; none cementation; subangular; well graded; 60% sand, 30% clay, 10% fine (5-10mm), subrounded gravel	X X X X	1013 - soil			10.9	60 — - - -		
65 -		SW	SAND ; SW; 5YR 4/4 brown; fine to coarse-grained; loose; dry; slight odor; none cementation; subangular; well graded; trace of silt	X X X X X	1016 - soil			6.2	65 — - -		
	- • • • • • • • • • • • • • • • • • • •				1025				-		X

PROJECT LOCATIO	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	id vve	BSDP-				R	ECOR
DRILLING INSTALLA DRILLING DRILLING	B: ATION B COM B EQU B METI	STA : STA PANY IPMEN HOD:	RTED 4/10/06COMPLETED: 4/18/06RTED 4/10/06COMPLETED: 4/18/06::Layne Christensen Company	LAT GR INIT ST/ WE	RTHING (ft): FITUDE: OUND ELEV (ft) FIAL DTW (ft): ATIC DTW (ft): LL CASING DIA GGED BY: K. H): METER (in) Iarker	E L T E V : 1 E	ONGIT ONGIT OC EL OREH VELL D OREH CHECK	G (ft):	(ft): 351.0 51.0 ER (in): 10 3
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Recov. (feet) Blow Count	Headspace PID (units)	Depth (feet)	C	Well Construction
- - -		SC	CLAYEY SAND; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; medium dense; dry; slight odor; none cementation; subangular; well graded; 60% sand, 40% clay, trace of fine (5-7mm), subangular gravel	X X X X	- soil 1030		2.4	-		
75 - - -		SM	SILTY SAND; SM; 5YR 6/4 light brown; fine to medium-grained; non plastic; loose; dry; no odor; none cementation; subangular; poorly graded; 85% sand, 15% silt, trace of fine (5 mm), subrounded gravel	X X X X	soil		0.7	75		1 inch schedule 80 PVC, Blank Casing with cement grout
- 08 - - -			Fine to coarse-grained; well graded	X X X X	1034 - soil 1039		4.2	80		oonen grou
85 - - -			WITH GRAVEL; 60% sand, 25% fine to coarse (5-35mm), subangular gravel, 15% silt	X X X X	soil		0.8	85		1 inch schedule 80 PVC, Blank Casing with bentonite
90 — - - -		SW- SM	SAND WITH SILT AND GRAVEL; SW-SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 55% sand, 35% fine (5-10mm), subangular to subrounded gravel, 10% silt	X X X X	1043 - soil		1.5	90		3/8" chip and 1/4" pellet seal 1 inch schedule 80 PVC, Blank
- 95 — - -		SM	SILTY SAND; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 85% sand, 15% silt, trace of fine (5-9mm), subrounded gravel	X X X X	1052 soil		7.0	- 95 - -		Casing with filter sand 8-12 1 inch schedule 80
- 100 - -		-sc	CLAYEY SAND ; SC; 5YR 4/4 brown; fine to coarse-grained; medium plasticity; medium dense; dry; moderate odor; none cementation; subangular; well graded; 80% sand, 20% clay, trace of subangular cobbles (75mm)	X X X X	1116 - soil		9.4	- 100 - -		PVC, 0.02 inch slotted casing, filter sand 8-12 1 inch PVC end plug, filter sand 8-12
-					1125			-		

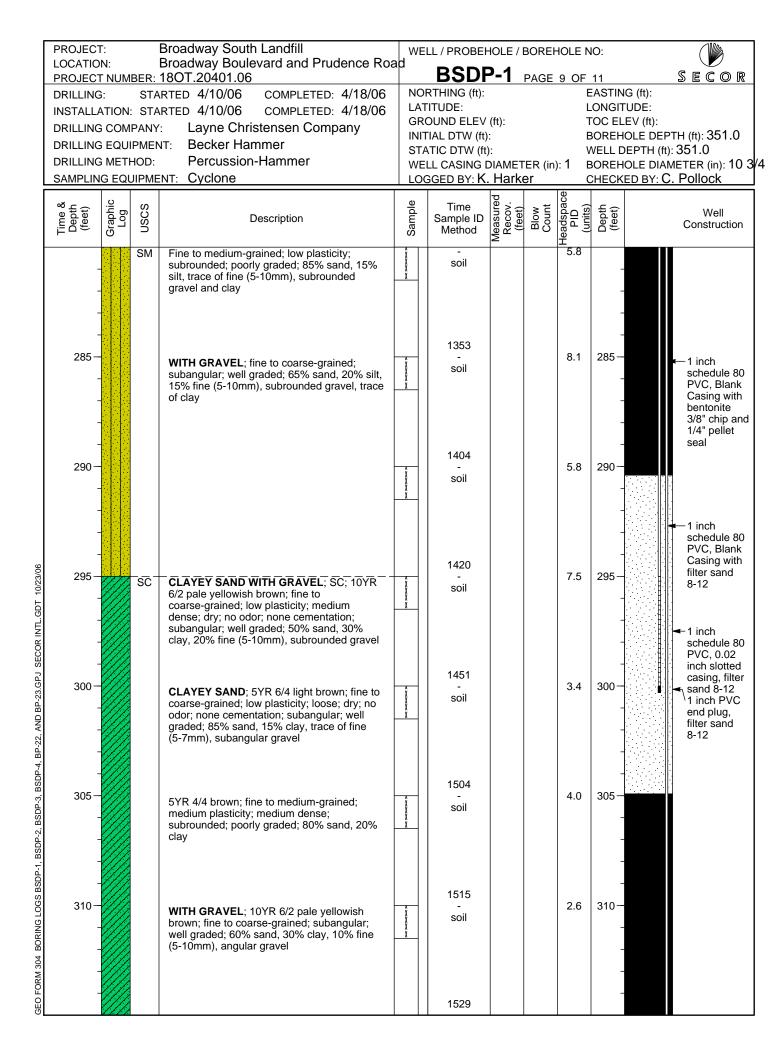
PROJECT: LOCATION:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06		LL / PROBEHOL				S E C O R
DRILLING:	STA : STA PANY IPMEN HOD:	RTED 4/10/06COMPLETED: 4/18/06RTED 4/10/06COMPLETED: 4/18/06':Layne Christensen CompanyNT:Becker HammerPercussion-Hammer	LAT GR INIT ST/ WE	RTHING (ft): TITUDE: OUND ELEV (ft): TIAL DTW (ft): ATIC DTW (ft): LL CASING DIAN GGED BY: K. Ha	METER (in)	E L T E V : 1 E	ONGITU ONGITU OC ELE BOREHC VELL DE BOREHC	G (ft): UDE:
Time & Depth (feet) Graphic Log	nscs	Description	Sample	Time Sample ID Method	Recov. (feet) Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
	SM	SILTY SAND; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 70% sand, 30% silt, trace of fine (5 mm), subangular gravel	X X X X X X	- soil 1128		7.1	- - - 110-	
	SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; medium plasticity; medium dense; dry; slight odor; none cementation; subangular; well graded; 60% sand, 30% clay, 10% fine (5-10mm), subangular gravel	X X X X X	soil		12.0	-	
115	SM	SILTY SAND WITH GRAVEL; SM; 5YR 4/4 brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 75% sand, 15% silt, 10% fine to cobbles (5-80mm), subangular to subrounded gravel, trace of clay	X X X X X	- soil 1220		6.7	115— - - -	
	SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; medium dense; dry; no odor; none cementation; subangular; well graded; 45% sand, 40% clay, 15% fine (5-7mm), subangular gravel	X X X X X	soil		5.3	120	• — 1 inch schedule 80 PVC, Blank
	SM	SILTY SAND WITH GRAVEL; SM; 5YR 4/4 brown; medium to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 40% sand, 30% silt, 30% fine to cobbles (10-75mm), subangular to subrounded gravel	X X X X X	1225 soil		9.8	125	Casing with bentonite 3/8" chip and 1/4" pellet seal
		SILTY SAND; trace of fine (5 mm), subangular gravel, 75% sand, 25% silt	X X X X X	1230 soil		3.8	130 - -	
		WITH GRAVEL; 50% sand, 30% silt, 20% fine (5-15mm), subangular to subrounded gravel	X X X X X	1235 soil		4.1	- 135 — - -	
GEO FORM 304				1241			_	

LOCATIO PROJECT			Broadway Boulevard and Prudence Roa 180T.20401.06		BSDP-	1 PAGE	5 OF	11		SECOR
drilling Drilling Drilling	ATION 6 COM 6 EQU 6 METI	: STA PANY IPMEN HOD:		LAT GR INIT ST/ WE	RTHING (ft): TUDE: OUND ELEV (ft) TAL DTW (ft): ATIC DTW (ft): LL CASING DIA GGED BY: K. H	: METER (in): larker	E L T E V : 1 E	EASTIN LONGIT FOC EL BOREH WELL D BOREH CHECK	rude: .ev (ft): Iole def Depth (ft Iole dia	РТН (ft): 351.0): 351.0 МЕТЕR (in): 10 (2. Pollock
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Recov. (feet) Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
-		SC	CLAYEY SAND WITH GRAVEL; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; medium dense; dry; slight odor; none cementation; subangular; well graded; 40% sand, 30% clay, 30% fine (5-20mm), subangular gravel	X X X X X	- soil 1247		4.6	-		
145 — - -		SM	SILTY SAND WITH GRAVEL; SM; 5YR 4/4 brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 50% sand, 30% fine (5-7mm), subrounded gravel, 20% silt	X X X X X	soil		3.0	145 - - -		 1 inch schedule 80 PVC, 0.02 inch slotted
150 — - - -			10YR 6/2 pale yellowish brown; 50% sand, 40% silt, 10% fine (5-7mm), subrounded gravel	XXXXX	1253 - soil		4.0	150 - -		casing, filter sand 8-12 1 inch PVC end plug, filter sand 8-12
155 — - -		SW	SAND; SW; 5YR 6/4 light brown; fine to coarse-grained; loose; dry; no odor; none cementation; subrounded; well graded; trace of silt	X X X X X	1300 - soil		3.0	155 — - -		
		SM	SILTY SAND ; SM; 5YR 6/4 light brown; fine to coarse-grained; medium dense to loose; dry; no odor; none cementation; subangular; well graded; 60% sand, 40% silt, trace of fine (5-10mm), subrounded gravel and clay	× × × × × × ×	1317 - soil		4.6	- 160 		
- 165 — - -		SP	SAND ; SP; 5YR 6/4 light brown; fine to medium-grained; loose; dry; no odor; none cementation; subangular; poorly graded	X X X X X	1326 soil		3.1	- 165 - -		 1 inch schedule 80 PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet seal
- 170 — - -		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 65% sand, 20% silt, 15% fine (5-10mm), subangular to subrounded gravel, trace of clay	× × × × ×	1337 - soil		4.6	- 170- - -		
-			oldy		1349			-		

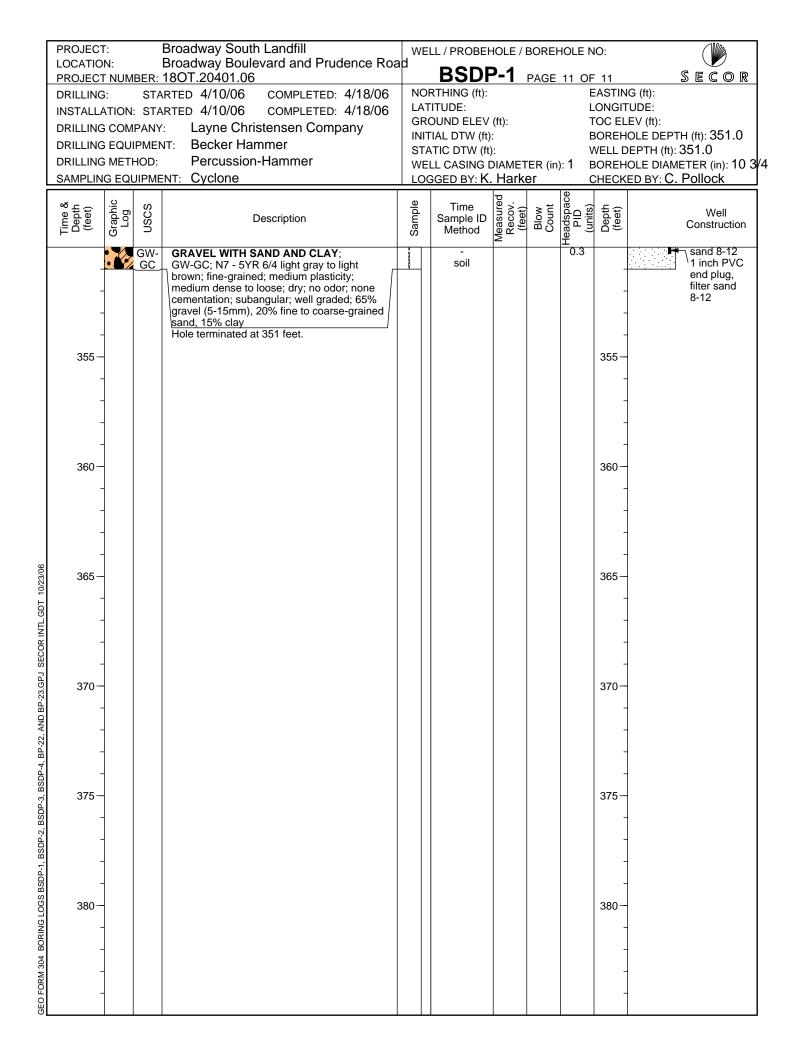


LOCATIO PROJECI			Broadway Boulevard and Prudence Roa 18OT.20401.06	ad	BSDF	ף-1	PAGE 7	OF 1	1		SECOR
DRILLING INSTALLA DRILLING DRILLING DRILLING	G: ATION G COM G EQUI G METI	STA STA PANY PMEN HOD:	RTED4/10/06COMPLETED:4/18/06RTED4/10/06COMPLETED:4/18/06:Layne Christensen Company	LA GR INI ST	RTHING (ft): TITUDE: OUND ELEV TIAL DTW (ft) ATIC DTW (ft) ELL CASING E GGED BY: K.	(ft): :): DIAMET	er	LC TC BC W BC CI	'ELL DEPT OREHOLE <u>HECKED E</u>	ft): DEP H (ft) DIAN	TH (ft): 351.0 : 351.0 //ETER (in): 10 . Pollock
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count Headspace	PID (units)	Depth (feet)		Well Construction
- - - 215 –		GW	GRAVEL WITH SAND ; GW; N7 - N9 light gray to white; fine to coarse-grained; loose; dry; no odor; none cementation; subrounded; well graded; 70% gravel, 30% medium to coarse-grained sand, trace of silt	X X X	- soil 1545			2.0	- - - 215-		
-		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 50% sand, 20% silt, 30% fine (5-15mm), subangular to subrounded gravel	XXXXX	soil						
220 - - -		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; medium dense; dry; no odor; none cementation; subangular; well graded; 55% sand, 35 % clay, 10% fine to coarse (5-20mm), subrounded gravel	X X X X	1601 - soil			2.6	220 — - - - -		 1 inch schedule 80 PVC, Blank Casing with bentonite 3/8" chip and
225 - -		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to medium-grained; non plastic; loose; dry; no odor; none cementation; subrounded; poorly graded; 55% sand, 25% fine (5-10mm), subrounded gravel, 20% silt	X X X X	1604 - soil		3	3.2	225		1/4" pellet seal
230 - - -		SP	SAND ; SP; 5YR 7/2 grayish orangeish pink; medium to coarse-grained; loose; dry; no odor; none cementation; subangular; poorly graded; trace of fine (5mm), subangular gravel and silt	X X X X	1609 - soil		Ę	5.5	230		
235 - - -		SM	SILTY SAND; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 85% sand, 15% silt	X X X X	1614 - soil		6	5.6	235-		
240 - -		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; medium dense to loose; dry; no odor; none cementation; subangular; well graded; 50% sand, 35% clay, 15% fine to coarse (5-30mm), subrounded gravel	X X X	1635 - soil			3.7	240-		 1 inch schedule 80 PVC, Blank Casing with filter sand 8-12
-					0836						•

