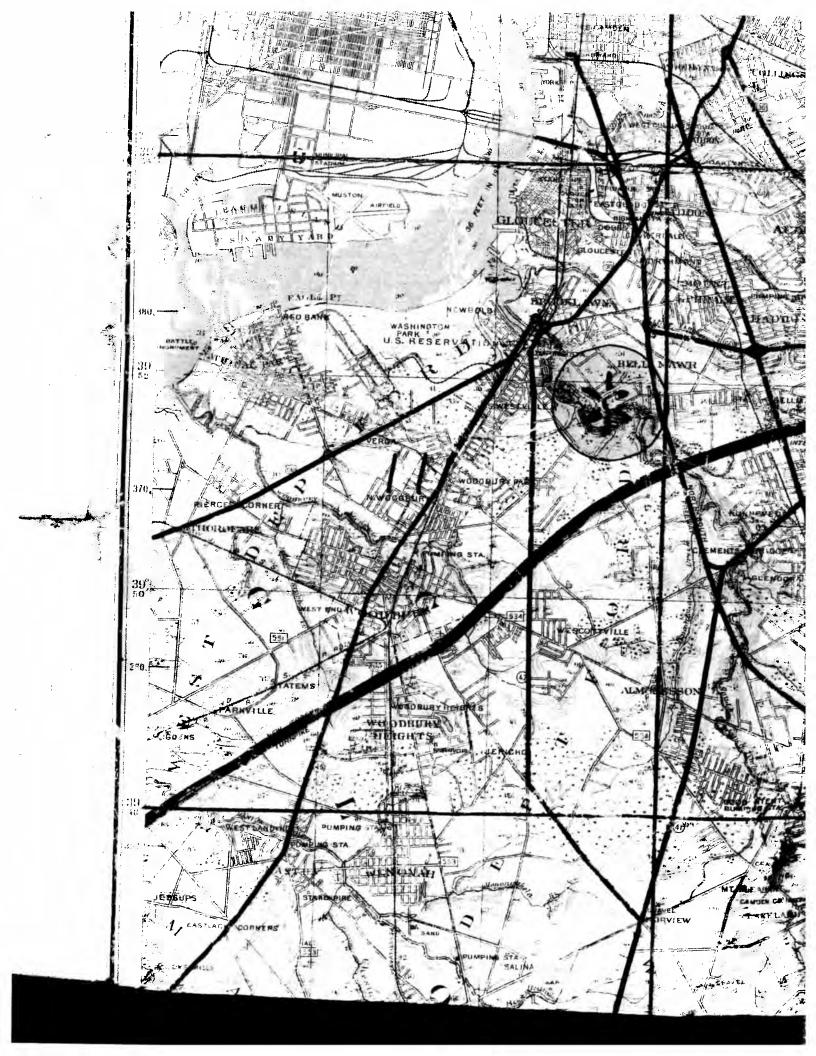
### **APPENDICES**

# APPENDIX A Well Information



Well Permit No. \_\_\_31\_\_\_ - <u>56550</u>

			Atlas She	et Coordina	tes <u>31 : 11</u>	394
OWNER IDENTIFICATION - Owner _		T SYSTE				
Address 400 BEN City BELLMAW	INGO BLVD R State		NT		Zin Code	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
					•	
WELL LOCATION - If not the same as	owner please give address.	Owner's	s Well No		1W -02	
WELL LOCATION - If not the same as County CAMDEN Address 400 BENINGO BLV	Municipality <u>BELL</u> D	MUNK RO	LO	1 14010	BIOCK IN	0. <u>173.03</u>
				DATE WEL	ISTARTED //	15 / 47
TYPE OF WELL (as per Well Permit C Regulatory Program Requiring Well	Categories) MONITORI	NG	DAT	'E WELL CO	OMPLETED _//	15-175
CONSULTING FIRM/FIELD SUPERVI	SOR (if applicable)	11 Hac	pstead		Tele. #	<u> </u>
WELL CONSTRUCTION	Note: Measure all depths	Depth to	Depth to	Diameter	Material	Wgt./Rating
Total depth drilled 13 ft. Well finished to 13 ft.	from land surface	Top (ft.)	Bottom (ft.)	(inches)	Waterial	(lbs/sch no.)
	Single/Inner Casing	0	X	_ <del>ડ</del>	DVC .	DCH 40
Borehole diameter: in.	Middle Casing (for triple cased wells only)				•	
Bottom in. Well was finished: □ above grade	Outer Casing (largest diameter)					
flush mounted	Open Hole or Screen (No. Used . () ()	8	13	2	AC	Sek 40
If finished above grade, casing height (stic up) above land surface ft.	Blank Casings (No. Used )					
Was steel protective casing installed?  Yes No	Tail Piece			77.000		
Static water level after drilling ft.	Gravel Pack	(0	13	_	#1Sand	
Water level was measured using Mach	1 C	0	1		Neat Cement	lbs.
Well was developed fori 2 hours at3gpm			-th-a-d	A.Co., I	Bentonite	/ <u>//</u> lbs.
Method of development Submer	sible RomP	rilling Me	thod	Having	Placence	Л
Was permanent pumping equipment insta				CEO! OC	201.00	
Pump capacity gpr	m			GEOLOG ere water w	as encountered in (	consolidated
Pump type:		format	ions.			
Drilling Fluid	oe of Rig Me 15	Prof.	-	<u>ا</u> م		1/
Health and Safety Plan submitted? Ye	s No	00	<u> </u>	ind C	sicil ge	31 174
Level of Protection used on site (circle one	e) None D, C B A	10-1	3 FN	1 +00	n and ha	in
I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.				5and		
Drilling Company UNI-TECH	H DRILLING					
Well Driller (Print) Christopher Warren						
Driller's Signature	Wava					
Registration Nol 1546	Date	<b>\</b>				

O

#### New Jersey Department of Environmental Protection

Bureau of Water Allocation

#### MONITORING WELL RECORD

Well Permit No. \_\_31 \_\_ 56551 Atlas Sheet Coordinates 31 : 11 394 OWNER IDENTIFICATION - Owner PRINTING MANAGEMENT SYSTE 400 BENINGO BLVD Address BELLMAWR State City \_\_\_\_\_ Zip Code WELL LOCATION - If not the same as owner please give address. Owner's Well No. CAMDEN Municipality BELLMAWR BORO Lot No. County \_\_\_\_\_ 400 BENINGO BLVD Address DATE WELL STARTED 11 5 99
DATE WELL COMPLETED 11 5 99 MONITORING TYPE OF WELL (as per Well Permit Categories) \_\_\_\_\_ Regulatory Program Requiring Well Case I.D.# \_\_\_\_\_ CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Towell Harps to a Tele. # WELL CONSTRUCTION Note: Measure all depths Depth to Depth to Diameter Wgt./Rating Total depth drilled 13 Material from land surface Top (ft.) Bottom (ft.) (inches) (lbs/sch no.) Well finished to Single/Inner Casing Borehole diameter: Middle Casing Top \_\_\_\_ (for triple cased wells only) Bottom \_ Outer Casing Well was finished: above grade (largest diameter) flush mounted Open Hole or Screen PVC 遥13 (No. Used (0)(0) If finished above grade, casing height (stick Blank Casings up) above land surface \_\_\_\_\_ ft. (No. Used Was steel protective casing installed? Tail Piece Yes No Staticwater level after drilling Gravel Pack Water level was measured using WYOPC Neat Cement lbs. Grout Clbs. Well was developed for Bentonite <u>5\_\_\_\_\_gpm</u> Cavailty Placement Grouting Method \_\_\_\_ Method of development Submersible RimP Drilling Method \_\_\_\_ Was permanent pumping equipment installed? Tyes No **GEOLOGIC LOG** Pump capacity \_ Note each depth where water was encountered in consolidated formations. Pump type: \_\_ Drilling Fluid NONE Type of Rig CM e 75 Health and Safety Plan submitted? 

☐ Yes ☐ No Level of Protection used on site (circle one) I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations. UNI-TECH DRILLING Drilling Company Well Driller (Print) Christopher Warren Driller's Signature ( Cristonia) Williams Registration No. MI54 Date 1/1/23