LOCATIO PROJECT			Broadway Boulevard and Prudence Roa 18OT.20401.06	ıd	BSDP-	1 PAGE 8	3 OF	11	SECOR
DRILLING INSTALLA DRILLING DRILLING DRILLING	G: ATION: G COM G EQUI G METH	STA STA PANY PMEN HOD:	RTED4/10/06COMPLETED:4/18/06RTED4/10/06COMPLETED:4/18/06:Layne Christensen Company	LAT GR INIT ST/ WE	RTHING (ft): FITUDE: OUND ELEV (ft): FIAL DTW (ft): ATIC DTW (ft): LL CASING DIAI GGED BY: K. H	METER (in): arker	E L T E V 1 E	EASTIN LONGIT FOC EL BOREH WELL D BOREH CHECK	IG (ft):
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Recov. (feet) Blow Count	PID PID (units)	Depth (feet)	Well Construction
- - - 250		SC	5YR 6/4 light brown; fine to medium-grained; loose; poorly graded; 70% sand, 15% clay, 15% fine (5-10mm), subrounded gravel, trace of silt Fine to coarse-grained; 75% sand, 15% clay, 10% fine (5-10mm), subrounded gravel		soil 0844 soil		3.1	- - - 250	■ 1 inch schedule 80 PVC, 0.02 inch slotted casing, filter sand 8-12 1 inch PVC end plug, filter sand 8-12
- - 255 - -		SM	SILTY SAND ; SM; 5YR 6/4 light brown; fine to medium-grained; low plasticity; loose; dry; no odor; none cementation; subangular; poorly graded; 85% sand, 15% silt, trace of coarse (20-25mm), subrounded gravel and clay	A Y Y X X X X	1246 soil		7.4	- - 255 - -	
- 260 — - -		GW- GC	GRAVEL WITH CLAY AND SAND; GW-GC; N4 - 5YR 4/4 dark gray to brown; fine to coarse-grained; medium plasticity; loose; dry; no odor; none cementation; subrounded; well graded; 55% gravel (5-80mm), 30% clay, 15% fine to medium-grained sand	X X X X X X	1300 - soil		8.1	- 260 — - -	
- 265 - -		SM	SILTY SAND WITH GRAVEL; SM; 10YR 6/2 pale yellowish brown; fine to medium-grained; low plasticity; loose; dry; no odor; none cementation; subrounded; poorly graded; 65% sand, 20% silt, 15% fine (5-15mm), subrounded gravel, trace of clay	* X X X X X X	1308 - soil		5.1	- 265 — - -	- - 1 inch - schedule 80 PVC, Blank Casing with bentonite - 3/8" chip an
270 - - -		GP- GC	GRAVEL WITH CLAY AND SAND ; GP-GC; N7 light gray; fine-grained; medium plasticity; medium dense to loose; dry; no odor; none cementation; subangular; poorly graded; 50% gravel, 25% clay, 25% fine to coarse-grained sand	X X X X	1320 soil		9.5	270-	1/4" pellet
275 - -		SM	SILTY SAND; SM; 10YR 6/2 pale yellowish brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 85% sand, 15% silt, trace of fine (5-10mm), subrounded gravel	X X X X X	1331 - soil		5.7	275-	
-					1342			-	



	PROJECT LOCATIOI PROJECT	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	we ad	LL / PROBEH						S E C O R
	DRILLING INSTALLA DRILLING DRILLING DRILLING	S: ATION COM EQUI METI	STA STA PANY PMEN HOD:	RTED 4/10/06COMPLETED: 4/18/06RTED 4/10/06COMPLETED: 4/18/06:Layne Christensen Company	LAT GRO INIT STA WE	RTHING (ft): ITUDE: DUND ELEV IAL DTW (ft): TIC DTW (ft) LL CASING D GGED BY: K.	(ft): : DIAMET	ER (in):	E L T E V :1 E	ASTIN ONGIT OC EL SOREH VELL D SOREH	UDE: EV (ft): OLE DEP DEPTH (ft) OLE DIAM	TH (ft): 351.0
	Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow	Headspace PID (units)	Depth (feet)		Well Construction
	-		SC	CLAYEY SAND; 5YR 4/4 brown; fine to medium-grained; medium dense to loose; subrounded; poorly graded; 80% sand, 20% clay	X X X X	soil		•	3.0	-		
	320 — - -		SM	SILTY SAND ; SM; 10YR 6/2 pale yellowish brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 70% sand, 30% silt, trace of fine (5-10mm), subangular gravel and clay	X X X X	1552 - soil			2.7	320 - -		← 1 inch schedule 80 PVC, Blank
	- 325 — - -			5YR 4/4 brown; fine to medium-grained; low plasticity; subrounded; poorly graded; 80% sand, 20% silt, trace of fine (5-8mm), subangular gravel and clay	XXXXX	1605 - soil			1.9	- 325— - -		Casing with bentonite 3/8" chip and 1/4" pellet seal
R INTL.GDT 10/23/06	- 330 — - -			WITH CLAY; 5YR 6/4 light brown; non plastic; medium dense to loose; 55% sand, 30% silt, 15% medium plasticity clay	× × × ×	1621 - soil			1.0	- 330- -		
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ SECOR INTL.GDT 10/23/06	- 335 — - -			WITH GRAVEL; fine to coarse-grained; loose; subangular; well graded; 45% sand, 35% fine (5-7mm), subangular gravel, 20% silt	X X X X	1643 - soil			0.7	- 335 — - -		
, BSDP-2, BSDP-3, BSDP-4, E	- 340 — - -		sc	CLAYEY SAND ; SC; 5YR 6/4 light brown; fine to medium-grained; low plasticity; medium dense; dry; no odor; none cementation; subangular; poorly graded; 85% sand, 15% clay, trace of fine (5 mm), subangular gravel and silt	X X X X	1706 - soil			0.1	- 340— -		← 1 inch schedule 80
4 BORING LOGS BSDP-1	- 345 — -			5YR 4/4 brown; medium plasticity; 60% sand, 40% clay, trace of fine (5-8mm), subrounded gravel	X X X X X	1721 soil			0.0	- 345— -		PVC, Blank Casing with filter sand 8-12
GEO FORM 30	_					1731				-		 1 inch schedule 80 PVC, 0.02 inch slotted casing, filter



	PROJECT LOCATIO PROJECT	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	ad WE	LL / PROBEF					SECOR
	DRILLING INSTALLA DRILLING DRILLING DRILLING	5: ATION: 5 COMI 5 EQUI 6 METH	STA STA PANY PMEN IOD:	RTED 4/19/06COMPLETED: 4/25/06RTED 4/19/06COMPLETED: 4/25/06:Layne Christensen Company	LAT GR INIT ST/ WE	RTHING (ft): TITUDE: OUND ELEV TIAL DTW (ft): ATIC DTW (ft) LL CASING E GGED BY: K.	(ft): : : DIAMETER	E 1 E (in): 1 E (in): 1 E	EASTIN ONGIT FOC EL BOREH WELL D BOREH CHECKI	UDE: EV (ft): OLE DEP EPTH (ft): OLE DIAM	тн (ft): 351.0
	Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet) Blow	Count Headspace PID (units)	Depth (feet)		Well Construction
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ SECOR INTL.GDT 10/23/06			SC	 Fill Material consists of silt, clay, sand, and gravel, Boring post hole dug to approx. 2.5 feet bgs CLAYEY SAND WITH GRAVEL; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; medium dense to dense; dry; no odor; none cementation; subrounded; well graded; 60% sand, 20% clay, 20% fine to coarse (5-20mm), subrounded gravel, trace of silt 60% sand, 25% clay, 15% fine (5-10mm), subangular gravel, trace of silt 50% sand, 30% fine to coarse (5-25mm), subangular gravel, 20% clay, trace of silt 50% sand, 30% fine to coarse (5-25mm), subangular gravel, 20% clay, trace of silt 40% trash - paper, ceramic, glass, wood, can 40% trash - plastic, wood, ceramics, marble, charcoal, 30% sand, 15% clay, 15% (5-35mm), gravel 10YR 4/2 dark yellowish brown to black; poorly graded; 40% sand, 25% gravel, 20% clay, 15% trash - wood, plastic, ceramic 		Method 1233 soil 1236 soil 1242 soil 1251 soil 1257 soil 1257 soil	Action of the second se	4.2 4.2 2.8 5.5 4.7 60.0			 Above ground dog house vault with 1 inch PVC caps 1 inch schedule 80 PVC, Blank Casing with cement grout
GEO FORM 304 BORING L(-		SM	SILTY SAND WITH GRAVEL; SM; 10YR 7/4 grayish orange; fine to coarse-grained; non plastic; loose; dry; slight odor; none cementation; subangular; well graded; 45% sand, 30% silt, 25% fine (5-15mm), subangular gravel, trace of trash - metal	X X X X	soil 1315					

	PROJECT LOCATIO PROJECT	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	WE ad	LL / PROBEH						S E C O R
	DRILLING DRILLING DRILLING	ATION G COM G EQUI G METI	: STA PANY PMEN HOD:	-, ,	LAT GR INIT STA WE	RTHING (ft): TUDE: OUND ELEV (t TAL DTW (ft): ATIC DTW (ft): LL CASING DI GGED BY: K.	ft): IAMETI	ER (in): e r	E L T E V 1 E	EASTIN ONGIT OC EL BOREH VELL D BOREH CHECK	UDE: EV (ft): OLE DE PEPTH (ff OLE DIA	PTH (ft): 351.0 i): 351.0 METER (in): 10 3/4 <u>C. Pollock</u>
	Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
	- - -		SM	SILTY SAND; 5YR 6/4 light brown; fine to medium-grained; 70% sand, 30% silt, trace of clay	X X X X	- soil 1320		-	7.1	-		
	40 - -		SC	CLAYEY SAND WITH COBBLES ; SC; 5YR 4/4 brown; fine to coarse-grained; medium plasticity; medium dense; dry; slight odor; none cementation; subangular; well graded; 55% sand, 35% clay, 10% fine (5-10mm), subrounded gravel to cobbles (110mm)	X X X X	soil			61.2	40		
	45 - - -		SM	SILTY SAND; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; slight odor; none cementation; subangular; well graded; 70% sand, 30% silt, trace of fine (5-7mm), subangular gravel and clay	× × × × × × × × × × × × × × × × × × ×	1329 - soil			6.6	45		
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-4, BP-22, AND BP-23.GPJ SECOR INTL.GDT 10/23/06	50 — - - -		SC	CLAYEY SAND WITH GRAVEL; SC; 5YR 4/4 brown; fine to coarse-grained; medium plasticity; medium dense; dry; slight odor; none cementation; subangular; well graded; 60% sand, 30% clay, 10% fine to coarse (5-20mm), subangular gravel	X X X X	1334 - soil			9.1	50		1 inch schedule 80 PVC, Blank Casing with
DP-4, BP-22, AND BP-23.GPJ	55 — - - -			CLAYEY SAND ; low plasticity; loose; poorly graded; 70% sand, 30% clay, trace of fine (5-7mm), subangular gravel	× X X X X	1344 - soil			6.2	55		cement grout
SDP-1, BSDP-2, BSDP-3, BSI	- 60 - - -		SM	SILTY SAND; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; slight odor; none cementation; subangular; well graded; 70% sand, 30% silt, trace of fine (5-7mm), subrounded gravel and clay	X X X X X	1352 - soil			7.7	60 — - - -		
ORM 304 BORING LOGS B	65 - -		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; loose; dry; slight odor; none cementation; subangular; well graded; 55% sand, 25% clay, 20% fine to coarse (5-20mm), subrounded gravel	X X X X	1356 - soil			12.0	65 — - -		
GEO F	_					1359				_		

ſ	PROJECT LOCATIOI PROJECT	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	we ad			OREHOLE N AGE 3 OF			S E C O R
	DRILLING INSTALLA DRILLING DRILLING DRILLING	IIIION COM EQUI	STA : STA PANY IPMEN HOD:	RTED 4/19/06COMPLETED: 4/25/06RTED 4/19/06COMPLETED: 4/25/06:Layne Christensen Company	LAT GR INIT STA WE	RTHING (ft): 'ITUDE: OUND ELEV ('IAL DTW (ft): ATIC DTW (ft): LL CASING D GGED BY: K.	ft): IAMETE	E 1 E R (in): 1 E	ASTING ONGIT OC ELI OREHO VELL D OREHO	UDE: EV (ft): OLE DE EPTH (f OLE DIA	PTH (ft): 351.0 t): 351.0 METER (in): 10 3/4 <u>C. Pollock</u>
	Time & Depth (feet)	Graphic Log	nscs	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Length States (Count Blow Count Coun	Depth (feet)		Well Construction
	- - - -		SC	CLAYEY SAND; fine to medium-grained; medium plasticity; medium dense; subrounded; 60% sand, 40% clay, trace of fine (5 mm), subangular gravel	× × × × × × × × × × × × × × × × × × ×	- soil 1406					
	75 — - - -		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 65% sand, 20% silt, 15% fine to coarse (5-20mm), subangular gravel	X X X X X	soil		14.5			1 inch schedule 80 PVC, Blank Casing with cement grout
	80 - - -				A X X X X X	soil		11.4	80		
SECOR INTL.GDT 10/23/06	85 — - - -		SC	CLAYEY SAND WITH GRAVEL; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; loose; dry; no odor; none cementation; subangular; well graded; 60% sand, 20% clay, 20% fine to coarse (5-25mm), subrounded to angular gravel	A X X X X X X	soil		8.3	85		- — 1 inch schedule 80 PVC, Blank Casing with
4, BP-22, AND BP-23.GPJ	90 — - - -		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; low plasticity; loose; dry; no odor; none cementation; subangular; well graded; 70% sand, 20% silt, 10% fine (5-10mm), subangular gravel, trace of clay	X X X X X	1426 - soil		7.4	90		bentonite 3/8" chip and 1/4" pellet seal 1inch schedule 80 PVC, Blank
	95 — - -			Fine to medium-grained; poorly graded; 65% sand, 20% silt, 15% fine (5-15mm), subangular to subrounded gravel, trace of clay	X X X X X	1429 - soil		8.6	95		Casing with filter sand 8-12 ← 1 inch schedule 80
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ SECOR INTL.GDT 10/23/06	- 100 			Fine to coarse-grained; well graded; 70% sand, 20% silt, 10% fine (5-10mm), subrounded gravel	х Х Х Х Х	1433 soil		7.2	100-		PVC, 0.02 inch slotted casing, filter sand 8-12 1 inch PVC end plug, filter sand 8-12
GEO FI	_					1440			-		

	PROJECT LOCATIO PROJECT	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	WE Id	LL / PROBEHOLE					S E C O R
	DRILLING INSTALLA DRILLING DRILLING DRILLING	:: TION: COM EQUI METH	STA STA PANY PMEN HOD:	RTED 4/19/06COMPLETED: 4/25/06RTED 4/19/06COMPLETED: 4/25/06:Layne Christensen Company	LAT GR INIT ST WE	RTHING (ft): FITUDE: OUND ELEV (ft): FIAL DTW (ft): ATIC DTW (ft): LL CASING DIAM GGED BY: K. Ha	ETER (in): rker	E L T E V 1 E	EASTING LONGITUI FOC ELEV BOREHOL WELL DEF BOREHOL CHECKED	DE: / (ft): _E DE PTH (ff _E DIA	PTH (ft): 351.0 i): 351.0 METER (in): 10 3/4 C. Pollock
	Time & Depth (feet)	Graphic Log	nscs	Description	Sample	Time Sample ID Method	(feet) Blow Count	PID (units)	Depth (feet)		Well Construction
	- - -		SM	SILTY SAND; fine to medium-grained; subrounded; 60% sand, 40% silt, trace of fine (5-7mm), subrounded gravel	X X X X	soil		1.7	-		
	110— - -		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; loose; dry; no odor; none cementation; subrounded; well graded; 45% sand, 40% fine to coarse (5-25mm), angular to subrounded gravel, 15% clay	X X X X	1444 - soil		3.6	110— - - -		 1 inch schedule 80 PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet seal
	115 — - -			CLAYEY SAND ; fine to medium-grained; subangular; poorly graded; 85% sand, 15% clay, trace of fine (5-8mm), subangular gravel	X X X X	1451 soil		2.8	115— - - -		
ECOR INTL.GDT 10/23/06	- 120 — - -				X X X X	1458 soil		2.9	120 — - - -		
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ SECOR INTL.GDT 10/23/06	- 125 — - -		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; low plasticity; loose; dry; no odor; none cementation; subrounded; well graded; 55% sand, 25% fine (5-15mm), subrounded to rounded gravel, 20% silt, trace of clay	XXXXX	1504 - soil		2.7	- 125 - - -		
DP-1, BSDP-2, BSDP-3, BSDP	- 130 — - -		SC	CLAYEY SAND WITH GRAVEL; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; loose; dry; no odor; none cementation; subangular; well graded; 65% sand, 20% clay, 15% fine to coarse (5-30mm), subrounded gravel, trace of silt	X X X X	1510 soil		4.6	- 130- - - -		
JRM 304 BORING LOGS BSI	- 135 — - -				X X X X X	1515 soil		3.5	- 135 — - - -		
GEO FC	_					1520			-		

)N: <u>T NUM</u>	BER:	Broadway Boulevard and Prudence Roa 180T.20401.06		BSDP	-2	PAGE 5 C	DF 11		SECOR
DRILLING DRILLING DRILLING	ATION: G COM G EQUI G METH	: STA PANY PMEN HOD:		LA ⁻ GR INI ⁻ ST/ WE	RTHING (ft): TITUDE: OUND ELEV (ft TIAL DTW (ft): ATIC DTW (ft): CLL CASING DI GGED BY: K. I	t): AMET	ER (in): 1	EAS LON TOC BOF WEL BOF	STING (ft): IGITUDE: CELEV (ft) REHOLE D LL DEPTH REHOLE D): DEPTH (ft): 351.0 (ft): 351.0 DIAMETER (in): 10 <u>(: C. Pollock</u>
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Recov. (feet)	Blow Blow Count Headspace 2.	(units) Depth	(feet)	Well Construction
- - - 145 –		GW	GRAVEL WITH SAND AND CLAY ; GW; 5YR 4/4 brown; fine to coarse-grained; medium plasticity; medium dense; dry; no odor; none cementation; subangular; well graded; 45% (5-20mm) gravel, 35% fine to coarse-grained sand, 20% clay	× × × × × × × × × × × × × × × × × × ×	soil 1533					 1inch schedule 80 PVC, Blank Casing with filter sand
		SW	SAND ; SW; 5YR 6/4 light brown; fine to coarse-grained; loose; dry; no odor; none cementation; subangular; well graded; trace of coarse (20-25mm), subangular gravel and silt	× × × ×	soil		3.	1 14	C	8-12 ← 1 inch schedule 80 PVC, 0.02
- 150 – -			Trace of fine (5-10mm), subrounded gravel and silt	X X X X	1535 soil		3.	8 15	50	inch slotted casing, filter sand 8-12 1 inch PVC end plug, filter sand 8-12
- - - - -				X X X X X	1541 - soil		3.	3 15	55	
- 160 - -		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 50% sand, 30%fine (5-10mm), subangular to subrounded gravel, 20% silt, trace of clay	X X X X X X	1552 - soil		3.	8 16	- 50 - - -	
- 165 - -		SW	SAND ; SW; 5YR 6/4 light brown; fine to coarse-grained; loose; dry; no odor; none cementation; subangular; well graded; trace of coarse (20 mm), subrounded gravel and silt	X X X X X	1558 soil		3.	8 16	- 65 - - -	 ■ 1 inch schedule 80 PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet seal
- 170 - - -		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 70% sand, 15% silt, 15% fine to coarse (5-25mm), subrounded to rounded gravel, trace of clay	X X X X	1603 - soil		3.	3 17	- 70 - - -	
-					1605					

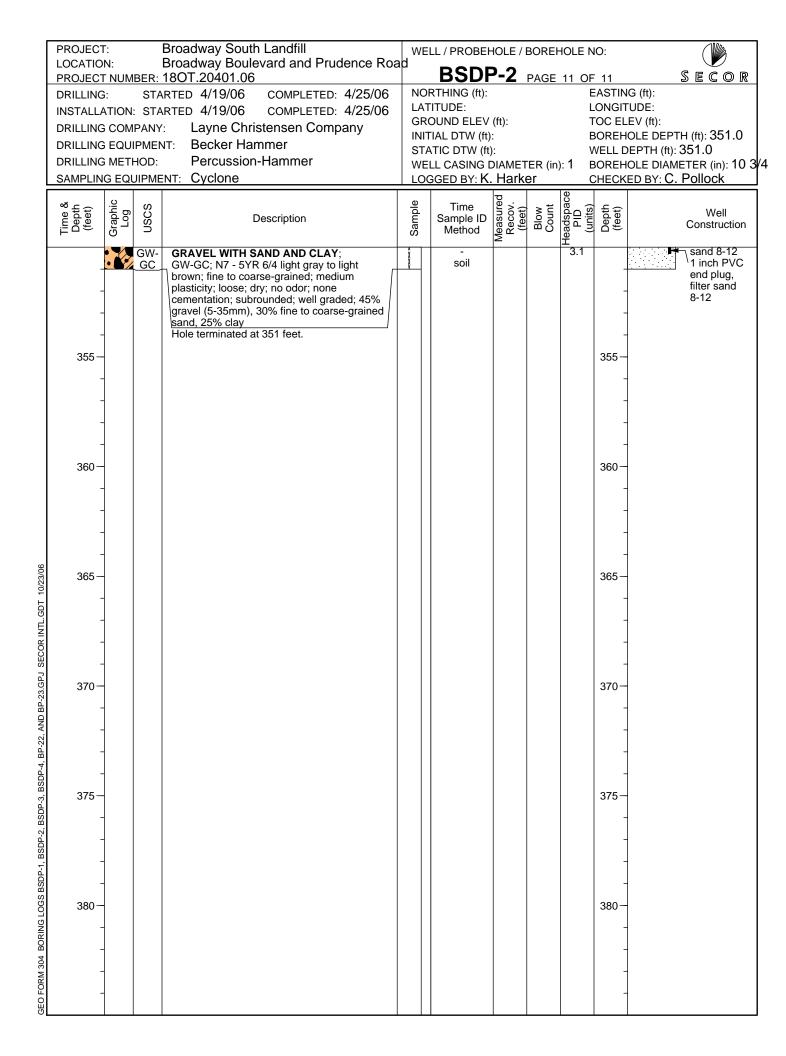
PROJECT	N: ⁻ NUM	BER:	Broadway Boulevard and Prudence Roa 18OT.20401.06		BSDP	-2 F	AGE 6	6 OF	11		SECOR
drilling Drilling Drilling	COM EQUI METI	STA PANY PMEN HOD:		LAT GR INIT ST/ WE	RTHING (ft): TITUDE: OUND ELEV (f TIAL DTW (ft): ATIC DTW (ft): LL CASING DI GGED BY: K.	ft): IAMETE	ER (in): r	E L T E V 1 E C	EASTIN ONGIT OC EL BOREH VELL E BOREH CHECK	iole di Depth (Iole de Depth (Iole di	EPTH (ft): 351.0 (ft): 351.0 AMETER (in): 10 3 <u>C. Pollock</u>
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Count	neauspace PID (units)	Depth (feet)		Well Construction
- - -		SW	SAND WITH GRAVEL; SW; 5YR 6/4 light brown; fine to coarse-grained; loose; dry; no odor; none cementation; subangular; well graded; 75% sand, 25% fine to coarse (5-30mm), subrounded gravel	X X X X X	- soil 1611			4.1	-		
180 — - -		SM	SILTY SAND; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 80% sand, 20% silt, trace of fine (5-10mm), subrounded gravel	X X X X X	soil			4.4	- 180 - - -		← 1 inch schedule 80 PVC, Blank Casing with
185 — - -			85% sand, 15% silt, trace of fine (5-7mm), subrounded gravel	X X X X X	1619 - soil			4.0	185 - -		bentonite 3/8" chip and 1/4" pellet seal
- 190 — - -			65% sand, 35% silt, trace of fine (5-7mm), subangular gravel	X X X X X	1626 - soil			3.5	- 190 - - -		← 1inch schedule 80 PVC, Blank
- 195 — - -		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; medium dense; dry; no odor; none cementation; subangular; well graded; 45% sand, 35% fine to coarse (5-25mm), subangular gravel, 20% clay, trace of silt	X X X X X	1637 soil			3.8	- 195 - -		Casing with filter sand 8-12 1 inch schedule 80 PVC, 0.02
- 200 — - -		SM	SILTY SAND ; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; poorly graded; 80% sand, 20% silt, trace of fine (5 mm), subangular gravel	× × × × × ×	1643 - soil			4.0	- 200 - - -		inch slotted casing, filter sand 8-12 1 inch PVC end plug, filter sand 8-12
- 205 — - -		SC	CLAYEY SAND ; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; loose; dry; no odor; none cementation; subangular; poorly graded; 70% sand, 30% clay, trace of fine (5-10mm), subrounded gravel	X X X X X	1648 - soil			3.5	- 205 - -		
_					1659				-		

LOCATIC PROJEC			Broadway Boulevard and Prudence Roa 18OT.20401.06	ad	BSDF	- 2	PAGE	7 OF	11		SECOR
DRILLING INSTALL DRILLING DRILLING DRILLING	G: ATION G COM G EQUI G METI	STA STA PANY PMEN HOD:	RTED4/19/06COMPLETED:4/25/06RTED4/19/06COMPLETED:4/25/06:Layne Christensen Company	LAT GR INIT ST/ WE	RTHING (ft): FITUDE: OUND ELEV FIAL DTW (ft) ATIC DTW (ft) LL CASING E GGED BY: K.	(ft): ::): DIAMET . Harke	ER (in)	E L T E : 1 E C	EASTIN LONGIT FOC ELI BOREH WELL D BOREH CHECKI	UDE: EV (ft): OLE DEF EPTH (ft OLE DIA	PTH (ft): 351.0): 351.0 METER (in): 10 (2. Pollock
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
		GW- GM	GRAVEL WITH SAND AND SILT; GW-GM; 5YR 4/4 brown; fine to coarse-grained; low plasticity; loose; dry; no odor; none cementation; subangular; well graded; 50% (5-20mm) gravel, 30% fine to coarse-grained sand, 20% silt, trace of clay	× × × × × × × × × × × × × × × × × × ×	- soil 1717			2.8	- - - 215-		
•			7/4 grayish orange; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subrounded; well graded; 50% sand, 30% silt, 20% fine to coarse (5-20mm), subrounded gravel	X X X	soil 1722				-		
- 220 -		SW	SAND WITH GRAVEL ; SW; 5YR 6/4 light brown; fine to coarse-grained; loose; dry; no odor; none cementation; subangular; well graded; 65% sand, 35% fine to coarse (5-20mm), subrounded gravel, trace of silt	X X X X	soil			1.9	220-		← 1 inch schedule 80 PVC, Blank Casing with
225 -			Fine (5-10mm), subrounded gravel, trace of clay	× × × × × ×	1729 - soil			1.3	225-		bentonite 3/8" chip and 1/4" pellet seal
230 -		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; rounded; well graded; 45% sand, 35% fine (5-15mm), subangular gravel, 20% silt	XXXXX	1736 - soil			1.7	230-		
235-			55% sand, 25% fine to coarse (5-20mm), subrounded to rounded gravel, 20% silt	X X X X	1745 - soil			1.8	- 235		
240-		SC	CLAYEY SAND WITH GRAVEL; SC; 5YR 6/4 light brown; fine to coarse-grained; low plasticity; loose; dry; no odor; none cementation; subangular; well graded; 65% sand, 20% clay, 15% fine to coarse (5-20mm), subrounded gravel	X X X X	1756 - soil			3.3	240		 1inch schedule 80 PVC, Blank
					1820						Casing with