### New Jersey Department of Environmental Protection

**Bureau of Water Allocation** 

#### **MONITORING WELL RECORD**

No managara AR T			Well Pern	nit No. <u>31</u>	- 57807	
			Atlas She	et Coordinat	es3 <u>1:_1</u>	1395
OWNER IDENTIFICATION - Owner			·			
Address 278 E. CH City NEWARK	ESTNUT HILL ROAD		NP.		7in Codo	
Oity NEWARA	State		<u> </u>	4	ip Code	
WELL LOCATION - If not the same as ov	vner please give address.	Owner's	s Well No	Mu	) - 4 Black	N- 00
County <u>CAMDEN</u> Address 65 N. BLACK HORSE	Municipality <u>DELL</u>	MAWK DO				
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	egories) <b>MONITOR</b> II <b>UST</b>		Case I.I	D.#	STARTED	
CONSULTING FIRM/FIELD SUPERVISO	OR (if applicable)	eibeil	Ewyson	neutel.	Tele. # <u>610/</u>	444-2989
WELL CONSTRUCTION	Note: Measure all depths	Depth to	Depth to	Diameter		Wgt./Rating
Total depth drilled 35 ft.  Well finished to 35 ft.	from land surface	Top (ft.)			Material	(lbs/sch no.)
	Single/Inner Casing	0	15	4	Re	40
Borehole diameter: Top/D.25 in. Bottom/D.25 in.	Middle Casing (for triple cased wells only)					
Well was finished: ☐ above grade	Outer Casing (largest diameter)	_				
finished above grade, casing height (stick up) above land surfaceft.  Vas steel protective casing installed?  Yes No Static water level after drilling 24 ft.	Open Hole or Screen (No. Used $\mathcal{J}_{\delta}$ )	15	35	4	Puc	40
	Blank Casings (No. Used )	_				
	Jail Piece SALD FILTER	12	35	#	EZSANDI	TER
	Gravel Pack			*	_	1
Water level was measured using TARE			13	<u> </u>	OO SM M.	
Well was developed for hours	Grout	0	1		Bentonite	SO lbs.
at gpm	Gi	routing M	ethod	then	i e	
Method of development	D	rilling Me	thod	" HS.	Auger	
Was permanent pumping equipment installed	1? ☐Yes ☐No					
Pump capacitygpm		Note e	ach denth wh	GEOLOG	IC LOG as encountered in	consolidated
Pump type:		format			is encountered in	consolidated
Drilling Fluid Type	of Rig Lules			espr		
Health and Safety Plan submitted? ☐ Yes [	}	6	-9 - 12	uy Sil	& SAND	
Level of Protection used on site (circle one)		9'-	35'-	Marix 9	rust F-	SAND
I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.						
Drilling Company ADVANCED I	DRILLING, INC.	-				
Well Driller (Print) Scott	ALBERALLA					
Driller's Signature	Ollerallay					
Registration No. 1370	Date 5/1/00					

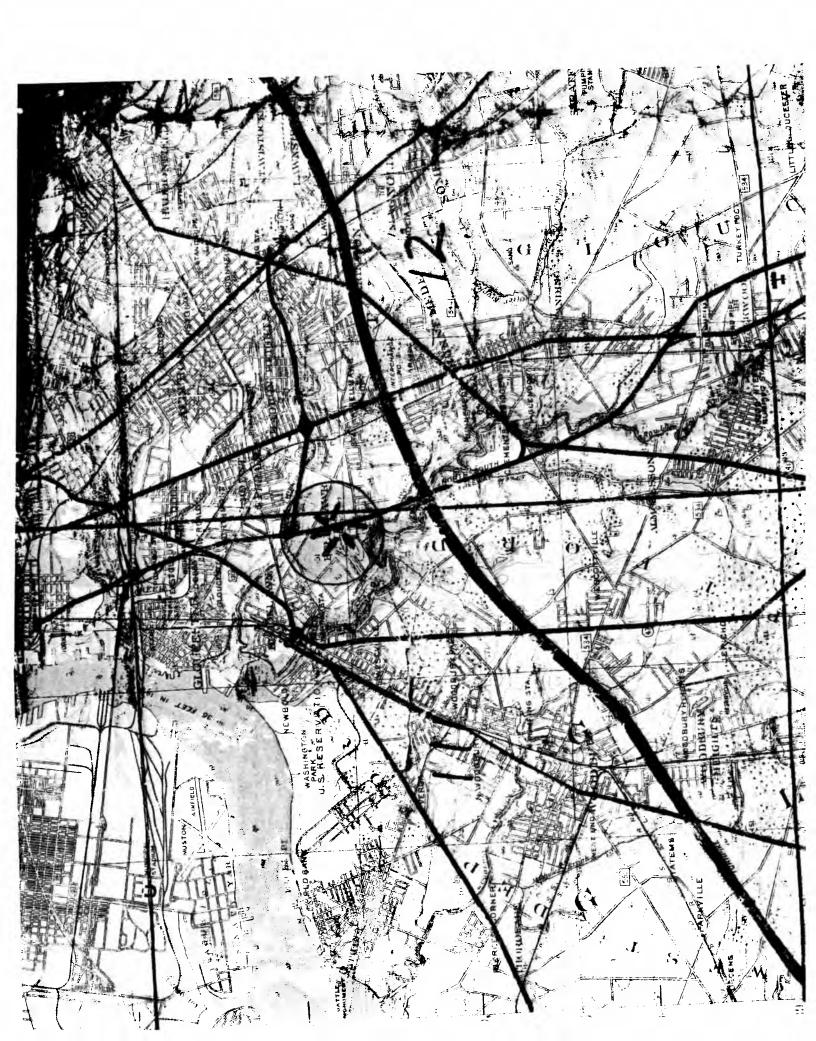
			Well Pern	nit No. <u>31</u>	- 57808	
			Atlas She	et Coordina	tes <u>31 : 1</u> 1	395
OWNER IDENTIFICATION - Owner	GLES, INC.					
Address 278 E. CHE	STNUT HILL ROAD					
City NEWARK	State		DE		Zip Code	
WELL LOCATION - If not the same as ow	ner please give address.	Owner's	s Well No.	MU	U-5	
County <u>CAMDEN</u>	Municipality <u>BELD</u>	MAWR BO	RO Lo	t No. <u>1</u>	Block N	
Address 65 N. BLACK HORSE  TYPE OF WELL (as per Well Permit Cate	ngories) MONITORII	NG	DAI	E WELL CO	JMPLETED 9	7660
Regulatory Program Requiring Well	UST		Case I.I	D.#		
CONSULTING FIRM/FIELD SUPERVISO	R (if applicable)	erbert	Envery	mentel	Tele. # <u>610/4</u>	44-2989
WELL CONSTRUCTION  Total depth drilled	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Well finished toft.	Single/Inner Casing	0	10	4	PC	+
Borehole diameter: 10.25 in. Bottom 10.35 in.	Middle Casing (for triple cased wells only)		(()		FOC	1 40
Well was finished: ☐ above grade	Outer Casing (largest diameter)	_				
If finished above grade, casing height (stick	Open Hole or Screen (No. Used 20)	10	30	4	PVC	40
up) above land surface ft.	Blank Casings (No. Used )	·				
Was steel protective casing installed? ☐Yes ☐ No	Fail Piece SHAD FILTER	8	30	=	Fashing	NIER
Static water level after drillingft.	Gravel Pack	6	8	4	ē	1
Water level was measured using	Grout				Neat Cement	200 lbs.
Well was developed for hours at gpm		0	6		Bentonite	HØ lbs.
Method of development	Gr D	routing Me rilling Met	ethod hod	HER	ue Tuger_	
Was permanent pumping equipment installed	The state of the s				y	
Pump capacitygpm		Note or	oh dooth who	GEOLOG	IIC LOG	
Pump type:	_	formati			as encountered in	consolidated
Drilling Fluid Type o	f Rig Galler	7277		OSPK	el Como	
Health and Safety Plan submitted?  Yes	-No	7-	<u> 15 - U</u>	uy se	cy SHI.	)
Level of Protection used on site (circle one)		150	30 M	sent D	ust F-	SAM
I certify that I have constructed the ab accordance with all well permit require State rules and regula	ements and applicable		,			
Drilling Company ADVANCED D	RILLING, INC.					
Well Driller (Print) Scott PL	BERALLA					
Driller's Signature	( Olseallo y					
Registration No. 1372	Date <u>5 / 1 / 20</u>					

### New Jersey Department of Environmental Protection

Bureau of Water Allocation

#### **MONITORING WELL RECORD**

No. Commence of			Well Perm	nit No3	31 <u>58678</u> _	
OWNER IDENTIFICATION - Owner	IMPOS TNO		Atlas Shee	et Coordina	tes31 1	1 395
Address N RATIRO	AD & FSSEY STREET		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
City GLOUCESTE	R CITY State		NJ		Zip Code	
WELL LOCATION - If not the same as ow	ner please give address.	Owners	Well No.	MW	Y Block N	10
Address N. RAILROAD & ESS	EX ST.	X.IAIII.		· · · · · ·	<del>0,7,0</del> = ====	
Address N. RAILROAD & ESS  TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well			Case I.I	D.#		
CONSULTING FIRM/FIELD SUPERVISO	R (if applicable) _	VIE-ME	whelkos	ola Hous	Tele. # <u>235</u>	-7170
WELL CONSTRUCTION  Total depth drilled // ft.  Well finished to // ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Well finished to $70$ $\pi$ .	Single/Inner Casing	<sub>O</sub>	25'	4"	puc	40
Borehole diameter: Topin. Bottomin.	Middle Casing (for triple cased wells only)					
Well was finished: above grade flush mounted  If finished above grade, casing height (stick up) above land surface ft.  Was steel protective casing installed?  XYes No	Outer Casing (largest diameter)					
	Open Hole or Screen (No. Used )	25	40'	4"	puc. 010	40
	Blank Casings (No. Used )				/	
	Tail Piece					
Static water level after drilling 28 ft.	Gravel Pack	22	41'	4b i	MORIE	
Water level was measured using M-Scott	Grout			#	Neat Cement	lbs.
Well was developed for hours at gpm		0	221	000	Bentonite)	/º Olbs.
Method of development Ar LiFF	G D	routing M Prilling Me	ethod	1. S.A.	<u> </u>	
Was permanent pumping equipment installed						
Pump capacity gpm	. 🗀 100 🙀 110	N-1			GIC LOG	
Pump type:		format	ions.		as encountered in	
Drilling Fluid Type of	4 Dia R 57 May laile	0-	· 8 · F	7 (	wellke +6	> raur (
		8,-	-23'T	tw f wl	ALL FINE	SANG
Health and Safety Plan submitted?  Yes Level of Protection used on site (circle one)	· / N	23	- 36 7	Aw tu	hite Fine	to Medina
I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable  State rules and regulations.		36°		Black	chy pr	+ - HARD
Drilling Company TOTAL QUA	LITY DRILLING	-				
Well Driller (Print) MichAECK	Arlunas					
Driller's Signature Muke Kw	Kund					
Registration No. MA(325	Date 8 14 00	<u></u>				