[PROJECT LOCATIO PROJECT	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	we	LL / PROBEHOLE					S E C O R
	DRILLING INSTALLA DRILLING DRILLING DRILLING	B: ATION COM EQUI METI	STA STA PANY PMEN HOD:	RTED4/19/06COMPLETED:4/25/06RTED4/19/06COMPLETED:4/25/06:Layne Christensen Company	LAT GRO INIT STA WE	RTHING (ft): ITUDE: OUND ELEV (ft): TAL DTW (ft): NTIC DTW (ft): LL CASING DIAM GGED BY: K. Ha	1ETER (in) Irker	E L T E V C	EASTIN LONGIT TOC EL BOREH VELL D BOREH CHECK	rude: Lev (ft): Iole def Depth (ft Iole dia Ied by: C	РТН (ft): 351.0
	Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	(feet) Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
	- - -		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 50% sand, 30% fine to coarse (5-20mm), subangular to subrounded gravel, 20% silt, trace of clay	× × × × × × × × × × × × × × × × × × ×	soil		3.4	-		1 inch schedule 80 PVC, 0.02 inch slotted casing, filter
	250 — - - -		SC	CLAYEY SAND WITH GRAVEL; SC; 5YR 6/4 light brown; fine to coarse-grained; medium plasticity; medium dense to loose; dry; no odor; none cementation; subangular; well graded; 60% sand, 30% clay, 10% fine (5-7mm), subrounded gravel	X X X X X	soil		2.9	250 - - -		sand 8-12 1 inch PVC end plug, filter sand 8-12
	255 — - - -		SM	SILTY SAND WITH GRAVEL; SM; 10YR 7/4 grayish orange; fine to coarse-grained; non plastic; medium dense to loose; dry; no odor; none cementation; subangular; well graded; 60% sand, 30% silt, 10% fine (5-7mm), subrounded gravel, trace of clay	X X X X X	0840 - soil		5.9	255		
ECOR INTL.GDT 10/23/06	260 — - -			SILTY SAND ; 5YR 6/4 light brown; fine to medium-grained; low plasticity; loose; subrounded; poorly graded; 60% sand, 40% silt, trace of fine (10mm), subrounded gravel and clay	X X X X X	0849 - soil		4.1	260 - -		
, BP-22, AND BP-23.GPJ SE	- 265 - -			75% sand, 25% silt, trace of fine (5-10mm), subrounded gravel and clay	× × × × × × × × × × × × × × × × × × ×	0852 soil		4.2	- 265 — - -		■ 1 inch schedule 80
1, BSDP-2, BSDP-3, BSDP-4	- 270 - -			Trace of fine to coarse (5-20mm), subrounded gravel and clay	X X X X X	0905 - soil		7.4	- 270- - - -		PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet seal
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ SECOR INTL.GDT 10/23/06	- 275 - -			Poorly graded; 80% sand, 20% silt, trace of fine to coarse (5-15mm), subrounded gravel and clay	X X X X X	0912 - soil		5.7	- 275- - -		
GEO FO	-					0927			-		

PROJECT: LOCATION PROJECT I	:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	id ^m	BSDP-2					SECOR
DRILLING: INSTALLAT DRILLING (DRILLING I DRILLING I	FION: COMI EQUI METH	STA STA PANY PMEN IOD:	RTED4/19/06COMPLETED:4/25/06RTED4/19/06COMPLETED:4/25/06:Layne Christensen Company	LAT GR INIT ST/ WE	RTHING (ft): FITUDE: OUND ELEV (ft): FIAL DTW (ft): ATIC DTW (ft): LL CASING DIAM GGED BY: K. Ha	1ETER (in): 1	E L B V 1 B	ASTIN ONGIT OC ELI OREH VELL D OREH	UDE: EV (ft): OLE DEF EPTH (ft OLE DIA	PTH (ft): 351.0): 351.0 METER (in): 10 <u>C. Pollock</u>
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Blow Count Headspace	PID (units)	Depth (feet)		Well Construction
		SM	WITH GRAVEL; fine to coarse-grained; non plastic; subangular; well graded; 45% sand, 35% fine to coarse (5-25mm), subrounded gravel, 20% silt, trace of clay	X X X X	soil		7.0	-		
 285 - - -			SILTY SAND ; 10YR 6/2 pale yellowish brown; fine to medium-grained; low plasticity; subrounded; poorly graded; 70% sand, 30% silt, trace of fine (5-10mm), subrounded gravel and clay	A Y X X X X X	0939 soil		5.0	- 285 — - -		← 1 inch schedule 80 PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet seal seal
290-		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 6/4 light brown; fine to coarse-grained; medium plasticity; medium dense to loose; dry; no odor; none cementation; subangular; well graded; 55% sand, 30% clay, 15% fine to coarse (5-20mm), subrounded gravel,	X X X X	0945 soil		4.9	290-		- 1inch
- 295 			trace of silt CLAYEY SAND ; medium plasticity; loose; 60% sand, 40% clay, trace of fine (5-10mm), subrounded gravel and silt	X X X X	1002 soil		6.2	- 295		PVC, Blank Casing with filter sand 8-12
		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 40% sand, 35% fine (5-15mm), subangular gravel, 25% silt, trace of clay	х Х Х Х Х Х Х	1007 soil		5.4	300-		 1 Inch schedule 80 PVC, 0.02 inch slotted casing, filter sand 8-12 1 inch PVC end plug, filter sand 8-12
305		SC	CLAYEY SAND; SC; 5YR 6/4 light brown; fine to medium-grained; low plasticity; loose; dry; no odor; none cementation; subrounded; poorly graded; 70% sand, 30% clay, trace of fine (5-15mm), subrounded gravel and silt	X X X X X	1021 soil		5.4	305 -		
310-			WITH GRAVEL; fine to coarse-grained; medium plasticity; medium dense to loose; subangular; well graded; 40% sand, 30% clay, 30% fine to coarse (5-20mm), subrounded gravel	X X X X	1030 soil		6.5	- 310 — -		
					1045			-		

PROJECT: LOCATION: PROJECT N	UMBER:	Broadway South Landfill Broadway Boulevard and Prudence Roa 180T.20401.06	WE ad		OLE / BORE -2 PAGE				S E C O R
DRILLING: INSTALLATIO DRILLING CO DRILLING EO DRILLING M	ST ON: ST OMPAN QUIPME ETHOD:	ARTED 4/19/06 COMPLETED: 4/25/06 ARTED 4/19/06 COMPLETED: 4/25/06 Y: Layne Christensen Company NT: Becker Hammer	LAT GR INIT ST/ WE	RTHING (ft): TIUDE: OUND ELEV (TIAL DTW (ft): ATIC DTW (ft): LL CASING D GGED BY: K.	(ft): IAMETER (i	E L T E N N): 1 E	EASTIN LONGIT TOC EL BOREH WELL D BOREH	UDE: EV (ft): OLE DEPT DEPTH (ft):	^{гн} (ft): 351.0 351.0 ETER (in): 10 3
Time & Depth (feet) Graphic	Log USCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet) Blow Count	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Depth (feet)		Well Construction
	SM	SILTY SAND; SM; 5YR 6/4 light brown; fine to medium-grained; low plasticity; loose; dry; no odor; none cementation; subrounded; poorly graded; 70% sand, 30% silt, trace of fine (5-15mm), subangular to subrounded gravel and clay	XXXXX	soil		4.6	-		
320-		WITH GRAVEL; fine to coarse-grained; subangular; well graded; 40% sand. 30% silt, 30% fine to coarse (5-20mm), subangular to subrounded gravel, trace of clay	X X X X X X X	1051 - soil		6.6	320-		⊢1 inch schedule 80
		SILTY SAND ; fine to medium-grained; subrounded; poorly graded; 70% sand, 30% silt, trace of fine (5-7mm), subangular gravel	х Х Х Х Х Х	1101 - soil		5.5			PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet seal
- 330— - -		Fine to coarse-grained; well graded; 80% sand, 20% silt, trace of fine (5-10mm), subangular gravel and clay	* X X X X X	1110 soil		6.4	330-		
- 		WITH GRAVEL; non plastic; subangular; 45% sand, 40% fine (5-10mm), subangular to subrounded gravel, 15% silt, trace of clay	X X X X X	1210 soil		7.5	335-		
340	SC	CLAYEY SAND; SC; 5YR 6/4 light brown; fine to medium-grained; low plasticity; loose; dry; no odor; none cementation; subrounded; poorly graded; 70% sand, 30% clay, trace of fine to coarse (5-20mm), subrounded gravel	X X X X X	1221 - soil		4.2	- - 340 -		⊷ 1inch
		and silt WITH GRAVEL ; fine to coarse-grained; medium plasticity; medium dense to loose; subangular; well graded; 40% sand, 30% clay, 30% fine to coarse (5-25mm), subangular gravel	X X X X X X	1234 - soil		2.9	- 345 -		schedule 80 PVC, Blank Casing with filter sand 8-12
				1241			-		H inch schedule 80 PVC, 0.02 inch slotted casing, filter



DRILLIN	DN: <u>T NUM</u> G:	<u>BER:</u> STA	Broadway South Landfill Broadway Boulevard and Prudence Ros 18OT.20401.06 RTED 5/11/06 COMPLETED: 5/12/06	ad NO	ELL / PROBEF BSDF RTHING (ft): TITUDE:			<u>1 OF</u>		. ,	SECOR
DRILLING DRILLING DRILLING	G COM G EQUI G METI	PANY PMEN HOD:		GR INI ST WE	OUND ELEV TIAL DTW (ft) ATIC DTW (ft) ELL CASING E GGED BY: K.	:): DIAMET <u>Harke</u>	er	ד פ ע ר:1 נ	TOC EL BOREH VELL D BOREH CHECK	LEV (ft): IOLE DEPT DEPTH (ft):	IETER (in): 9
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
5-		SC	Fill Material consists of silt, clay, sand, and gravel, Boring post hole dug to approx. 2.5 feet bgs CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; medium plasticity; medium dense; dry; slight odor; none cementation; subangular; well graded; 55% sand, 25% clay, 20% fine to coarse (5-30mm), subangular gravel Trace of trash - wood fragments and concrete		1400 - soil			12.0	- - - 5	0111841184118411841184118 01184118411841184118 01184118411841184118	 Above ground dog house vault with 1 inch PVC caps
10-			Low plasticity; loose; 45% sand, 30% (5-30mm), subangular to subrounded gravel, 15% clay, 10% trash-wood, plastic, concrete	X X X X	1407 - soil			8.7	- 10- - -	KU KU KU KU KU KU KU KU KU KU KU KU KU KU KU KU KU KU KU	
15-		SM	SILTY SAND; SM; 10YR 2/2 dark yellowish brown; fine to coarse-grained; loose; dry; strong odor; none cementation; subangular; well graded; 40% sand, 20% gravel, 15% silt, 25% trash - glass, newspaper, wood fragments, foam	X X X	1410 - soil			15.4	- 15- - -	VI I KVI I KVI I KVI I VI I KVI I KVI I KVI I VI I KVI I KVI I KVI I KVI I K	— 1 inch schedule 80 PVC, Blank
		SC	CLAYEY SAND ; SC; 5YR 4/4 brown; fine to coarse-grained; medium plasticity; medium dense; dry; strong odor; weak cementation; subangular; well graded; 70% sand, 30% clay, trace of trash - wood, plastic, and fine (5-10mm), subangular gravel	X X X X	1416 - soil			12.5	- 20- - -	4115×1115×111×4115 4115×1115×1115×1115 4115×1115×1	Casing with cement grout
25-			Slight odor; none cementation; trace of fine (5-10mm), subangular gravel	X X X X	1419 - soil			8.7	- 25 - -	11×11×11×11× 11×111×11×11× 11×111×11×11×	
20-		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; slight odor; none cementation; subangular; well graded; 60% sand, 20% silt, 20% (5-15mm), subangular gravel, trace of clay and trash - wood fragments	х У Х Х Х Х	1425 - soil			6.6	- 30 - - -	111.KU1.KU1.KU 111.KU1.KU1.KU 111.KU1.KU1.KU1.KU 111.KU1.KU1.KU1.KU	

	DRILLING INSTALLA DRILLING DRILLING DRILLING	N: NUM TION: COM EQUI	BER: STA STA STA PANY PMEN HOD:		d NC LA GR INI ST WE	ELL / PROBEF BSDF ORTHING (ft): TITUDE: COUND ELEV TIAL DTW (ft) ATIC DTW (ft) ELL CASING E GGED BY: K.	P-3 (ft): : : DIAMET	PAGE ER (in) er	2 OF E L T E V v: 1 E	5 EASTIN ONGIT FOC EL BOREH WELL D BOREH CHECK	UDE: EV (ft): OLE DE DEPTH (OLE DI/	S E C O R PTH (ft): 157.0 ti): 157.0 AMETER (in): 9 C. Pollock
	Time & Depth (feet)	Graphic Log	nscs	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
	- - -		SM	55% sand, 25% fine to coarse (5-20mm), subangular gravel, 15% silt, trace of clay	X X X X	- soil 1441			7.6			 — 1 inch schedule 80 PVC, Blank Casing with bentonite ∴ 3/8" chip and
	40 - - -		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; medium dense to loose; dry; slight odor; none cementation; subangular; well graded; 55% sand, 30% fine (5-10mm), subangular gravel, 15% clay	X X X X	- soil 1446			8.3	40		1/4" pellet seal 1 inch schedule 80 PVC, Blank Casing with filter sand
0	45 - - -		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; slight odor; none cementation; subangular; well graded; 60% sand, 25% fine (5-10mm), subrounded gravel, 15% silt	X X X X	- soil 1453			3.4	45 - - -		 8-12 ■ 1 inch schedule 80 PVC, 0.02 inch slotted
SECOR INTL.GDT 10/23/06	50 — - - -		SC	CLAYEY SAND WITH GRAVEL; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; medium dense to loose; dry; slight odor; none cementation; subangular; well graded; 60% sand, 20% clay, 20% fine to coarse (5-25mm), subrounded gravel	X X X X	soil			3.4	50		casing, filter sand 8-12 1 inch PVC end plug, filter sand 8-12
IP-4, BP-22, AND BP-23.GPJ	55 — - - -		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 50% sand, 30% fine (5-10mm), subangular gravel, 20% silt, trace of clay	X X X X X	1455 - soil			4.6	55		
:DP-1, BSDP-2, BSDP-3, BSD	60 — - -			55% sand, 30% silt, 15% fine (5-10mm), subangular gravel, trace of clay	X X X X	1458 - soil			4.5	60		
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ	- 65 — - - -			60% sand, 30% silt, 10% fine (5-10mm), subangular gravel, trace of clay	X X X X X X	1504 - soil 1509			2.5	- 65 - - -		