			Well Perr	nit No3	<u>1</u> - <u>56550</u>	
			Atlas She	et Coordina	tes <u>31 : 11</u>	394
OWNER IDENTIFICATION - Owner		T SYSTE				
Address 400 BENIN	GO BLVD					-
City BELLMAWR	State		ŊJ		Zip Code	
WELL LOCATION - If not the same as ow	voor plaasa siiva addrasa	Ournard	- Mail Ma	ſΥ	1111-2	
County CAMDEN	Municipality RFI	Owners Mawr Rn	S Well NO	+ No 18	Plack N	lo 177 07
County CAMDEN  Address 400 BENINGO BLVD	widthorpality	INSTRUCTION	<u></u> LO	1 140. <u>10</u>	DIOCK I	40. <u>1/3.03</u>
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well				DATE WEL	ISTARTED //	15 1 49
CONSULTING FIRM/FIELD SUPERVISO	PR (if applicable) Politic	1 Hac	pstead		Tele. #	
WELL CONSTRUCTION	Note: Measure all depths	Depth to	Depth to	Diameter	<u> </u>	Wgt./Rating
Total depth drilled 13 ft.	from land surface	Top (ft.)	Bottom (ft.)	Diameter (inches)	Material	(lbs/sch no.)
Well finished to 13 ft.	Single/Inner Casing	Λ	X	Q	DVC	SCA CAS
Borehole diameter: in.	Middle Casing (for triple cased wells only)			- SX.	PV	70
Bottomin.	Outer Casing					
Well was finished: ☐ above grade	(largest diameter)					
flush mounted	Open Hole or Screen (No. Used . O ( )	8	13	$\mathcal{Q}$	AC	Suh 40
If finished above grade, casing height (stick	Blank Casings	0	1.7	•		1.070
up) above land surface ft.	(No. Used )					
Vas steel protective casing installed?  XYes ☐ No	Tail Piece					
Static water level after drilling 1 ft.	Gravel Pack	60	13	1	#1Sand	
Water level was measured using 4-Super	Grout	0	1		Neat Cement	Ibs.
Well was developed for hours at gpm				2.65	Bentonite	100 lbs.
Method of development Submersi	ble Pomp o	routing Me rilling Met	ethod <i>&amp;</i> thod	graving	Placence	?#
Was permanent pumping equipment installed	? Yes No		***************************************	050105		
Pump capacity	•	Note es	ach denth who	GEOLOG	AIC LOG as encountered in	aanaalidata d
Pump type:		formati		oro water w	as encountered in	consolidated
Drilling Fluid Type o	of Rig Me 15	11-10	FM	tanz	MINGO	5.14.
Health and Safety Plan submitted? Yes	] No		Sc	ind	in the second	-3/1/g-
Level of Protection used on site (circle one)	None D C B A	1-2-1	3 FN	1 tax	n and his	in l
I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.				Sand		
Drilling Company UNI-TECH D	RILLING					
Well Driller (Print) Christopho	Warren					
Driller's Signature	Warre-					
Registration No 1546	Date 11 2335	<b></b>				

### New Jersey Department of Environmental Protection

Bureau of Water Allocation

#### MONITORING WELL RECORD

Well Permit No. 31 \_ 56551 Atlas Sheet Coordinates 31:11 394 OWNER IDENTIFICATION - Owner PRINTING MANAGEMENT SYSTE 400 BENINGO BLVD Address BELLMAWR State City \_\_\_\_\_ Zip Code WELL LOCATION - If not the same as owner please give address. Owner's Well No. CAMDEN Municipality BELLMAWR BORO Lot No. County \_\_\_ 400 BENINGO BLVD Address DATE WELL STARTED // 5 99
DATE WELL COMPLETED // 5 99 HONITORING TYPE OF WELL (as per Well Permit Categories) Regulatory Program Requiring Well Case I.D.# CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Powell Harps tead WELL CONSTRUCTION Note: Measure all depths Depth to Depth to Diameter Wgt./Rating Total depth drilled 13 Material from land surface Bottom (ft.) Top (ft.) (inches) (lbs/sch no.) Well finished to Single/Inner Casing Borehole diameter: Middle Casing Top \_\_\_ (for triple cased wells only) Bottom **Outer Casing** Well was finished: above grade (largest diameter) flush mounted Open Hole or Screen PVC 遥 13 (No. Used (010) If finished above grade, casing height (stick Blank Casings up) above land surface \_\_\_\_\_ ft. (No. Used Was steel protective casing installed? Tail Piece Yes No Static water level after drilling Gravel Pack Water level was measured using WYOPE **Neat Cement** lbs. Grout Clbs. Well was developed for Bentonite \_\_\_\_\_\_ gpm Grouting Method ovanty Placement Method of development Submersible Kimp Drilling Method **GEOLOGIC LOG** Pump capacity \_\_ Note each depth where water was encountered in consolidated formations. Pump type: \_\_\_ Drilling Fluid NONE \_\_\_\_Type of Rig CMもりち Health and Safety Plan submitted? Yes No I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations. UNI-TECH DRILLING Drilling Company \_\_ Well Driller (Print) Christopher Navrey Driller's Signature ('Listople') Wiene Registration No. M154 Date 1/123

#### New Jersey Department of Environmental Protection

## Bureau of Water Allocation MONITORING WELL RECORD

Well Permit No. 31 - 57807

			Atlas She	et Coordina	tes <u>31</u> : 1	1395
OWNER IDENTIFICATION - Owner						
Address 278 E. CHI	ESINUT HILL ROAD	····			7:- 0- 1	
City NEWARK	State		DE		Zip Code	
WELL LOCATION - If not the same as ow County CAMDEN  Address 65 N. BLACK HORSE	Municipality <u>BELL</u>	Owner	s Well No RO Lot	M U	<u>) - 4</u> Block	No. <u>92</u>
Address 05 N. BLACK INTEL	FIRE			DATE WELL	STARTER 5	4, 2,00
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	UST		Case I.I	D.#	L STARTED	
CONSULTING FIRM/FIELD SUPERVISO	PR (if applicable)	wew	Churron	neutel	Tele. # <u>6<i>10] '</i></u>	744-2989
WELL CONSTRUCTION  Total depth drilledft.  Well finished toft.	Note: Measure all depths from land surface	Depth to Top (ft.)		Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Well littled toIt.	Single/Inner Casing	0	15	4	PVC	40
Borehole diameter:  Top	Middle Casing (for triple cased wells only)					73
Well was finished: ☐ above grade	Outer Casing (largest diameter)	)				
If finished above grade, casing height (stick	Open Hole or Screen (No. Used 26)	15	35	4	Puc	40
up) above land surfaceft.  Was steel protective casing installed?	Blank Casings (No. Used )	•				
Pryes Ti No	Jail Piece SALD FILTER	13	35	4	Fasandi	1700
Static water level after drilling 24 ft.	Gravel Pack				·_	1
Water level was measured using TARE	Citavori ack	_/_	13	7	00 SAW	
Well was developed for hours at gpm	Grout	0	11		Neat Cement Bentonite	SO lbs.
Method of development	Gr D	Prilling Method HSAuger				
Was permanent pumping equipment installed	? Yes 110				· · · · · · · · · · · · · · · · · · ·	
Pump capacity gpm		Note ea	ach depth whe	GEOLOG ere water wa	as encountered in	consolidated
Pump type:		format	ions.	earl	ell.	
	of Rig July	6"	-9'- D	us Sil	F. Dan	
Health and Safety Plan submitted? ☐ Yes ☐	No		· · · · · · · · · · · · · · · · · · ·	0	7,514151	
Level of Protection used on site (circle one)	None (D) C B A	9:-	35'-1	marit 9	Awat F-	SANO
I certify that I have constructed the ab accordance with all well permit requir State rules and regul	rements and applicable					
Drilling Company ADVANCED D	RILLING, INC.					
Well Driller (Print) Scott	ALBERALIA					
Driller's Signature	Ollerallagy					
Registration No. 1370	Date 5/1/00					

Bureau of Water Allocation

#### **MONITORING WELL RECORD**

Well Permit No. 31 - 57808

OWNED IDENTIFICATION Owner			Atlas She	et Coordina	tes <u>31</u> : 1:	1395
OWNER IDENTIFICATION - Owner						
Address 278 E. CHI City NEWARK	State		ne		7in Codo	
					_	
WELL LOCATION - If not the same as ow CountyCAMDEN	Municipality BELLI	MAWK BO	<b>KO</b> Lot	t No. <u>1</u>	Block I	No. <u>92</u>
Address 65 N. BLACK HORSE	PIKE			DATE 1415	4	6.00
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	UST		Case I.I	D.#		······
CONSULTING FIRM/FIELD SUPERVISO	PR (if applicable)	ubut	Enveron	mintel	Tele. # 610/4	144-1989
WELL CONSTRUCTION  Total depth drilledft.  Well finished toft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
	Single/Inner Casing	0	10	4	PC	40
Borehole diameter: 10-25 in. Bottom 10-35 in.	Middle Casing (for triple cased wells only)	-				
Well was finished: ☐ above grade	Outer Casing (largest diameter)	)				
If finished above grade, casing height (stick	Open Hole or Screen (No. Used 20)	10	30	4	PVC	40
up) above land surfaceft.  Was steel protective casing installed?	Blank Casings (No. Used )					
Yes No	Tail Piece SHAD FILTER	8	30	4	*a Sun no	TE 10
Static water level after drillingft.	Gravel Pack	6	8	<u></u>	EDOSANDI	CIPA
Water level was measured using TAPE	Chaver rack	Q			00 SAND	SEHL
Well was developed for hours at gpm	Grout	0	6		Neat Cement Bentonite	HO lbs.
Method of development	Gr Di	outing Me rilling Met	ethod hod	HSL	Tuzer	****
Was permanent pumping equipment installed	The state of the s				The state of the s	
	: [] 163 [] NO			GEOLOG	IIC LOG	
Pump capacitygpm		Note ea		ere water wa	as encountered in	consolidated
Pump type:	— , , ^ <u>,</u>	- Ioimali	9.	'asal	el	j
Drilling Fluid Type o	7	9"-	15'- D	ur Si	eter SAN	)
Health and Safety Plan submitted?    Yes E	110			0		
Level of Protection used on site (circle one)	$\mathcal{C}$	15 -	SO YNO	rest G	hut F-	SAM
I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.						
Drilling Company ADVANCED D	RILLING, INC.		· · · · · · · · · · · · · · · · · · ·			
Well Driller (Print) Scott Al	BERALLA					
Driller's SignatureScott	( Olseallo yo					
Registration No. 137a	Date <u>5 / 1 / 20</u>					