PROJECT LOCATIO PROJECT	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 180T.20401.06		LL / PROBEF		-	-	-		Secor
DRILLING INSTALL/ DRILLING DRILLING	G: ATION: G COM G EQUI G METH	STA STA PANY PMEN HOD:	RTED 5/11/06COMPLETED: 5/12/06RTED 5/11/06COMPLETED: 5/12/06::Layne Christensen Company	LA GR INI ST/ WE	RTHING (ft): TITUDE: OUND ELEV TIAL DTW (ft) ATIC DTW (ft) LL CASING E GGED BY: K.	(ft): : : DIAMET	ĒR (in) Ər	E L T E V : 1 E	EASTIN LONGIT FOC EL BOREH VELL E BOREH CHECK	rude: _ev (ft): Iole de Depth (Iole di/	EPTH (ft): 157.0 ft): 157.0 AMETER (in): 9 C. Pollock
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
		SC	CLAYEY SAND WITH GRAVEL; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; loose; dry; slight odor; none cementation; subangular; well graded; 60% sand, 30% clay, 10% fine (5-10mm), subangular gravel	X X X X	soil			0.0	-		←1 inch schedule 8/ PVC, Blank
- 75-					1518			5.0	- 75-		Casing with bentonite
			Medium dense to loose; no odor; 70% sand, 15% clay, 15% fine to coarse (5-20mm), subangular gravel, trace of silt	X	soil			5.0			3/8" chip ar 1/4" pellet seal
-					1522				-		
- 80			CLAYEY SAND; fine to medium-grained; loose; poorly graded; 80% sand, 20% clay, trace of fine (5-10mm), subrounded gravel	XXXX	soil			5.4	80		
-					1526				-		
85			WITH GRAVEL; fine to coarse-grained; well graded; 70% sand, 15% clay, 15% fine (5-15mm), subangular gravel	X X X	soil			7.2	85-		
-					1529				-		
90-			-	X X X X	soil			4.2	90-		
					1532				-		1 inch schedule 8 PVC, Blank Casing with
95			50% sand, 30% fine (5-15mm), subrounded gravel, 20% clay	X X X X	soil			2.0	95-		filter sand 8-12
90			CLAYEY SAND; fine to medium-grained;		1534			1.4	- - 100-		1 inch schedule 8 PVC, 0.02 inch slotted casing, filte
-			poorly graded; 70% sand, 30% clay, trace of fine (5-7mm), subrounded gravel	X X X	soil				-		¹ inch PVC end plug, filter sand 8-12
-					1545				-		

	۷:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	we ad	ILL / PROBEH						S E C O R
DRILLING INSTALLA DRILLING DRILLING DRILLING	TION: COM EQUI METH	STA STA PANY PMEN HOD:	RTED 5/11/06COMPLETED: 5/12/06RTED 5/11/06COMPLETED: 5/12/06::Layne Christensen Company	LAT GR INI ST/ WE	RTHING (ft): FITUDE: OUND ELEV FIAL DTW (ft): ATIC DTW (ft): LL CASING D GGED BY: K.	(ft): : DIAMET Harke	ĒR (in) er	E L T E V : 1 E	EASTIN ONGIT FOC EL BOREH WELL D BOREH CHECKI	UDE: EV (ft): OLE DEF EPTH (ft OLE DIA	PTH (ft): 157.0): 157.0 METER (in): 9 C. Pollock
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
		SW	SAND WITH GRAVEL; SW; 10YR 7/4 grayish orange; fine to coarse-grained; loose; dry; no odor; none cementation; subangular; well graded; 85% sand, 15% fine (5-7mm), subrounded gravel, trace of silt	× × × × × × × × × × × × × × × × × × ×	soil			<u>2.0</u> 0.1			
			5YR 6/4 light brown; subangular gravel, trace of clay	X X X X	soil 1600				-		
		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; medium dense to loose; dry; no odor; none cementation; subangular; well graded; 60% sand, 30% clay, 10% fine (5-15mm), subangular gravel	X X X X	- soil 1611			1.0	115		3/8" chip and 1/4" pellet seal
			50% sand, 30% fine to coarse (5-40mm), subangular gravel, 20% clay	X X X X	soil			3.0	120		
- 125 - - - - - 130 - - - - - - - - - - - - - - - - - - -			CLAYEY SAND ; fine to medium-grained; loose; subrounded; poorly graded; 80% sand, 20% clay, trace of fine (5 mm), subrounded gravel	X X X X X	1624 - soil			1.4	125		
- 130			WITH GRAVEL; fine to coarse-grained; subangular; well graded; 65% sand, 20% clay, 15% fine to coarse (5-40mm), subangular gravel	X X X X X	1617 - soil			0.9			
			70% sand, 20% clay, 10% fine (5-7mm), subangular gravel	X X X X	1621 - soil			4.0	- 135 — - -		
					1629				-		

PROJEC LOCATIC PROJEC	ON:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	we Id	LL / PROBEHO					S E C O I
DRILLIN INSTALL DRILLIN DRILLIN DRILLIN	G: .ATION G COM G EQU G METI	STA : STA PANY IPMEN HOD:	ARTED 5/11/06COMPLETED: 5/12/06ARTED 5/11/06COMPLETED: 5/12/06':Layne Christensen Company	LAT GR INIT ST/ WE	RTHING (ft): ITUDE: DUND ELEV (f TAL DTW (ft): NTIC DTW (ft): LL CASING DI GGED BY: K.	ft): IAMET Harke	ĒR (in) ēr	E L T E V C	EASTIN LONGIT FOC EL BOREH WELL D BOREH CHECKI	G (ft): 'UDE:
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Constructio
145-		SC	Fine (5-15mm), subrounded gravel		soil 1631 soil			5.5		 1 inch schedule & PVC, Blan Casing wit filter sand 8-12
150-			Fine to coarse (5-30mm), subangular gravel	X X X X X X	1633 - soil			2.9	150	schedule & PVC, 0.02 inch slotte casing, filt sand 8-12
155-			Poorly graded; 60% sand, 30% clay, 10% fine (5-15mm), subrounded gravel	X X X X X	1636 - soil			2.5	155-	
160 - 160 -			Hole terminated at 157 feet.						- - 160 - - 165 - -	
170 -									- - 170 - - - -	

L _ F	DRILLING:	I: NUM	<u>BER:</u> STA	Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06 RTED 5/15/06 COMPLETED: 5/16/06 RTED 5/15/06 COMPLETED: 5/16/06	ad NO	LL / PROBEF BSDF RTHING (ft): rITUDE:			<u>1 OF</u>		. ,	SECOR
	DRILLING DRILLING DRILLING	COM EQUI METH	PANY PMEN HOD:	Layne Christensen Company	INI ST/ WE	OUND ELEV FIAL DTW (ft) ATIC DTW (ft) LL CASING E GGED BY: K.	: DIAMET Harke	er	E V): 1 E C	BOREH VELL D BOREH CHECK	DEPTH (ft): IOLE DIAN	TH (ft): 156.9 156.9 IETER (in): 9 . Pollock
i	Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
	5		SC SC	Fill Material consists of silt, clay, sand, and gravel, Boring post hole dug to approx. 2.5 feet bgs CLAYEY SAND WITH GRAVEL; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; dense; dry; no odor; none cementation; subangular; well graded; 55% sand, 25% clay, 20% fine (5-10mm), subangular gravel Loose; slight odor; trace of trash - plastic		1003 - soil			3.4	- - - 5 -	VII X VI	 Above ground dog house vault with 1 inch PVC caps
	 10			Slight odor; 50% sand, 35% (5-30mm), subangular to subrounded gravel, 15% clay, trace of trash - wood fragments	X X X X	1006 - soil			15.1	- 10 - -	0118411841184118 0118411841184118 0118411841184118	
	- 15 - -			Strong odor; 40% sand, 25% trash - newspaper, wood, cloth, glass, 20% fine (5-15mm), subangular gravel, 15% clay	X X X X	1009 - soil			11.1	- 15- - -	11 X 11 X 11 X 11 X 11 X 11 X 11 X 11	— 1 inch schedule 80 PVC, Blank Casing with
	20		SM	SILTY SAND WITH GRAVEL; SM; 10YR 2/2 dark yellowish brown; fine to coarse-grained; medium plasticity; loose; dry; strong odor; none cementation; subangular; well graded; 40% sand, 25% trash - wood, glass, wire metal, cloth, 20% fine (5-15mm), subangular gravel, 15% silt	X X X X X	1013 - soil			22.4	- 20 - - -	X () X ()	cement grout
טטווויוט בססט מסטר יו, מטטר צ, מסטר ין, מיני יא, מר צג, אואט מר צטיטר ט	25		SC	CLAYEY SAND ; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; medium dense; dry; strong odor; none cementation; subangular; well graded; 65% sand, 30% clay, 5% trash - wood fragments and glass	XXXXXX	1018 - soil			13.3	- 25	X11X11X11X11X X11X11X11X11X X11X11X11X11	
	30		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; slight odor; none cementation; subangular; well graded; 65% sand, 20% silt, 15% fine (5-15mm), subangular gravel, trace of trash - wood fragments	X X X X	1020 - soil			1.4	30	KUTAUTAUTA KUTAUTAUTA KUTAUTAUTA	
GEO FORM 304	-					1031						

	DRILLING INSTALLA DRILLING DRILLING DRILLING	N: <u>NUM</u> :: ATION 6 COM 6 EQU	BER: STA STA PANY PANY HOD:		ad NC LA GR INI ST WE	ELL / PROBEF BSDF ORTHING (ft): TITUDE: COUND ELEV TIAL DTW (ft) ATIC DTW (ft) ELL CASING E GGED BY: K.	P-4 (ft): : DIAMET	PAGE ER (in) er	2 OF 	5 EASTIN LONGIT TOC EL BOREH WELL D BOREH CHECK	UDE: EV (ft): OLE DE DEPTH (f OLE DIA	PTH (ft): 156.9 t): 156.9 METER (in): 9 C. Pollock
	Time & Depth (feet)	Graphic Log	nscs	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
	- - - 40-		SM	50% sand, 25% fine to coarse (5-20mm), subangular to subrounded gravel, 15% silt, trace of clay	A X X X X X X X	soil			2.0			 1 inch schedule 80 PVC, Blank Casing with bentonite 3/8" chip and 1/4" pellet seal
	-		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; medium dense to loose; dry; slight odor; none cementation; subangular; well graded; 70% sand, 20% clay, 10% fine (5-15mm), subangular gravel	X X X	soil 1040				-		1 inch schedule 80 PVC, Blank Casing with filter sand 8-12
	45 — - - -		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; slight odor; none cementation; subangular; well graded; 60% sand, 25% fine to coarse (5-30mm), subangular to subrounded gravel, 15% silt, trace of clay	XXXXX	- soil 1043			3.2	45		 1 inch schedule 80 PVC, 0.02 inch slotted casing, filter sand 8-12 1 inch PVC end plug,
SECOR INTL.GDT 10/23/06	50 — - - -		SC	CLAYEY SAND WITH GRAVEL; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; medium dense to loose; dry; slight odor; none cementation; subangular; well graded; 60% sand, 20% clay, 20% fine to coarse (5-25mm), subrounded gravel	X X X X	soil			3.4	50		filter sand 8-12
	55 - -			50% sand, 30% fine to coarse (5-25mm), subangular to subrounded gravel, 20% clay	X X X X	1046 - soil			5.2	55		
DP-1, BSDP-2, BSDP-3, BSD	- 60 - -		SM	SILTY SAND; SM; 5YR 4/4 brown; fine to coarse-grained; non plastic; loose; dry; slight odor; none cementation; subangular; well graded; 70% sand, 30% silt, trace of fine (5-15mm), subangular gravel and clay	X X X X	1049 soil			4.7	60-		
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ	- 65 — - -			WITH GRAVEL; 50% sand, 25% silt, 25% fine (5-15mm), subangular to subrounded gravel, trace of clay	X X X X	1051 			3.0			
GEO FC	_					1054				-		

PROJECT LOCATIOI PROJECT	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06								S E C O R
DRILLING INSTALLA DRILLING DRILLING DRILLING	i: ATION: COM EQUI METH	STA STA PANY PMEN HOD:	RTED 5/15/06COMPLETED: 5/16/06RTED 5/15/06COMPLETED: 5/16/06:Layne Christensen Company	LA GR INI ST WE	RTHING (ft): TITUDE: OUND ELEV TIAL DTW (ft) ATIC DTW (ft) ELL CASING E GGED BY: K.	(ft): : : DIAMET <u>Harke</u>	ĒR (in) e r	E L T E V V : 1 E C	EASTIN LONGIT FOC EL BOREH VELL D BOREH CHECK	UDE: EV (ft): OLE DE EPTH (OLE DI	
Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
-		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; loose; dry; slight odor; none cementation; subangular; well graded; 60% sand, 30% clay, 10% fine to coarse (5-40mm), subrounded gravel	X X X X	soil			1.9	-		← 1 inch schedule 80 PVC, Blank Casing with bentonite
			CLAYEY SAND ; 70% sand, 30% clay, trace of fine (5-7mm), subangular gravel and silt	X X X X	1059 - soil			4.9	- 75- - -		3/8" chip and 1/4" pellet seal
- 80			WITH GRAVEL; fine to medium-grained; medium plasticity; poorly graded; 60% sand, 30% clay, 10% fine to coarse (5-20mm), subrounded to rounded gravel	X X X X X	1100 - soil			6.0	- 80 - -		
90000 85-		SM	SILTY SAND; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 80% sand, 20% silt, trace of fine (5-10mm), subangular gravel	X X X X	1104 - soil			8.1	- 85 -		
		SC	CLAYEY SAND WITH GRAVEL ; SC; 5YR 4/4 brown; fine to coarse-grained; low plasticity; loose; dry; no odor; none cementation; subangular; well graded; 65% sand, 20% clay, 15% fine to coarse (5-75mm), subrounded to subangular gravel	X X X X	1110 			5.0	- 90 <i>—</i> -		
			Slight odor; 50% sand, 30% fine to coarse (5-20mm), subangular to subrounded gravel, 20% clay	X X X X	1112 soil			3.2	- 95 -		schedule 80 PVC, Blank Casing with filter sand 8-12
GEO FOKM 304 BOKING LOGS BSDP-1, BSDP-2, BSDP-4, BP-22, AND BP-23, GPJ 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			60% sand, 20% clay, 20% fine (5-15mm), subangular gravel	X X X X	1116 soil			1.5	- - 100 - -		1 inch schedule 80 PVC, 0.02 inch slotted casing, filter sand 8-12 1 inch PVC end plug, filter sand 8-12
GEO FORM 30					1127				-		