#### New Jersey Department of Environmental Protection Bureau of Water Allocation

and the second s	<b>MONITORING W</b>	ELL R				
Marie			Well Perm	nit No3	· 58678	
			Atlas Shee	et Coordina	tes31 - 1	<del>1 395</del>
OWNER IDENTIFICATION - Owner						
Address N. RAILRO City GLOUCESTE	AD & ESSEX STREET  P. CITY State		BY T		Zin Code	
					4	
WELL LOCATION - If not the same as own	Municipality or or	****		· N.I	Dinaic Ni	0197
Address N. RAILROAD & ESS	EX ST.			DATE WELL	CTARTER 8	13,00
Address N. RAILROAD & ESS  TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	gories) MONITORI	NG	DAT Case I.[	E WELL CO	OMPLETED 8	13/00
CONSULTING FIRM/FIELD SUPERVISO	R (if applicable) <u> </u>	112-416.	ut 1Ros	olubous	Tele. # <u>235</u>	-7170
WELL CONSTRUCTION  Total depth drilled '//' ft.  Well finished to '/o' ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Well finished toft.	Single/Inner Casing	0	25'	4"	PUC	40
Borehole diameter: Topin. Bottom(i''in.	Middle Casing (for triple cased wells only)		(3-3		Po	
Well was finished: □above grade	Outer Casing (largest diameter)					
flush mounted	Open Hole or Screen (No. Used )	25	40'	4"	DUC. 010	40
If finished above grade, casing height (stick up) above land surface ft.	Blank Casings (No. Used )		Í			
Was steel protective casing installed?  KYes ☐ No	Tail Piece					
Static water level after drilling 28 ft.	Gravel Pack	22	41'	ıL i	40000	
Water level was measured using M Scott	Grout	OX OL		[#*]	MORIC Neat Cement	Ibs.
Well was developed for hours		D	221		Bentonite	/00lbs.
atgpm	Gı	routing M	ethod	REUNIC	<i>d</i>	
Method of development Ar LiFF		rilling Mei	thod	1. 5.A.	HILL STATE OF THE	
Was permanent pumping equipment installed?	? ∐Yes <b>⊠</b> No		····	GEOLO(	GIC LOG	
Pump capacitygpm		i .	•		as encountered in	consolidated
Pump type:	<del></del> ,	format	ions. - Seri F	7 ( ( Co	uckete +6	Grave!
Drilling Fluid Type o	f Rig <u>B57-Mobile</u>				rite Fine	
Health and Safety Plan submitted? 🔲 Yes	No		,	•		
Level of Protection used on site (circle one)	None DC B A	23	- 36 7	AW FU	hite Five	to Medition
I certify that I have constructed the ab accordance with all well permit requir State rules and regula	ements and applicable	36°		Rlack	Chuy Dr	+ HARD
	LITY DRILLING					
Well Driller (Print) Michael K	AV/unas					
Driller's Signature Muh Kau	lund					
Registration No. MB/325	Date 8 14 00		·····	······································		

## New Jersey Department of Environmental Protection Bureau of Water Allocation

MONITORING WEL	L RECORD	6 70
	Mall Dameit No. 44	J 7 4

	r Haja-Mi			Atlas She	et Coordina	tes <u>31 11</u>	394 <u>.</u>
OWNER IDENTIF	FICATION - Owner GL	ES, INC.	***************************************				
Address	NEWARK	INUT HILL RD. State	r. <b>g</b> .				7.75
Only		State		·		Zip Code <u>/9 /</u>	12-1251
WELL LOCATION	N - If not the same as ow	ner please give address. Municipality BELLMA KE	Owner's	s Well No		1w-1	
Address 65	N. BLACK HORSE P	Municipality BELLINA	#K 50K0	Lo	t No. <sup>1</sup>	Block I	No. <sup>32</sup>
Address				····	DATE WEI	I STARTED 9	124,99
TYPE OF WELL	(as per Well Permit Cate	gories)HONITORING		DAT	E WELL CO	LSTARTED 7 OMPLETED 9	124199
Regulatory Progra	am Requiring Well	31 ·		Cas <b>e</b> I.I	D.#		·
CONSULTING FI	RM/FIELD SUPERVISO	R (if applicable)				Tele. #	
WELL CONST	RUCTION	<u> </u>					
Total depth drilled _	<u> 30</u> ft. <u> 30</u> ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter	Material	Wgt./Rating
Well finished to	<u>50</u> ft.	Single/Inner Casing					(lbs/sch no.)
Borehole diameter:		Middle Casing	0	10	4	Puc	SCH40
Top	in. in.	(for triple cased wells only)					
_		Outer Casing					
Well was finished:	_	(largest diameter)					
7	flush mounted	Open Hole or Screen (No. Used )	10	30	4	PUC	SCHYU
if finished above graup) above land surf	ade, casing height (stick	Blank Casings	,	00			,010
		(No. Used )					
T Van T Ali	steel protective casing installed? res  No c water level after drilling 25 ft.	Tail Piece				······································	
Static water level aff	ter drilling <u>25</u> ft.	Gravel Pack	7	30		HI	2508
Water level was mea	asured using Tupe			20		Neat Cement	lbs.
Well was developed	for hours	Grout	0	7		Bentonite	100 lbs.
atg	•	Gr	outing Me	ethod	ravely	1	
Method of develops	ment pump p	may Di	rilling Met	hod	HSA		
Was permanent pur	mping equipment installed?	Yes No			CEO! OO	10.1.00	
Pump capacity	gpm		Note ea	ch depth whe	GEOLOG ore water wa	is encountered in	consolidated
Pump type:		<del></del>	formati				Consolidated
Drilling Fluid	Type of	Rig_13-579	0-1	5 Fa	nd/si	els / Clay.	u-
Health and Safety F	Plan submitted? 🔲 Yes 🖸	No	15.2	7 Fre	a line	us'.	2
Level of Protection (	used on site (circle one) N	lone (D <sup>/</sup> C B A			elan	June 7 C	Loz .
I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.			27-30 Prond/sello-grey berd,				
Drilling Company	OPETHEASE JETTE						
Well Driller (Print)	JOE QUINE	Ar					
Oriller's Signature	J Caul	•					
Registration No	16/2	Date 9 124 199					

	WONTOFING W		Well Perm	nit No.	56723	
OWNER IDENTIFICATION - Owner	GLES. INC.				tes <u>31 : 1</u>	
Address 278 E. CH	ESTHUT HILL RD.			***************************************		
Address 278 E. CHI City HEWARK	State		DE		Zip Code <i><u>197</u>1</i>	3-1221
WELL LOCATION - If not the same as ow CountyCAMDEN Address65 N_ BLACK BORSE	rner please give address.  Municipality 8ELL PIKE		s Well No 0R0 Lo	<u>Mu)−</u> t No	Block I	No
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well		NG			STARTED 9	,
CONSULTING FIRM/FIELD SUPERVISO	R (if applicable)				Tele. #	
WELL CONSTRUCTION  Total depth drilled 30 ft.  Well finished to 50 ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	1 .	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
well finished to it.	Single/Inner Casing	0	10	4	PVC	schild
Borehole diameter:  Top / O in.  Bottom / O in.	Middle Casing (for triple cased wells only)		, ,	/		
Well was finished: above grade	Outer Casing (largest diameter)					
If finished above grade, casing height (stick	Open Hole or Screen (No. Used )	10	30	4	PUC	,010
p) above land surfaceft.  'as steel protective casing installed?	Blank Casings (No. Used )					
	Tail Piece					
Static water level after drilling ft.	Gravel Pack	7	3∂		Ħ I	2504
Water level was measured using	Grout	0	7		Neat Cement	lbs.
Well was developed forhours athours	G		 ethod	Fram	Bentonite	Low lbs.
Method of development	uge D	_	thod	HSA	· — — — — — — — — — — — — — — — — — — —	
Was permanent pumping equipment installed	? ☐Yes ☑ No					
Pump capacitygpm		Note ea	ech denth whe	GEOLOG	IC LOG as encountered in	consolidated
Pump type:		formati		no water we	as encountered in	consolidated
Drilling Fluid Type o	of Rig 3 5-9	0-13		Alsek	I clay in.	thin
Health and Safety Plan submitted? ☐ Yes ☐	] No	15.2			ello/que	
Level of Protection used on site (circle one)	None () C B A	21-3	o FA	and fail	to Clays :	Juz
I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.						
Drilling Company QUINLAN 4	ELL DRILLING	-				
Well Driller (Print) Joe RUIN	LAN					
Driller's Signature						
Registration No. 16/2	Date <u>9 124 199</u>	<u></u>				