PROJEC LOCATIC	N:		Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06	d WE							Secor
DRILLING INSTALL DRILLING DRILLING DRILLING	G: ATION G COM G EQU G METI	STA : STA PANY IPMEI HOD:	RTED 5/15/06COMPLETED: 5/16/06RTED 5/15/06COMPLETED: 5/16/06':Layne Christensen Company	LAT GR INIT ST/ WE	RTHING (ft): TITUDE: OUND ELEV TAL DTW (ft) ATIC DTW (ft) LL CASING E GGED BY: K.	(ft): : : DIAMET	ĒR (in) er	E L T E V : 1 E	EASTING ONGITU FOC ELE BOREHC WELL DE BOREHC CHECKE	JDE: V (ft): DLE DEF PTH (ft DLE DIA	PTH (ft): 156.9): 156.9 METER (in): 9 <u>2. Pollock</u>
Time & Depth (feet)	Graphic Log	nscs	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)		Well Construction
		SC	CLAYEY SAND; fine to medium-grained; no odor; subrounded; poorly graded; 70% sand, 30% clay, trace of fine (5-7mm), subrounded gravel	X	- soil			<u>+</u> 3.6			
110-			WITH GRAVEL; fine to coarse-grained; medium dense to loose; subangular; well graded; 55% sand, 25% fine to coarse (5-75mm), subangular gravel, 20% clay	X X X X	1132 - soil			0.5	- 110 - -		⊷ 1 inch schedule 80
- 115 - -			50% sand, 30% fine to coarse (5-20mm), subangular gravel, 20% clay	X X X X	1136 - soil			3.5	- 115— - -		PVC, Blank Casing with bentonite 3/8" chip ar 1/4" pellet seal
120-			60% sand, 25% clay, 15% fine (5-10mm), subangular gravel	X X X X	1139 - soil			3.5	- - 120 - -		
125-			Medium plasticity; 50% sand, 30% clay, 20% fine to coarse (5-30mm), subrounded gravel	X X X X	1143 - soil			2.6	- 125 - -		
			65% sand, 20% clay, 15% fine to coarse (5-70mm), subangular gravel	X X X X	1150 - soil			1.3	- - 130— - -		
135-			CLAYEY SAND ; loose; 70% sand, 30% clay, trace of fine (5 mm), subangular gravel	X X X X X	1153 - soil			4.2	- - 135 — - -		
					1200						

	DRILLING	N: <u>「NUM</u> 6:	<u>BER:</u> STA	Broadway South Landfill Broadway Boulevard and Prudence Roa 18OT.20401.06 RTED 5/15/06 COMPLETED: 5/16/06 RTED 5/15/06 COMPLETED: 5/16/06	ad NC LA	ELL / PROBEF BSDF DRTHING (ft): .TITUDE:	P-4		<u>5 OF</u> E	5 EASTIN	SECOF SECOF NG (ft): TUDE:	R
	DRILLING DRILLING DRILLING SAMPLING	EQUI METH	PMEN HOD:		IN ST WI	ROUND ELEV ITIAL DTW (ft) TATIC DTW (ft) ELL CASING I OGGED BY: K.	: DIAMET Harke	er 🤇	E \ 1 E (BOREH VELL E BOREH CHECK	LEV (ft): HOLE DEPTH (ft): 156.9 DEPTH (ft): 156.9 HOLE DIAMETER (in): 9 KED BY: C. Pollock	
	Time & Depth (feet)	Graphic Log	NSCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	neauspau PID (units)	Depth (feet)	Well Constructior	n
	- - - 145 — - -		SC	WITH GRAVEL; fine to medium-grained; 65% sand, 25% clay, 10% fine to coarse (5-20mm), subrounded gravel Fine to coarse-grained; low plasticity; 65% sand, 20% clay, 15% fine to coarse (5-30mm), subrounded gravel	A X X X X X X X X X X X X X X	soil 1203 soil			6.0	- - - 145 - -	 1 inch schedule 8(PVC, Blank Casing with filter sand 8-12 	K N
	- - 150 — - -			50% sand, 30% fine to coarse (5-20mm), subangular to subrounded gravel, 20% clay	A X X X X	1207 soil			3.0	- 150 - -	schedule 80 PVC, 0.02 inch slotted casing, filte sand 8-12 1 inch PVC end plug, filter sand 8-12	d er
COR INTL.GDT 10/23/06	- 155 — - -		SM	SILTY SAND WITH GRAVEL; SM; 5YR 6/4 light brown; fine to coarse-grained; non plastic; loose; dry; no odor; none cementation; subangular; well graded; 50% sand, 30% fine to coarse (5-40mm), subangular to subrounded gravel, 20% silt, trace of clay	X X X X X X	1210 soil			4.1	- 155 - -		
1, BP-22, AND BP-23.GPJ SE	- 			Hole terminated at 156.9 feet.						- 160 - -	-	
1, BSDP-2, BSDP-3, BSDP-₄	- 165 — - -									- 165 – - -	-	
GEO FORM 304 BORING LOGS BSDP-1, BSDP-2, BSDP-3, BSDP-4, BP-22, AND BP-23.GPJ SECOR INTL.GDT 10/23/06	- 170 - - -									- 170 - - -	-	

		Boring No.:	GMP-16		vironmental Consultants, Inc.
		Project No.:	206100.17	Page	<u>1 of 1</u>
		Project Loc.:	Gollob Park	Rig Type:	CME-75
eet		Init. Date:	11/30/2006	Drilling Method:	Hollow-stem Auger
E H		Comp. Date:	11/30/2006	Field Geologist:	Hancock
Ę	e	Elevation:	~2,615 feet	Reviewed By:	Pierce
Depth In Feet	Time	Total Depth:	30 feet	Initial GW Depth:	<u>N/A</u>
	0831	Datum:	USGS	Static GW Depth:	N/A
·	0631	SANDY CLAY (medium brown, s			
		SANDY CLAY (medium brown, n			
0		SAME plastic bag in cutt encounterd staine	ings ed soil and bits of plas	tic at ~11 to 12' bls	
5		SAME no staining, trash,	or debris in cuttings		
0		SAME no staining, trash,	or debris in cuttings		
5		SAME hard drilling; no s gravels encounter	taining, trash, or debr ad at ~26' bls	is in cuttings	
)		SAME with 1" gravels			
5			Total Depth = 30'		
)))		S	ource: Engineering	g and Environmental Cor	nsultants, Inc., 2007

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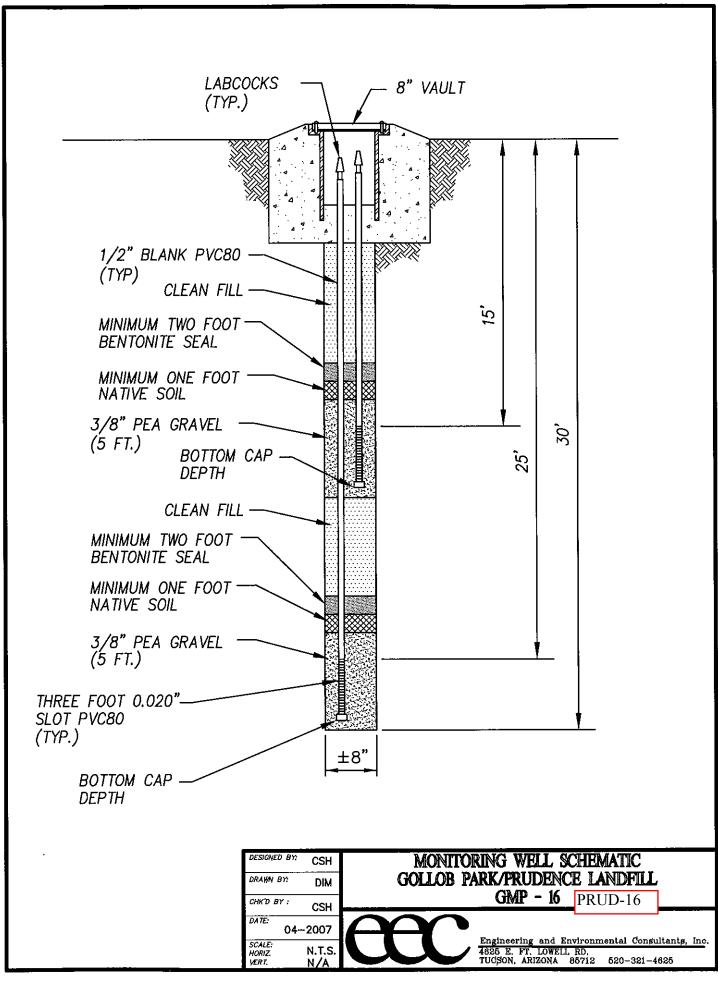
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		Boring No.:	GMP-17	Engineering and Er	vironmental Consultants, Inc
		Project No.:	206100.17	Page	1 of 1
		Project Loc.:	Gollob Park	Rig Type:	CME-75
eet		Init. Date:	11/30/2006	Drilling Method:	Hollow-stem Auger
пF		Comp. Date:	11/30/2006	Field Geologist:	Hancock
th	d)	Elevation:	~2,615 feet	Reviewed By:	Pierce
Depth In Feet	Time	Total Depth:	30 feet	Initial GW Depth:	N/A
		Datum:	USGS	Static GW Depth:	N/A
)	1015	Start Drilling - un CLAYEY SAND medium brown, m			
;		SAME			
0		SAME			
		with decreasing cl	ay and some small grav	vels	
		increasing gravels	ç		
		mereusing gruvet	3		
.5		POORLY GRADI medium brown, m	ED GRAVELLY CLA	YEY SAND (GC)	
0		SAME			
5		SAME			
		decreasing gravel	s		
0		CLAYEY SAND			· · · · · · · · · · · · · · · · · · ·
		medium brown, m	oist		
			Total Depth = 30'		
			2000 20 pm 00		
5					
	1				
0					
		C	a. Engineeni 1	Environment 10	tanta Ing. 2007
\neg		Sourc	e: Engineering and	Environmental Consul	itants, Inc., 2007
5					

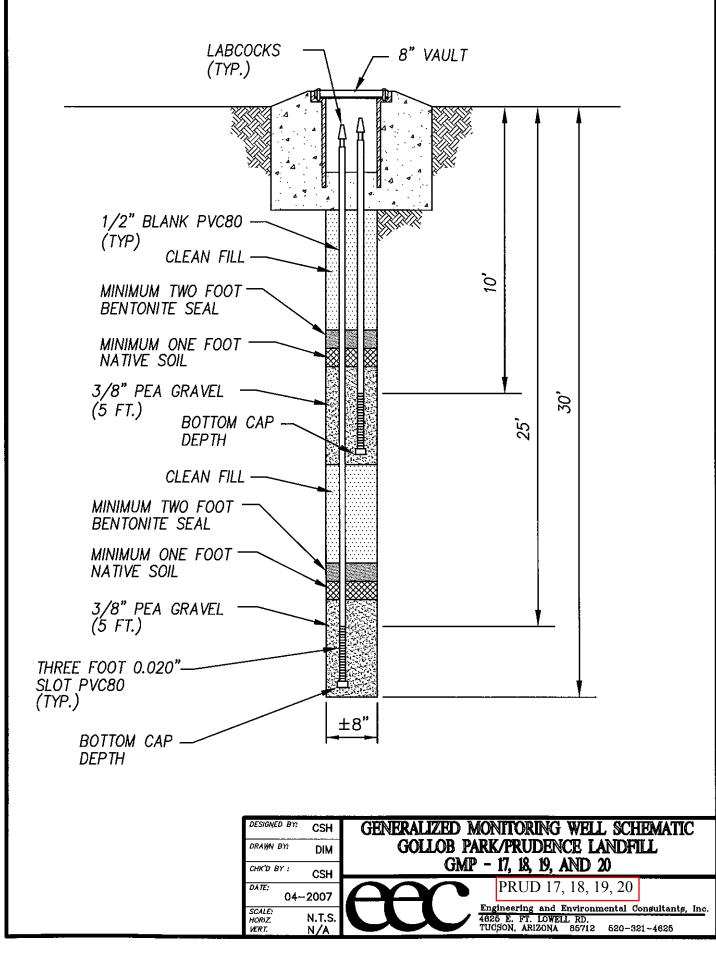
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		PRUD-18	
	Boring No	· · · · · · · · · · · · · · · · · · ·	Engineering and Environmental Consultants, Inc.
	Project No		Page 1 of 1
	Project Lo		Rig Type: CME-75
	Init. Date:	11/30/2006	Drilling Method: Hollow-stem Auger
Time	Comp. Dat	te: 11/30/2006	Field Geologist: Hancock
	Elevation:	~2,615 feet	Reviewed By: Pierce
Time	Total Dept	h: 30 feet	Initial GW Depth: N/A
Ξ	Datum:	USGS	Static GW Depth: N/A
13	00 Start Drilling	g - unpaved grassy surfa	ace
_	SILTY SAN		
_	medium to li	ght brown, very slightly	y moist
-	SAME		
1		nall (-1") gravels	
1	increasing gi		
]			
4			
-	SAME		
-	with gravels	ravels, increasing clay	
-{	uecreasing g	ravels, increasing clay	
1			
]	CLAYEY SA		
4	medium brov	vn, slightly moist	
4			
┦			
1	SAME		
	with small (-1	1") gravels	
]			
-			
1	SAME		
1	with gravels		
1	and graves		
]	increasing gr	ravels	
4			
-		CLAYEY SAND (GC	
-	meanum brow	vn, slightly moist	
1		Total Depth = 30	1
1			
]			
4			
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1			
1			
]	S	Source: Engineering	and Environmental Consultants, Inc., 2007
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]			
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		Boring No.:	GMP-19		vironmental Consultants, In
		Project No.:	206100.17	Page	1 of 1
		Project Loc.:	Gollob Park	Rig Type:	CME-75
Depth In Feet		Init. Date:	12/1/2006	Drilling Method:	Hollow-stem Auger
н Ц		Comp. Date:	12/1/2006	Field Geologist:	Hancock
th I	Ð	Elevation:	~2,615 feet	Reviewed By:	Pierce
)ep	Time	Total Depth:	30 feet	Initial GW Depth:	N/A
		Datum:	USGS	Static GW Depth:	N/A
0	0812		paved dirt surface		
		SILTY SAND (S with some small (brown, very slightly moist	
		(inter some small	T) gravers, meanain	orown, very singhtly moist	
5		SAME			
		ineraging gravel	a leaved duilling at 71		
-+		increasing gravei	s, hard drilling at 7'		
0		GRAVELLY SIL		,,,	,,,,,,,,,
		medium brown, sl			
		uecreasing grave	ls, increasing clay		
5		SAME			
-		with 1 to 2" bould	lers		
-+					
20		SAME			
:5		SAME			
_					
\neg		hard drilling 26 to	o 28' bls		
		-			
0		SAME			
\neg					
\neg			Total Depth = 30'		
			-F AA		
5	ļ				
0		0	roo: Engingarin -	and Environmental Com-	ltente Inc. 2007
		500	nce. Engineering	and Environmental Consu	mants, mc., 2007
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		Boring No.:	GMP-20	Engineering and En	vironmental Consultants, Inc.
		Project No.:	206100.17	Page	$\frac{1}{1}$ of 1
		Project Loc.:	Gollob Park	Rig Type:	CME-75
ы		Init. Date:	12/1/2006	Drilling Method:	Hollow-stem Auger
Fe		Comp. Date:	12/1/2006	Field Geologist:	Hancock
P		Elevation:	~2,615 feet	Reviewed By:	Pierce
Depth In Feet	Time	Total Depth:	30 feet	Initial GW Depth:	N/A
۵	Ξ.	Datum:	USGS	Static GW Depth:	N/A
0	0945	Start Drilling - ur SILTY SAND (S	paved grass/dirt surfa		
			very slightly moist		
5		SAME	< 1 III 1		
		with some small ((-1") gravels		
10		SAME			
		SAIVIE			
		increasing grave	ls		
15		GRAVELLY SIL	TV SAND (CM)	· · · · · · · · · · · · · · · · · · ·	
.5		medium brown, s			
20		SAME			
25		SAME			
25		SAME			
		hard drilling 26 t	o 28' bls, some 1 to 3'	" boulders	
30		SAME			
		SAME			
			Total Depth = 30'		
35					
-					
10					
_					
15					
Notes			·		

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		V A / 2000	4 0	AA	Project No. Prudence Landfill Project Loc. Gollo	b Park
Borin	ig No.	WR	-43	4A	Init. Date 07-10-01 M.P. Elevation	
						N/A ⊈
L.			0			N/A 💆
Feet		ot ut	š		Rig Type AP-1000 GW Elevation	
<u> </u>	Δ	ло Цоп	e I		Drilling Method Casing Hammer Field Geologist	R M Byrd
Depth In	PID/FID	WS/	Sample Type	Je		N W Petersen
Del	딥	Blow Count Blows/Foot	Sa	Time	Total Depth 360' BGS x - coord =	v - coord =
0	N/A	N/A		0910	사실 Hand dig 18" to insure no utility conflict, turf,and sod	NN Cement Seal With Four, 1/2"
			-			S schedule 80 PVC Vapor
-	N/A	N/A		0930	(SPG) Poorly Graded Sand with Gravel & Silt, Fine-Medium, Subangular, Light Orange/Tan, Dry &	A being Deepest, D
-					Dusty	
					(SPG) Poorly Graded Sand with Gravel & Silt	
5	N/A	N/A		0940	(SF S) Fooling Straded Sand Wall States a Sind, NNN	
-					Fine-Medium, Subangular, Light Orange/Tan, Dry & Dusty	
					888	
-	N/A	N/A		0945	(SP) Poorly Graded Sand with Gravel, Medium-Coarse, Firm, Light Tan, Dry, Dusty, Broken	
					Glass, Bricks, and Wood Present	
-						
	N/A	- <u>N</u> A -			(SP) Poorly Graded Sand with Gravel,	
-					Medium-Coarse, Firm, Light Tan, Dry, Dusty, Trace	
15	N/A	N/A	*	0950	Silt	
					(SP) Poorly Graded Sand with Gravel, Medium-Coarse, Firm, Medium Tan, Dry, Dusty,	
_			X		Trace Silt	
_		1				
-			X			
-20	N/A	N/A		0955	(SP) Poorly Graded Sand with Gravel,	
-					Medium-Coarse, Firm, Medium Tan, Dry, Dusty, 🏻 🕺	
	N/A	- <u>N</u> /A -				
-	1.17				(SP-SM) Poorly Graded Sand with Silt, Medium-Coarse Grain, Subangular, Light Tan, Trace	
-					Gravel	821
25	N/A	N/A		1000	(SP-SM) Poorly Graded Sand with Silt,	NN Ten Feet of Hydrated
 			-		Medium-Coarse Grain, Subangular, Light	bentonite Pellets for Seal
			X		Orange/Tan, Trace Gravel	
				ľ		
			X			
—30	N/A	N/A		1002	(SP-SM) Poorly Graded Sand with Silt,	
- 101	18/75			1002	Medium-Coarse Grain, Subangular, Light	
10/25/07			26		Orange/Tan, Trace Gravel	
<u>10</u>		- <u>N</u> A -			(SPG) Poorly Graded Sand with Gravel,	
	N/A		2	4	Medium-Coarse, Subangular, Firm, Light	
0 ☐35	N1/A	NI/A		1005	Orange/Brown, Damp	#8-12 Colorado Silica Sand
СР —	N/A	N/A	2	6001	(SPG) Poorly Graded Sand with Gravel, Medium-Coarse, Subangular, Firm, Light	Filter pack.
UN]	Gravish/Brown, Damp	• • •
				2		
.8 1]		
11 40					같네	







Boring No. WR-434A					Durin (N)	D	Atil	Project Loc.	Sollar	Park			
Borin	ng No.	WR	-43	4A	Project No.	Prudence Lar 07-10-01		M.P. Elevation	JUIUL				
					Init. Date		/ell 07-13-01	Initial GW Dept	h N	I/A ⊻			
L			~		Comp. Date	Layne		Static GW Dep		V/A ¥			
Feet		хц	ype		Driller Big Type	AP-1000		GW Elevation	<u></u>				
		Cou Foc	Sample Type		Rig Type Drilling Method		umer	Field Geologist		R M Byrd			
Depth In	PID/FID	ws/	hp	Je	Datum	Land Surface		Reviewed By					
Del	ЫП	Blow Count Blows/Foot	Sal	Time	Total Depth	360' BGS	x - coo		T	y - coord =			
40	N/A	N/A		1010	(SPG) I	Poorly Graded S	and with Gravel	,					
					🔥 🔿 Medium	n-Coarse, Suban	gular, Firm, Lig	ht					
			X		Grayisn	/Brown, Damp							
\vdash					0								
-					• 0								
45	N/A	N/A	3	1015		Poorly Graded S			副川	The "D" Well Screened with			
						n-Coarse, Suban /Brown, Damp	gular, Firm, Lig	ht	.[]. .	from 45' to 50' Below Land			
<u> </u>		- .			Filling 1	borly Graded Sar	nd with Gravel &	Cobbles		Surface (BLS)			
-		IN/A	<u> i</u>			i-Coarse, Suban							
-					Orange	/Brown, Damp	-						
50	N/A	N/A	Ż	1020	(SP) Po	orly Graded Sar	nd with Gravel &	Cobbles,					
-						n-Coarse, Suban /Brown, Damp	gular, Firm, Lig	Int					
F									:				
—	N/A	- <u>N</u> /A -			(SM) P	oorly Graded Sa	nd with Silt, Me	dium-Coarse,					
F					Subang	ular, Firm, Light	Urange/Brown	, Damp					
	N/A	N/A		1030	(SM) P	oorly Graded Sa	nd with Silt, Me	dium-Coarse,		4 4 • • • •			
					Subang	jular, Firm, Light	t Orange/Brown	, Damp		· · · · ·			
Γ										· ·			
				•									
60										Hydrated Bentonite Chips for			
0	N/A	N/A		1035	(SM) P	oorly Graded Sa jular, Firm, Light	nd with Silt, Me t Orange/Brown	alum-Coarse,		Seal			
Ľ					jinsque	juiai, riini, ∟yni	Corange/Drown	, samp					
	N/A	- <u>N</u> /A -				1) Poorly Gradeo		Fine-Medium,					
						jular, Firm, Light							
-65				4.4.5-5									
	N/A	N/A		1100									
70				1405		A) Dearth (Orrester	1 Cond with Cilt	Fine-Medium					
2/01	N/A	N/A		1105	(SP-SN Suban	/I) Poorly Gradeo Jular, Firm, Light	t Tan. Damp	rine-wealum,					
10/25					Cubang	,, ,, E .gir	- · · · · · · · · · · · · · · · · · · ·						
GDT			2	1									
SON]									
GPJ TUCSON.GDT	N1/A	N1/A	2	1110	(CD CA	/I) Poorly Graded	1 Sand with Silt	Fine-Medium					
GPJ	N/A	N/A	2			gular, Firm, Ligh							
LINCE							· •						
<u>ц</u>													
80 KE		<u> </u>			同時時				000	88			







<u> </u>	••	, , , , , , , , , , , , , , , , , , , 		4.4	Project No. Prudence Landfill Project Loc. Gollob Park	
Borin	g No.	WR	-43	4A	Project No. Prudence Landfill Project Loc. Gollob Park Init. Date 07-10-01 M.P. Elevation	
						Σ
			m			<u>V</u>
Feet		r t	уре			
<u> </u>	0	Loc Loc	Sample Type			
ŧ	Π	w C WS/	ldu	e		
Depth In	PID/FID	Blow Count Blows/Foot	Sar	Time		
80	N/A	N/A		1115	Total Depth 360' BGS x - coord = y - coord = (SP-SM) Poorly Graded Sand with Silt, Fine-Medium, Image: Second Secon	
					Subangular, Firm, Light Tan, Damp, Mica content increasing	
	N/A	N/A		1120	(SP-SM) Poorly Graded Sand with Silt, Fine-Medium, Subangular, Firm, Light Tan, Damp, Mica content increasing	
90 	N/A	N/A		1125	(SP-SM) Poorly Graded Sand with Silt, Fine-Medium, Subangular, Firm, Light Tan, Damp, Mica content increasing	
 95 	N/A	N/A		1130	(SP-SM) Poorly Graded Sand with Silts, Medium-Coarse, Firm, Subrounded, Light Brown	
 100 	N/A	N/A		1135	(SP-SM) Poorly Graded Sand with Silts and Gravel, Medium-Coarse, Firm, Subrounded, Light Brown	
 105 	N/A	N/A		1140	(SP-SM) Poorly Graded Sand with Silts and Gravel, Medium-Coarse, Firm, Subrounded, Light Brown	
	N∕A	N/A		1145	(SM) Poorly Graded Sand with Silts, Calcite Cementation, Medium-Coarse, Hard, Subrounded, Light Brown	
	N/A	N/A		1255	(SM) Poorly Graded Sand with Silts, Calcite Cementation, Medium-Coarse, Hard, Subrounded, Light Brown	
		- <u>N</u> /A		1305	(SPG-SM) Poorly Graded Sand with Silts and Gravel, Medium-Coarse, Firm, Subrounded, Light	







ſ	1	F			D ·	. <i>t</i> . NI	D	ا میم مالا:اا	DraigetLas	Galla	hГ	Dark
Borin	ig No.	WR	-434	4A	Proje		Prudence	Landfill	Project Loc. M.P. Elevatio			² di K
					Init. D		07-10-01	MAL 07 40			N/A	<u>д</u>
						. Date	07-12-01	Well 07-13				L
Feet		ŗŢ	/pe		Driller		Layne		Static GW De		N/A	1
	~	our -oo	F		Rig T		AP-1000	-	GW Elevation			M D
다 다		v C vs/F	ble	e		g Method	Casing H		Field Geologi			M Byrd
Depth In	PID/FID	Blow Count Blows/Foot	Sample Type	Time	Datur		Land Surf		Reviewed By			N Petersen
	<u>ш</u>		0,			Depth	360' BGS	X	- coord =		- ע ממ	- coord =
120						∖Tan/Whit	e 					
	N/A	N/A		1315			orly Graded	Sand Medi	ım-Coarse, Firm,			
	IN/A	N/A	2	1313		Subround	led, Mediur	n Brown, Dan	1p			
			X				,					
			X									
							anthe Crode	d Sand with (
	N/A	N/A			°. ()	(SPG) P Medium-(Coarse. Fir	m. Subrounde	d, Medium Brown,			
			K			Dry/Dusty		····, - ····	,			
				4000	0			d Canal with (Provol			Five Feet of Hydrated
_	N/A	N/A		1320	0	(SPG) P Medium-I	ooriy Grade Coarse Firi	ed Sand with (m_Subrounde	d, Medium Brown,		Anna ann an Anna an Anna an Anna an Anna an Anna an Anna an Anna an Anna an Anna an Anna an Anna an Anna an An	bentonite Pellets for Seal
_					у. С	Dry/Dust			 ,			
					Ø							
					0						statestates	
									D			#8-12 Colorado Silica Sand
	N/A	N/A		1325	0	(SPG) P Medium-I	oorly Grade	ed Sand with (d, Medium Brown,			Filter pack.
						Dry/Dust			a, modiani Bronn,			
					0	<i>.</i>					•	
					0							
									~ '		•	
	N/A	N/A		1330	0	(SPG) P	oorly Grade	ed Sand with (Gravel, d, Medium Orange/			
					0	Brown, D		m, Subrounde	a, mediani oranger			
_					Ø							
	N/A	- N/A -				(SM) Po	orly Gradeo	Sand with S	Its and Trace			
-						Gravel, M Brown, D		e, Firm, Subro	unded, Medium		: :	
	N/A	N/A		1340		(SM) Po	orly Gradeo	d Sand with S	Its and Trace			The "C" Well Screened with 0.020" machine cut slots
								e, Firm, Subro	unded, Medium		· ·	from 145' to 150' Below Land
-						Brown, D)ry/Dusty				•	Surface (BLS)
	N/A	N/A	3	1350		(SM) Po	orly Gradeo	d Sand with S	Its and Trace			
10/25/0						Gravel, N	/ledium-Fin	e, Medium Br increasing wi	own, Dry/Dusty, th Denth			
						Calcile C	ementation	Increasing w	ui Depui			
N.GE											. .	
₽ 												
ย ม	N/A	- <u>N</u> /A -	3	1355	탄탄	(GP) Po	orly Grade	d Gravels with	Cobbles, 2" -			
					50%	Subroun	ded, Light T	an/White, Dry	//Dusty			
PRUDENCE.GPJ TUCSON.GDT 1220	 	- <u>N</u> /A -	2		to ort	(SPG) P	oorly Grade	d Sand with (Gravel, Light Brown,	-		
					• 🔿	Dusty, C	alcite Ceme	entation				
≝ <u>160</u>	<u>L</u>	<u> </u>	N	4	K.						<u>uur</u>	