# New Jersey Department of Environmental Protection Bureau of Water Allocation MONITORING WELL RECORD

			Well Perr	nit No. $\frac{\overline{z}_1}{z}$	50.2a	
			Atlas She	et Coordina	tes <u>31</u> £1	396
OWNER IDENTIFICATION - Owner 378 # GUETO	LES, INC.					
Address 278 E. CHES City SEWARK	Otata	75	-			
Only	State	<u> </u>	-		Zip Code <u>/ç 7</u>	13-1221
WELL LOCATION - If not the same as ow	ner please give address.	Owner's	s Well No.	Nu	7 - 3	
WELL LOCATION - If not the same as ow County CAMDEN  Address 55 N. BLACK HORSE P	Municipality BELLMA	AWR BORG	Lo	t No. 🗓	Block	No. <sup>92</sup>
Address 65 N. BLACK HURSE P	INE					
TYPE OF WELL (as per Well Permit Cate	MONITORING	ì	DAT	E WELL CO	L STARTED 9 DMPLETED 2	124 15 5
Regulatory Program Requiring Well	971103/	· · · · · · · · · · · · · · · · · · ·	Case I.	D.#		
CONSULTING FIRM/FIELD SUPERVISO	R (if applicable)				Tele. #	
WELL CONSTRUCTION	Note: Measure all depths	Depth to	Depth to	Diameter		Wgt./Rating
Total depth drilled 30 ft.  Well finished to 30 ft.	from land surface	Top (ft.)	Bottom (ft.)		Material	(lbs/sch no.)
1	Single/Inner Casing	0	10	L/	PUL	schyo
Borehole diameter:	Middle Casing		70	7	7.00	
Top	(for triple cased wells only)					
Well was finished: ☐ above grade	Outer Casing (largest diameter)		i			
Aflush mounted	Open Hole or Screen					ech 46
If finished above grade, casing height (stick	(No. Used )	10	30	4	PUC	1010
up) above land surface ft.	Blank Casings (No. Used )					
Was steel protective casing installed?  Yes No	Tail Piece					
Static water level after drilling 2.5 ft.						
Water level was measured using tope	Gravel Pack	_ 7	30			252K
Well was developed for/ hours	Grout		7		Neat Cement	lbs.
atgpm	Gr	outing Me	thod 9		Bentonite	lbs.
Method of development Dung Sun		rilling Meti	7.7	IS D	J	
Was permanent pumping equipment installed?	Y Tilyes Filipo					-
Pump capacitygpm	الما الما الما الما الما الما الما الما	ļ.,	· · · · · · · · · · · · · · · · · · ·	GEOLOG	IC LOG	
Pump type:		Note ea		re water wa	s encountered in	consolidated
	_					
Drilling Fluid None Type of	Rig 1359	0-15	Fsa.	A/sell	of cloqui	than
Health and Safety Plan submitted? ☐ Yes ☐	No	15-2	2 FA	and / A	Pha / the	
Level of Protection used on site (circle one) N	lone D C B A		Ć	long - 12	ree	7
	•	22-3c	)	short for	sello/ Clay	3. guy
I certify that I have constructed the ab accordance with all well permit require	ove referenced well in ements and applicable				0	
State rules and regulations.						
Drilling CompanyQUINLAN WELL DRILLING				· · · · · · · · · · · · · · · · · · ·		
Moll Driller (Drink)						
Well Driller (Print) JOE QUINLAN						
Driller's Signature <u>G. Ekunlu</u>	<del>~</del>					
Registration No. // / Z	Date 9174199					

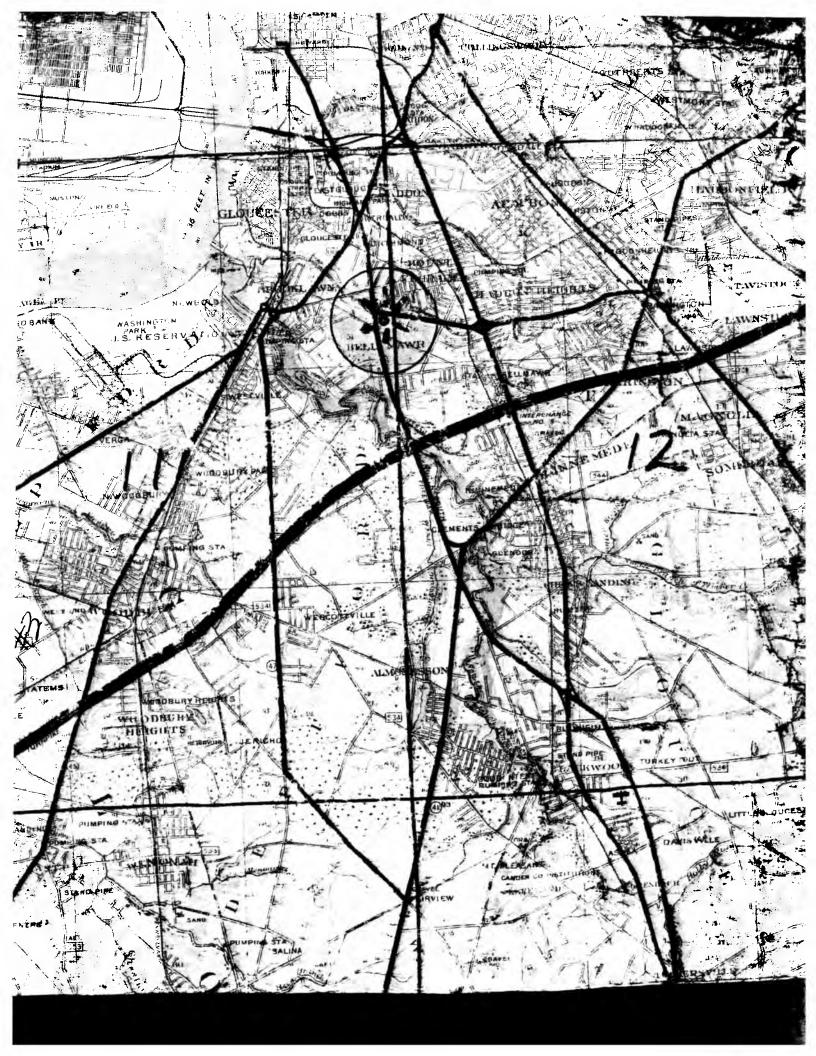
COPIES:

White - DEP

Canary - Driller

Pink - Owner

Goldenrod - Health Dept.



#### New Jersey Department of Environmental Protection

Burea	iu of	Wa	iter A	Allo	cation	n
TOE	INI	$c \cdot v$	\/CI		DE	

<u>UKD</u>	3.1	59509
lell Permit No	·	- 3/30/

7								
CAMPELLIDER IN TOX LIGHT - OWING	SUNOCO INC.		Atlas Shee	et Coordina	tes 31 11	3,66		
Address PHILADEL PH	1 31.		ΡΔ					
Address 1801 MARKE City PHILADELPH	State				Zip Code			
WELL LOCATION - If not the same as ow County CAMDEN  Address LITTLE GLOUCESTER			Well No THP Lot	No	<b>W - / ∰</b> Block N	lo		
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	egories)				LL STARTED // COMPETED //			
CONSULTING FIRM/FIELD SUPERVISO		GES			Tele. #			
WELL CONSTRUCTION  Total depth drilled 5 4 ft.  Well finished to 5 4 ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)		
Well limitshed toit.	Single/Inner Casing	0	49	4	PUC	504.40		
Borehole diameter:  Top in.  Bottom/ 2 in.	Middle Casing (for triple cased wells only)		, ,	,				
Well was finished: ☐above grade	Outer Casing (largest diameter)	MA						
If finished above grade, casing height (stick	Open Hole or Screen (No. Used )	49	54	4	PUC	5CH.40 320365		
up) above land surface NA ft.  Was steel protective casing installed?	Blank Casings (No. Used )	NA						
☐Yes 🗷 No	Tail Piece	NA						
Static water level after drilling 35 ft.  Water level was measured using 7APE	Gravel Pack	47	54	12	#2-51			
Well was developed for hours at gpm	Grout	0	47	12-	Neat Coment Bentonite	353 lbs.		
Method of development SUBMERSIB		routing Me rilling Met	ethod	REMIE SA				
Was permanent pumping equipment installed	? Tyes XNo							
Pump capacitygpm		No.		GEOLOG	IC LOG			
Pump type: NA		Note each depth where water was encountered in consolidated formations.						
Drilling Fluid Norte Type of	of Rig <u>430</u> 0	5-4" GRASS TOPSOIL						
Health and Safety Plan submitted? Tyes 5	No	4"- 22 LT BRN MD 50						
Level of Protection used on site (circle one)	None DC B A	22-36 ORE FORSOISM GRAVEL						
I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.		36-5	Y DOLS F	N SICTLY	50			
Drilling Company GARY PAREN	IT/SHORE DRLG. INC.							
Well Driller (Print) Roy Cogk								
Driller's Signature	ao t							
Registration No	Date /2 / 20 / 00	L				. /		

# DWR-138 M / 11/96

#### New Jersey Department of Environmental Protection

Bureau of Water Allocation
MONITORING WELL RECORD
Well Permit No.

					71 1	1 744		
OWNER IDENTIFICATION - Owner 1801 MARK				et Coordina	ites31 : _1	1 300		
Address PHILADELP	HTA Ctota		PA		Zin Codo			
Address	State				Zip Code			
WELL LOCATION - If not the same as ow County CAMDEN  Address LITTLE GLOUCESTER	ner please give address.  Municipality & EARL	Owner' JCESTER	s Well No T#P Lo	Ии t No22	7-13 Block N	Vo. 31		
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	MONITODI	ING	_	DATE WE	COMPETED //	77/12		
Regulatory Program Requiring Well			Case I.I	D.#				
CONSULTING FIRM/FIELD SUPERVISO	PR (if applicable)	GES			Tele. #			
WELL CONSTRUCTION	Note: Measure all depths	Depth to	Depth to	Diameter		Wgt./Rating		
Total depth drilledft.  Well finished toft.	from land surface	Top (ft.)	Bottom (ft.)		Material	(lbs/sch no.)		
Well finished toft.	Single/Inner Casing	0	15	4	PUL	504.40		
Borehole diameter:  Topin.  Bottom/ Jin.	Middle Casing (for triple cased wells only)	WA						
Bottomin.  Well was finished: □ above grade	Outer Casing (largest diameter)	NA						
Tilush mounted	Open Hole or Screen (No. Used )	15	40	4	PVC	SCA. 40 020 SLST		
If finished above grade, casing height (stick up) above land surface ft.	Blank Casings (No. Used )	√A						
Was steel protective casing installed?  Yes X No	Tail Piece	NA						
Static water level after drilling 35 ft.	Gravel Pack	14	40	12	#1 5A	VD		
Water level was measured using TAPE	Grout	8	14		Neat Coment	lbs.		
Well was developed for hours at3 gpm				/ <del>}</del>	Bentonite	105 lbs.		
Method of development <u>SUBMERSIBLE</u>		routing <b>M</b> e rilling <b>Me</b> t		REMIE HSA				
Was permanent pumping equipment installed	? ∐Yes X No			CEO! 00	2000			
Pump capacitygpm		GEOLOGIC LOG  Note each depth where water was encountered in consolidated						
Pump type:		formati	•					
Drilling Fluid No NE Type o	f Rig <u>A 300</u>	0-4	" GRASS 1	OPSOIL				
Health and Safety Plan submitted? ☐ Yes 🗵	Î No	4"-2	2 L1 BF	N MD SI	<b>,</b>			
Level of Protection used on site (circle one)		22'-	40' ORG	FNSD	SM BRAUEL			
I certify that I have constructed the ab accordance with all well permit requir State rules and regul	ements and applicable							
Drilling Company GARY PARE	NT/SHORE DRLG. INC.							
Well Driller (Print) Roy Cook								
Oriller's Signature	,/¹							
Registration No. TD1603	Date 12/20/00	L			····			

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59510

	,		Well Perm	nit No3]	<u> - 56550</u>	
			Atlas Shee	et Coordinat	tes <u>31</u> : 11	394
OWNER IDENTIFICATION - Owner		T SYSTE				
Address 400 BENING City BELLMAWR	State		ыт		Zin Code	
WELL LOCATION - If not the same as own	ner please give address.	Owner's	Well No		1W	
	MunicipalityBELLi	MAWR BO	RO Lot	No. <u>18</u>	Block N	o. <u>173.03</u>
Address 400 BENINGO BLVD				DATE WELL	L STARTED //	,5,09
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	gories) MONITORI	NG	DAT	E WELL CO	OMPLETED/_	5-77
CONSULTING FIRM/FIELD SUPERVISO	_					
WELL CONSTRUCTION.		'				
Total depth drilled 13 ft.  Well finished to 13 ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Wolf inflation toi.	Single/Inner Casing	101	8	Q	DVC .	DCA 40
Borehole diameter: in.	Middle Casing (for triple cased wells only)					
Bottom in. Well was finished:  above grade	Outer Casing (largest diameter)					
flush mounted	Open Hole or Screen (No. Used · () ()	8	13	$\mathcal{Q}$	AC	Seh 40
If finished above grade, casing height (stick up) above land surfaceft.	Blank Casings (No. Used )					
Was steel protective casing installed?  XYes ☐ No	Tail Piece					
Static water level after drilling 1 ft.  Water level was measured using M. Surp C.	Gravel Pack	(0	IJ	^	#1Sand	
Well was developed for 12 hours	Grout	0	٤,		Neat Cement Bentonite	lbs.     <u>     </u>   lbs.
at _3gpm  Method of development _SUDME(S)	ola Romp Gi	routing Me	ethod 6	rauty	Placence	7£
•		illing we			#3/1	
Was permanent pumping equipment installed?	L ☐ Aes ☐KNo			GEOLOG	AIC LOG	
Pump capacity gpm Pump type: NA		Note ea		ere water w	as encountered in o	consolidated
Drilling Fluid Type o	raig (Me 15	<del></del>				
Health and Safety Plan submitted? Yes	] No	Ula	<u> </u>	tan c	stunge	>1/ty-
Level of Protection used on site (circle one)	None D, C B A	1001	3 FN	1 +00	n and his	Tun
I certify that I have constructed the ab accordance with all well permit require State rules and regula	ements and applicable			36AD		
Drilling Company UNI-TECH D		.]			<del></del>	
Well Driller (Print) Christopho	Warren					
Driller's Signature	liano-					
Registration Nol 1546	Date 11 233	1				

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#### New Jersey Department of Environmental Protection

**Bureau of Water Allocation** 

#### MONITORING WELL RECORD

Well Permit No. 31 \_ 56551 Atlas Sheet Coordinates 31 : 11 394 OWNER IDENTIFICATION - Owner PRINTING MANAGEMENT SYSTE 400 BENINGO BLVD Address BELLMAWR State Zip Code WELL LOCATION - If not the same as owner please give address. Owner's Well No. \_\_\_\_ County \_\_\_\_\_ CAMDEN Municipality BELLMAWR BORO Lot No. 400 BENINGO BLVD Address DATE WELL STARTED 11 5 99 DATE WELL COMPLETED 11 5 99 MONITORING TYPE OF WELL (as per Well Permit Categories) Regulatory Program Requiring Well \_\_\_\_\_ Case I.D.# \_\_\_\_\_ CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Fouel Harps tead \_\_\_\_\_ Tele. #\_\_\_\_\_ WELL CONSTRUCTION Note: Measure all depths Depth to Depth to Wgt./Rating Diameter Material Total depth drilled 13 from land surface Bottom (ft.) Top (ft.) (lbs/sch no.) (inches) Well finished to \_\_\_\_13 Single/Inner Casing Middle Casing Borehole diameter: Top (for triple cased wells only) Bottom **Outer Casing** Well was finished: above grade (largest diameter) flush mounted Open Hole or Screen PVC 選13 (No. Used , () (O) If finished above grade, casing height (stick Blank Casings up) above land surface \_\_\_\_\_ ft. (No. Used Was steel protective casing installed? Tail Piece ∑Xes ☐ No Static water level after drilling Gravel Pack Water level was measured using Marcold Neat Cement Grout Tacibs. Well was developed for hours Bentonite at \_\_\_\_\_\_\_ gpm Covarity Placement Grouting Method Method of development Submersible Rum? Drilling Method \_\_\_ Was permanent pumping equipment installed? Tyes No **GEOLOGIC LOG** Pump capacity Note each depth where water was encountered in consolidated formations. Pump type: \_ Drilling Fluid NONE Type of Rig Cme 75 Level of Protection used on site (circle one) I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations. UNI-TECH DRILLING Drilling Company \_\_\_\_ Well Driller (Print) Christopher Narren Driller's Signature ( La stante) Registration No. M1540 \_\_\_\_ Date // /⊋ろ

#### New Jersey Department of Environmental Protection

the water of the			Well Pern	nit No. <u>31</u>	<u>57807</u>	
			Atlas She	et Coordinat	es <u>31 : 1</u> 1	395
OWNER IDENTIFICATION - Owner	•					
Address 278 E. (	THESTNUT HILL ROAD					
CityNEWARK	State		DE		Zip Code	
WELL LOCATION - If not the same as	owner please give address.	Owners	s Well No	Mu	<del>ي - 4</del>	
County <u>CAMPEN</u>	MunicipalityBELL	MAWK BU	KO Lo	t No. <u>1</u>	Block <b>I</b>	No. <u>92</u>
Address 65 N. BLACK HORS  TYPE OF WELL (as per Well Permit C  Regulatory Program Requiring Well	ategories) MONITORI	NG	DAT Case I.	D.#	STARTED 4	
CONSULTING FIRM/FIELD SUPERVI	SOR (if applicable)	erbeit	Enveron	mentel	Tele. # 610/	144-2989
WELL CONSTRUCTION  Total depth drilled 35 ft.  Well finished to 35 ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Well finished toft.	Single/Inner Casing		15	4	PVC	40
Borehole diameter:  Top/D.25 in.  Bottom/0.25 in.	Middle Casing (for triple cased wells only)	0	7.3	/	700	70
Well was finished: ☐above grade	Outer Casing (largest diameter)	_				
Tiush mounted	Open Hole or Screen (No. Used 26)	15	35	4	Puc	40
If finished above grade, casing height (stick up) above land surface ft.	Blank Casings (No. Used )	-				
Was steel protective casing installed?  ☐Yes ☐ No	Jail Piece SALD FILTER	12	35	<del>/</del>	FISANDF	TER-
Static water level after drilling 24 ft.	Gravel Pack			3	<b>`</b> _	
Water level was measured using TARE			13	,	Neat Cement	400 lbs.
Well was developed for hours		0	1		Bentonite	\$0 lbs.
at gpm  Method of development	G 	routing Me	ethod thod	then	Auger	
Was permanent pumping equipment instal			·		0	
Pump capacitygpn		Number		GEOLOG		
Pump type:	·•	format		r	as encountered in	consolidated
Drilling Fluid Typ	pe of Rig July:		<u> </u>	espe		
Health and Safety Plan submitted?	• )	6	-9 - N	uz Sil	St, SHAND	
Level of Protection used on site (circle one	e) None (D) C B A	9'-	35'-	Marit 9	awet F-	SAND
I certify that I have constructed the accordance with all well permit red State rules and re	quirements and applicable					
Drilling Company ADVANCEI	DRILLING, INC.	_				
Well Driller (Print) Scott	- ALBERALLA					
Driller's Signature	& alberally					
Registration No. 1370						