Borin	a No	WR	-434	4A	Project No.	Prudence	Landfill		roject Loc.		b Park	
	3,10.	,,,,,			Init. Date	07-10-01			I.P. Elevation			
					Comp. Date	07-12-01	Well 07-1	3-01 lr	nitial GW Dep		N/A	<u>₹</u>
et			e		Driller	Layne		S	tatic GW De	pth	N/A	<u> </u>
Feet		unt	Type		Rig Type	AP-1000		6	W Elevation			
Depth In	Q	Blow Count Blows/Foot	Sample [.]		Drilling Method	Casing H	lammer	F	ield Geologis	t	R M Byrd	
ept	PID/FID	ΝŇΟ	and a	Time	Datum	Land Sur	ace	F	Reviewed By		N W Petersen	
Ď	ā		တိ	F	Total Depth	360' BGS		x - coord			y - coord =	
160 	N/A	N/A		1400	o (SPG) P	oorly Grade alcite Ceme	ed Sand with entation	Gravel, Li	ght Brown,		Hydrated Bentor Seal	nite Chips t
165 	N/A	N/A		1420		oorly Grade alcite Ceme	ed Sand with entation	Gravel, Li	ght Brown,			
— 170 — - — - —	N/A	- <u>N</u> /A -		1436	Medium	oorly Gradeo -Coarse, Fir Brown, No	l Sand with (m, Subround Dust	Gravel, ded, Dark				
	N/A	N/A		1440	Medium	oorly Gradeo -Coarse, Fir Brown, No	d Sand with (m, Subround Dust	Gravel, ded, Dark				
	N/A	- <u>N</u> /A -			(SP-SM Grain, F) Poorly Gr irm, Subrou	aded Sand v nded, Light I	with Silts, N Brown, Dry	/ledium //Dusty			
	N/A	- <u>N</u> /A -		1450	(GP) P	oorly Grade	d Gravel Zor	ne, Subang	jular			
I	N/A	¯ <u>N</u> /Ā ¯			Grain, F) Poorly Gr irm, Subrou ace Gravel	aded Sand v nded, Mediu	with Silts, C ım Orange	Coarse /Brown, No			
185 	N/A	N/A		1500	Grain, F)Poorly Gr irm, Subrou ace Gravel	aded Sand v nded, Mediu	with Silts, 0 ım Orange	Coarse /Brown, No			
190 	N/A	N/A			Grain, F Dust, Tı	irm, Subrou ace Gravel	aded Sand v Inded, Mediu	ım Orange	/Brown, No			
 195 	N/A	N/A		1510	(GP) P Subang	oorly Grade ular to Rour	d Gravel & C nded	Cobble Zor	ie,			
		N/A				orly Gradeo own, Dry/D	l Sand, Med usty	ium to Coa	arse Grain,			







r					T			L. L. D
Borin	ng No.	. WR	-43	4A		ct No. Prudence Landfill	Project Loc. Gol	lob Park
	_				Init. D		M.P. Elevation	N/A ¥
					Com	o. Date 07-12-01 Well 07-13-01	Initial GW Depth	
Feet		ب	þe		Drille		Static GW Depth	N/A 🖳
		oot	Ϋ́		Rig T	уре АР-1000	GW Elevation	
ц Ч	<u> </u>	°, S N	ple	~	Drillir	g Method Casing Hammer	Field Geologist	R M Byrd
Depth In	PID/FID	Blow Count Blows/Foot	Sample Type	Time	Datu	n Land Surface	Reviewed By	N W Petersen
	٩		ပ		Total	Depth 360' BGS x - cool		y - coord =
200	N/A	N/A		1520		(SP) Poorly Graded Sand, Medium to C	oarse Grain,	
_						Light Brown, Dry/Dusty		
	N/A	- <u>N</u> /Ã -			6 0 0 0	(SW) Well Graded Sand, Fine to Mediu	n Grain. Light	
						Tan, Dry/Dusty		
-			X					
205	N/A	N/A		1530		(SW) Well Graded Sand, Fine to Mediu	n Grain, Light	
-					4 6 6 6 6 6 6 6 6 6 6 6	Tan, Dry/Dusty		
-					0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			
					* * * * * * * * * * * * * * *			
210					6 6 6 6 6 6 6 6 8 6 6 6			
L		- <u>N/A</u> -				(SPG) Poorly Graded Sand with Gravel,	Medium to	
_	N/A	N/A			° ()	Coarse Grain, Subangular Light Tan, Dr	v/Dusty	
					o. (.)			
-215			2		0		Madium	
-213	N/A	N/A		1600		(SPG) Poorly Graded Sand with Gravel, Coarse Grain, Subangular Light Tan, Dr	, ivieaium to	
Γ					• ()	Coarse Grain, Subangular Light ran, Dr	yr Duoty	
F					Ø			
	N/A	- N/A	3	1610		Gravel and Cobble Zone		
-								
-220			X		.• (
	 	- <u>N</u> /A -				(SP-SM) Poorly Graded Sand with Silt a	and Traces of	
<u> </u>						Gravel, Fine-Medium Grain, Light Tan, I	Dry/Dusty,	
—						Calcite Cementation		
L			2					
						(OD OM) De arts Ore de d'Ore d'uith Offe	and Tracos of	
_ 225	N/A	N/A		0815		(SP-SM) Poorly Graded Sand with Silt a Gravel, Fine-Medium Grain, Light Tan, I	Drv/Dustv.	
						Calcite Cementation		
Γ								
— - — ·	N/A	N/A			0	(SPG) Poorly Graded Sand with Gravel	, Larger	
F					• ()	Clasts Subangular, Light Tan, Dry/Dusty		
230	N/A	N/A	7	0825	o.U	(SPG) Poorly Graded Sand with Gravel	, Larger	Five Feet of Hydrated bentonite Pellets for Seal
10/25/0					• 🔿	Clasts Subangular, Light Tan, Dry/Dusty	/	
			X		0			
- CD					° O			
Nos-					0 A			
235	N/A	N/A		0840		(SPG) Poorly Graded Sand with Gravel	Larger	#8-12 Colorado Silica Sand
GPJ	N/A	N/A		0040	° • ()	Clasts Subangular, Light Tan, Dry/Dusty	/	Filter pack.
Ш	l							
	N/A	N/A				(MLS) Poorly Graded Silt with Sand, Li Tan/Brown, Dry/Dusty, Calcite Cementa	ation	
Я Т						rambrown, bry/busty, builde bennenne		
240							<u>:</u>	
- L	Concernance of the second			An an an an an an an an an an an an an an				







ſ						naiset Les Colleb Dork
Borin	ig No.	WR	-43	4A		roject Loc. Gollob Park .P. Elevation
Feet		t t	be			
Ľ –		.00 UNC	ŕ		······································	W Elevation
1	Ê	S/F/S/	ple	0		ield Geologist R M Byrd
Depth In	PID/FID	Blow Count Blows/Foot	Sample Type	Time	Datum Land Surface Re	eviewed By NW Petersen
			0 0		Total Depth 360' BGS x - coord =	= y-coord =
240 — — —	N/A	N/A		0850	(MLS) Poorly Graded Silt with Sand, Light Tan/Brown, Dry/Dusty, Calcite Cementation	
	N/A	N/A			(SP-SM) Poorly Graded Sand with Silts and	d Gravel,
—245 —	N/A	N/A		0900	Fine Grain, Firm, Subrounded, Light Orange Dry/Dusty, Secondary Calcification, (drilling hard)	gets
]	(SP-SM) Poorly Graded Sand with Silts and	d Gravel, Surface (BLS)
	N/A	N/A			Fine Grain, Firm, Subrounded, Light Orange Dry/Dusty, Secondary Calcification, (drilling hard) (SM) Poorly Graded Silty Sand, Coarse Gra	j gets /
250 	N/A	N/A		0915	Tan (SM) Poorly Graded Silty Sand, Coarse Gra Tan	
255 - 	Ň/A	- TIA -		0940	(SPG) Poorly Graded Sand with Gravel and Silt, Medium-Coarse Grain, Light Brown, Dr	d Trace ry/Dusty
 260 	N/A	N/A		0950	 (SPG) Poorly Graded Sand with Gravel and Silt, Medium-Coarse Grain, Light Brown, Dr (Repair drill rig) 	d Trace ry/Dusty,
265 	N/A	N/A		1000	(SPG) Poorly Graded Sand with Gravel and Silt, Medium-Coarse Grain, Light Brown, Dr	
	N/A	- <u>N</u> /A -		1015	(SM) Poorly Graded Silty Sand, Medium-Co Grain, Secondary Calcification	oarse
	N/A	N/A		1020	(SM) Poorly Graded Silty Sand, Medium-Co Grain, Secondary Calcification	oarse







	Boring No. WR-434A		<i>A</i> ^	Project	No	Prudence	Landfill		Project Loc.	Golio	b Park			
Borin	IG NO.	VVR	-43	4A	Init. Dat		07-10-01			M.P. Elevation				
					Comp.		07-12-01	Well 07-1	3-01	Initial GW Dep		N/A		₽
t.			ø		Driller	Duto	Layne			Static GW De		N/A		<u>V</u>
Feet		ot	, Yp		Rig Typ		AP-1000			GW Elevation				
	۵	Cou ∕Fo	Sample Type			Method	Casing H	lammer		Field Geologis	t	R M Byro	d	
Depth In	PID/FID	WS.	dш	Time	Datum	method	Land Surf			Reviewed By		N W Pete		
De	ЫГ	Blow Count Blows/Foot	Sa	L I	Total D	enth	360' BGS		x - coord			y - coord		
280	N/A	N/A		1025		(SM) Poo		Silty Sand, I						
-						Grain, Se	condary Ca	alcification						
			2											
 	N/A	- <u>N</u> /A -	3	1135	0 ((SPG) Po	orly Grade	d Sand with	Gravel a	ind Silt,				
									cation (E	riller adding				
			3). . D	water to a	aid progress	5)						
					0 O									
					• 0									
					0									
	 	- <u>N</u> /A	7	1150		(SM) Poo	orly Graded	Silty Sand, I	Medium-	Coarse				
						Grain, Se	condary Ca	alcification						
-			X											
-														
295-	 	~ <u>N</u> /A	3	1155		(SPG) Po	orly Grade	d Sand with	Gravel a	and Silt,				
-					·o: ()	Hard, Co	arse, Seco	ndary Calcifi	cation (E	Driller adding				
-) Ø	water to a	aid progres	s)						
					, O									
-					• ()									
	N/A	N/A		1200	3	(SPG) Po	orly Grade	d Sand with	Gravel a	and Silt,				
					• A	Hard, Co	arse, Seco	ndary Calcifi	cation (C	Driller adding				
			X			water to a	aid progres	s)						
<u> </u>					, O									
					0									
	N/A	N/A		1210		(SPG) Pr	orly Grade	d Sand with	Gravel	and Silt.				
		11/1		1210	0.	Hard, Fin	e-Medium	Grain, Secor	ndary Ca	licification,				
			X) [Light Tan	, Subangul	ar						
					0									
			X		0.									
	N/A	N/A		1215		(SPG) Dr	orly Grade	d Sand with	Gravel	and Silt.				
201				1210	0 A	Hard, Fin	e-Medium	Grain, Secor	ndary Ca	lcification,				
10/25/01						Light Tan	, Subangul	ar	-					
			2	4	Ō									
					° 0									
0 				1220			orby Grada	d Sand with	Gravel	and Silt				
GPJ	N/A	N/A	2	1220	° ()	(SPG) PC Hard. Fin	e-Medium	Grain, Seco	ndary Ca	alcification,				
						Light Tan	. Subangul	ar		/				
	N/A	N/A			00000	(SPW) W	Vell Graded	Sand with C	Gravel, H	lard, Coarse				
~ 						Grain, Lig	gnt Orange/	rian, Suban	yulal, Do	amp, No Dust				
≝ <u>320</u>			2		, D, ., ., D, .,					1	0111	88		provide the second second second second second second second second second second second second second second s







			40	<u>а</u> л	Proio	ct No.	Prudence	Landfill	1	Project Loc.	Gollo	b F	Park	
Borin	ng No.	VVR	-434	4A	Init. D		Prudence Landfill 07-10-01		M.P. Elevation					
						o. Date	07-12-01	Well 07-1	3-01	Initial GW Dep		N//	<u>م يَ</u>	
					Drille		-			Static GW De		N//	<u>`</u>	
Feet	0	Blow Count Blows/Foot	Type		Rig T		Layne AP-1000		GW Elevation			•		
			e T									R	M Byrd	
Depth In	PID/FID	w C/S/	ldu	e		g Method	<u>v</u>						W Petersen	
Del	DIA	Blo	Sample .	Time								- coord =		
320	N/A	N/A		1230	l otal	(SPW) M	Vell Graded	Sand with G						
				a De De te	\$	Grain, Lig	ght Orange/	Tan, Subang	gular, Da	mp, No Dust				
	 N/A	- <u>N</u> /A -			tú t			TOTIC						
	1471				:0°			d Gravel with /2" Clasts, A		Secondary				
					07	Cementa			ngului					
	N/A	N/A		1240	:0:		oorly Grade	d Gravel witl	h Sand S	Secondary				
_	IN/A	N/A		1240	0.			2" Clasts, A		Scoolidary				
					For		,		•					
					600									
					67									
					er,et								Five Feet of Hydrated	
	N/A	N/A		1245	600			d Gravel with /2" Clasts, A		Secondary			bentonite Pellets for Seal	
					100	Gemenia	101, 570 - 17		ngului					
					000									
					20									
	N/A	N/A			0	(SPG) P	oorly Grade	d Sand with	Gravel a	nd Silt,				
	N/A	N/A		1300	0 0		ne-Medium (ange/Brown	Grain, Secor	ndary Ca	icification,			#8-12 Colorado Silica Sand Filter pack.	
-					• 🖒	(SPG) P	oorly Grade	d Sand with	Gravel 8	a Silt,	· · · ·	· .		
-					ð	Extremel	y Hard, Find	e-medium G	rain, Sec	ondary				
	N/A	- <u>N</u> /A -			Fist		tion, Light C	prange/Tan,			1 : ::			
					$\frac{1}{2}$			d Gravel with Grain, Secor						
340	N/A	N/A		1315	p00			Drange/Tan	luary ou					
					503	(GPS) Po	oorly Grade	d Gravel with	h Sand, I	Extremely				
					500			Grain, Secor	ndary Ca	lcite				
	 	- <u>N</u> /A -			•\°	Cementa	ntion, Light C	Drange/Tan Sand, Coars	se Grain	Secondary				
	1.17.							, Sub Round		,		:		
	N/A	N/A		1320			why Graded	Sand, Coars	eo Grain	Secondary		÷	The "A" Well Screened with	
	IN/A	IN/A		1520				, Sub Round		Occornary			0.020" machine cut slots	
								,				. E.	from 345' to 350' Below Land Surface (BLS)	
			~ 4									. Hi		
										a 1		·H		
Q	N/A	N/A				(SP) Poo	orly Graded	Sand, Coars , Sub Round	se Grain,	Secondary				
0/25	N/A	- <u>N</u> /A -			NU -	Hard Gra	avel Zone	, Sub Round						
11					· •									
	N/A	N/A		1400		(SP-SM)	Poorly Gra	ded Sand wi	ith Silt &	Gravel,				
								Grain, Secor	ndary Ca	icification,				
				-		Light rar	n, Subangul	a						
Щ Ш											····			
	N/A	- <u>N</u> /Ã -		1415	o UL	(SPG) P	oorly Grade	d Sand with	Gravel a	ind Silt,	1			
					• 🔿	Hard, Fir	ne-Medium	Grain, Secor	ndary Ca	lcification,				
			3		0	Light Tar	n, Subangul	ar						
₿360									a na ann an tha tha ann an tha ann an tha ann an tha an tha		_ <u></u>		1	