## Bureau of Water Allocation MONITORING WELL RECORD

Well Permit No. 31 - 57808

OWNER IDENTIFICATION - Owner	CIES INC			et Coordina	tes <u>31</u> 1	L395
Address 278 E. CH				······································		
CityNEWARK			DF		Zin Code	
					_	
WELL LOCATION - If not the same as ov	vner please give address.	Owner's	s Well No	MU	U-5	
County <u>CAMDEN</u>	Municipality BELL	AAWR BO	RO Lot	No. 1	Block I	No. 92
Address 65 N. BLACK HORSE						
	PIKE  egories) MONITORIN			DATE WELI	L STARTED	<u> </u>
TYPE OF WELL (as per Well Permit Cat						
Regulatory Program Requiring Well	UST		Case I.I	D.#	***	
CONSULTING FIRM/FIELD SUPERVISO						
WELL CONSTRUCTION	Note: Magaura all dontha	D - 4	Donah 4a	D:	•	That Dates
Total depth drilled 30 ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Total depth drilled 30 ft.  Well finished to 30 ft.			`			
	Single/Inner Casing	0	10	4	pc	10
Borehole diameter: 10.25 in. Bottom 10.25 in.	Middle Casing	-				
Bottom 10.25 in.	(for triple cased wells only)					
Well was finished: ☐ above grade	Outer Casing (largest diameter)					
Affush mounted	Open Hole or Screen					
LM.	(No. Used $20$ )	10	30	4	PVC	40
If finished above grade, casing height (stick up) above land surface ft.	Blank Casings					
Was steel protective casing installed?	(No. Used )					
Yes No	Tail Piece SHAD FILTER	8	30	7	& SAMO!	PLTER_
Static water level after drillingft.	Gravel Pack	6	8	4	FOOSAND	SEIM
Water level was measured using	Grout				Neat Cement	200 lbs.
Well was developed for hours		0	6		Bentonite	ibs.
at gpm	Gr	routing Me	ethod	Trem	ue	
Method of development	D	rilling Met	thod	H-SI	Luger_	
Was permanent pumping equipment installed	d? ☐Yes ☐No	<u> </u>		CEO! OC	30100	]
Pump capacitygpm		Note ea	ach depth whe	GEOLOG	as encountered in	consolidated
Pump type:		format	· · · · · · · · · · · · · · · · · · ·	1 a 1	ao onocamoroa m	Consolidated
	$\overline{}$		<u> </u>	aspk	el .	
Drilling Fluid Type	of Rig Calley	9"-	15' - D	ur Si	ete SAM	7
Health and Safety Plan submitted?	J NO '			T T		
Level of Protection used on site (circle one)	None C B A	15	30  M	out D	hut F-	SARA
I certify that I have constructed the a accordance with all well permit requ State rules and regu	rements and applicable					
Drilling CompanyADVANCED	DRILLING, INC.				·····	
Well Driller (Print) Scott A	LBERALLA					
Driller's Signature	( Olseallo, yo					
Registration No. 1372	Date 5 / 1 / 20	L				

#### New Jersey Department of Environmental Protection

The state of the s			Well Perm	nit No	3158678_	
0			Atlas Shee	et Coordina	tes31 :1	<del>1 - 395</del>
OWNER IDENTIFICATION - Owner						
Address N. RAILRO City GLOUCESTE	AD & ESSEX STREET				Zin Codo	
WELL LOCATION - If not the same as ow CountyCAMDEN						0 107
Address N RATI POAD & FSS	Numcipality	AESIEK	CITY LO	11105,	6, 7,8 BIOCK IN	0
Address N. RAILROAD & ESS  TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well			Case I.I	D.#		
CONSULTING FIRM/FIELD SUPERVISO	R (if applicable)	VIT-46	whikes	olubous	Tele. # <u>235</u>	-7170
WELL CONSTRUCTION  Total depth drilledft.  Well finished toft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Well finished toft.	Single/Inner Casing		251	4"	0	40
Borehole diameter:  Topin.  Bottomir.	Middle Casing (for triple cased wells only)	O	25'	7	puc	70
Bottomin.  Well was finished:  above grade	Outer Casing (largest diameter)					
If finished above grade, easing height (stick	Open Hole or Screen (No. Used )	25	40'	4"	DUC. 010	40
finished above grade, casing height (stick up) above land surface ft.	Blank Casings (No. Used )				/	
Was steel protective casing installed?  Yes No	Tail Piece					
Static water level after drilling ft.	Gravel Pack	22	41'	sto i	MORIE	
Water level was measured using M-Scope	Grout	O	22'	A=	Neat Cement Bentonite	lbs.
Well was developed for hours at gpm				DEMIN	L(	7-0.00.
Method of development Ar LiFF	D	routing M Prill <mark>ing Me</mark>	ethod <del>/</del>	1. S.A.	<u> </u>	
Was permanent pumping equipment installed	. /	<u></u>				
Pump capacitygpm	— <i>T</i>	Note a			GIC LOG	
Pump type:		format	tions.		as encountered in	
Drilling Fluid Type o	of Rig B57-Mebile				nite Fine	4
Health and Safety Plan submitted? 🔲 Yes	_	-	-2 //	IN 7 W	TIVE FINE	3 TNG
Level of Protection used on site (circle one)	· / 11	23	- 36 7	Aw fu	hite Five	to dedina
I certify that I have constructed the all accordance with all well permit requir State rules and regul	rements and applicable	36'		Black	Chay Dry	+ HARD
Drilling Company TOTAL QUA	LITY DRILLING					
Well Driller (Print) MiCAFEK	AVIVAGE					
Driller's Signature Muke Kw	vunet					
Registration No. $M_1/3 \rightarrow S$	Date 8 14 00	L				···

### New Jersey Department of Environmental Protection

	motororate tr	Ann has has I U	Well Pern	nit No. 📶	53720	
No. of the second			Atlas Shee	et Coordinat	es <u>31 :1</u>	<b>.</b> 794
OWNER IDENTIFICATION - Owner @L	ES. INC.					-
Address 278 E. CHE31	THUT HILL RD.					
Address 278 E. CHE31 City NEWARK	State	EE	***************************************	Z	Zip Code <u>/</u> 97	1/3-/22/
WELL LOCATION - If not the same as ow County63 N. BLACK MORSE PI	ner please give address. Municipality BELLMA	Owners WR 30R0	s Well No Lot		<u>ω' -                                   </u>	No? <sup>2</sup>
Address65 N. BLACK MURSE 0	i K E				9	74.99
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	gories) HONITORING				STARTED 9	
				J.,,		
CONSULTING FIRM/FIELD SUPERVISO	R (if applicable)	MN900-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-		•	Tele. #	
WELL CONSTRUCTION  Total depth drilled	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Vell finished to ft.	Single/Inner Casing	0	10	4	PUC	SCH40
Borehole diameter:  Top / O in.  Bottom / O in.	Middle Casing (for triple cased wells only)				er engenment en	
Bottomin.  Well was finished: □ above grade	Outer Casing (largest diameter)					
If finished above grade, espire height (stick	Open Hole or Screen (No. Used )	10	30	4	Puc	SCHYU , 010
finished above grade, casing height (stick up) above land surface ft.	Blank Casings (No. Used )					
Was steel protective casing installed? ☐Yes ☐ No	Tail Piece					
Static water level after drilling	Gravel Pack	フ	30		HI	2508
Water level was measured using Tupe  Well was developed for hours	Grout	0	ን		Neat Cement Bentonite	lbs.
at gpm	G		ethod	2	Bernonne	1 2 130.
Method of development 200000 1		rilling Met		HSA	7	
Method of development						
Pump capacitygpm				GEOLOG		
Pump type:	november 1	format		ere water wa	as encountered in	consolidated
Drilling Fluid 1000 Type o	of Rig <u>B-579</u>	0 - /	15 Fs	md/si	els / Clay	ii.
Health and Safety Plan submitted? ☐ Yes	₫ No	15.2	7 Fru	no billy	r/ town of	·lor
Level of Protection used on site (circle one)	None (D∕C B A	27 - 3	30 20	elan	Karon III	·/
I certify that I have constructed the all accordance with all well permit requir State rules and regul	rements and applicable			7/00	J. J. M.	
Drilling Company QUINLAN WELD	L DRILLING	-				
Well Driller (Print) Joe & UIN	LAN					
Driller's Signature	<u> </u>					
Registration No	Date 9 124 199					

	monitori i		Well Pern	nit No	<u> </u>	
OWNER IDENTIFICATION - Owner	SIES INC		Atlas She	et Coordina	tes:	1 3,96
Address 278 E. CH	ESTAUT HILL SO					
City HEWARK	State		DE	-	Zip Code <i><u>1</u>97</i> /_	3-122/
WELL LOCATION - If not the same as ow County CAMDEN Address 65 N. BLACK HORSE	ner please give address.	Owners	Well No	Mw-	2	
County Canuer	Municipality8ELL	MAWK SU	Lot	t No	Block I	۷o
Address 65 N. GLACA BURSE				DATE WELI	L STARTED 9	7,24,99
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	gories)	NG	DAT Case I.I	E WELL CO	OMPLETED _ 9	124159
CONSULTING FIRM/FIELD SUPERVISO						
					1010. 11	
WELL CONSTRUCTION  Total depth drilled 3 O ft.  Well finished to 5 O ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
	Single/Inner Casing	O	10	4	PUC	schild
Borehole diameter:  Top/ O in.  Bottom/ U in.	Middle Casing (for triple cased wells only)					
Well was finished: ☐ above grade	Outer Casing (largest diameter)					
finished above grade, casing height (stick up) above land surfaceft.	Open Hole or Screen (No. Used )	10	30	4	PUC	2010
	Blank Casings (No. Used )					
	Tail Piece					
☐Yes ☐ No Static water level after drillingft.	Gravel Pack	7	30		H /	2504
Water level was measured using Tuse	Grout	0	7		Neat Cement	lbs.
Well was developed forhours at hours	Gr.		l ethod	Sam	Bentonite	lbs.
Method of development	uge Di	rilling Met		HSA		
Was permanent pumping equipment installed	? ☐Yes ☑ No			CEOLOG	101.00	
Pump capacity gpm				GEOLOG ere water wa	as encountered in	consolidated
Pump type:		formati	ons.			
Drilling Fluid Type o	f Rig 3 5 9	0-15	- Faces	A/sick	I clay in.	thir
Health and Safety Plan submitted? ☐ Yes ☐	] No	15.5			illo/zue	
Level of Protection used on site (circle one)	None (1) CBA	21-30	FA	end fail	to-Clays. 9	Jug -
I certify that I have constructed the at accordance with all well permit requir State rules and regul	ements and applicable					
-	ELL DRILLING					
Well Driller (Print) Joe RUIN	LAN					
Driller's Signature	-					
Registration No. 14/2	Date 9 124 199					

			Well Perm	nit No. $\frac{31}{2}$	5,5724			
_					es <u>31                                    </u>	396		
OWNER IDENTIFICATION - Owner	LES. IHC.							
Address 278 E. CHES City EWARK	Ctoto		-		7:- O-d- 100	12 /55 /		
					Zip Code <u>/⊊ 7</u>			
WELL LOCATION - If not the same as ow County CAMDEN Address 65 N. BLACK HORSE P	ner please give address.	Owners	ş Well No	11 10	-3			
County 55 N. BLACK HORSE P	Municipality SELLINA	WK SURU	Lo	t No. <u>-</u>	Block N	۷o. <u>۲۲</u>		
Address				DATE MELL	STARTER 9	2 V 159		
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	gories)HONITORING	ì	DAT Casa LI	E WELL CO	STARTED 9 MPLETED 2	12-4 19 9		
			Ouse i.i	J.11				
CONSULTING FIRM/FIELD SUPERVISO	R (if applicable)				Tele. #			
WELL CONSTRUCTION	Note: Measure all depths	Depth to	Depth to	Diameter		Wgt./Rating		
Total depth drilled3 \( \textit{ 0} \) ft.  Well finished to3 \( \textit{ 0} \) ft.	from land surface	Top (ft.)	Bottom (ft.)	(inches)	Material	(lbs/sch no.)		
well finished toft.	Single/Inner Casing	0	10	L/	PVC	schyo		
Borehole diameter:	Middle Casing		70	7	100	<u> </u>		
Top/ $\frac{10}{0}$ in. Bottom/ $\frac{10}{0}$ in.	(for triple cased wells only)							
Well was finished: ☐ above grade	Outer Casing (largest diameter)							
The flush mounted	Open Hole or Screen	, ,		, ,	15.27	cel 46		
If finished above grade, casing height (stick	(No. Used )	10	30	4	PUC	1010		
up) above land surface ft.	Blank Casings (No. Used )							
Was steel protective casing installed? ☐Yes ☐ No	Tail Piece							
Static water level after drilling _2\( \frac{2}{5} \) ft.	Gravel Pack	<b>-</b> 7	- J			252K		
Water level was measured usingtspe			30		Neat Cement	lbs.		
Well was developed for/hours	Grout	0	7		Bentonite	2[ lbs.		
atgpm				roul	<b>1</b>			
Method of development Dung Sun	ge D	rilling Met	thod $\underline{\hspace{1cm}}'$	JS B				
Was permanent pumping equipment installed				CEOL OC	10100	1		
Pump capacitygpm		Note ea	ach depth who	GEOLOG ere water wa	is encountered in	consolidated		
Pump type:		formati						
Drilling Fluid Type o	f Rig	0-15 isand/sells/ cloquither						
Health and Safety Plan submitted?  Yes	No	15-22 Food Ailles / Stage of						
Level of Protection used on site (circle one)	None (D) C B A	<u> </u>	ć	long-	y ee			
I certify that I have constructed the ab	nova referenced well in	22-30	2	stool /	nello ( Vag	o chy		
accordance with all well permit require								
State rules and regula	ations.							
Drilling CompanyQUINLAN WELL	DRILLING							
Well Driller (Print) Joe Quin	LAN							
Driller's Signature Q Et und a	<u> </u>							
Registration No. / / / Z_	Date 9174199							

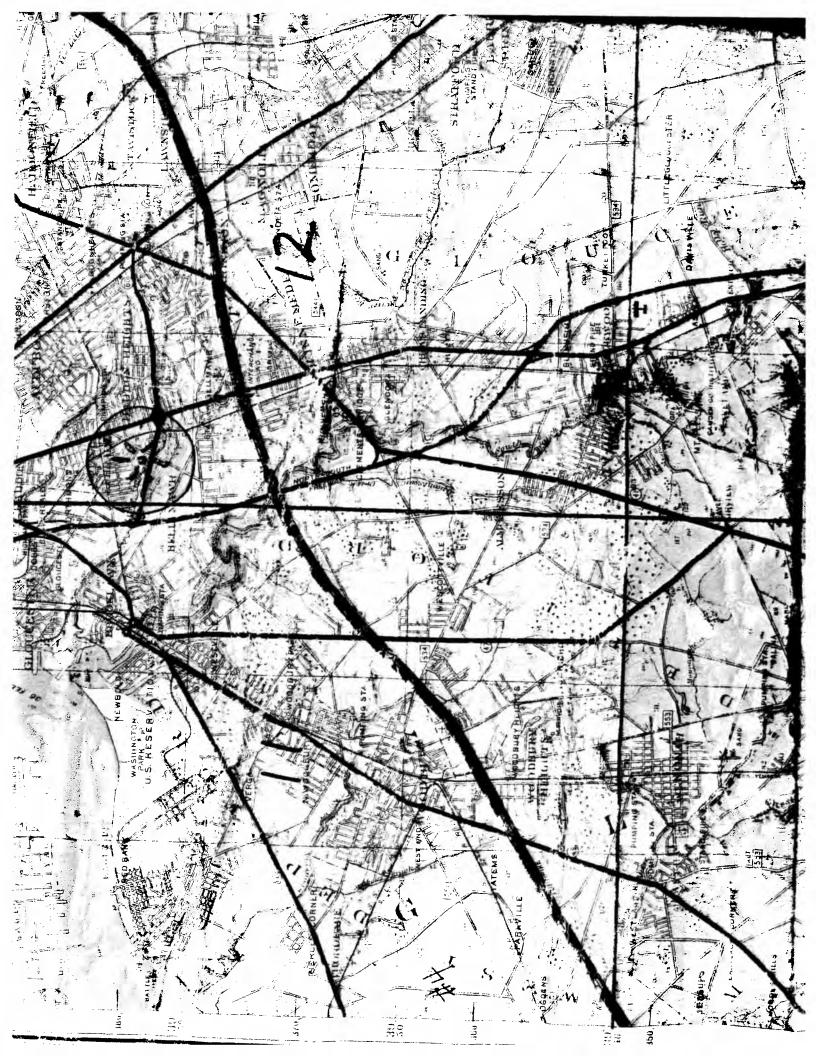
DWR-138 M 8/00

# New Jersey Department of Environmental Protection Bureau of Water Allocation MONITORING WELL RECORD

31	61320

Well Permit No. \_

OWNER IDENTIFICATION - Owner	GLES INC			······································	es:		
Address	MAN HIGHWAY						
Address 2604 KIRKI City NEWARK	State	DE			Zip Code		
MELLI OCATION. If not the come as our	nor please give address	Owner	Wall No	MA (.	<i>いー(a</i>		
County Sauges	Municipality	OWITE	Lot	No.	Block N	O.	
Address (5 MODILL PLACKHOP	- marrie, BELL	MAWR BO	RO	1	· ·	1271	
CountyCAMDEN  Address65 NORTH BLACKHOR  TYPE OF WELL (as per Well Permit Cate	MONITORI	NG		DATE WELL	STARTED	1507	
TYPE OF WELL (as per Well Permit Cate	gories)		DA1	E WELL CO	DMPLETED3_	15/01	
Regulatory Program Requiring Well							
CONSULTING FIRM/FIELD SUPERVISO	R (if applicable)	dela	et Enve	mech	Hele. # 610	444 5189	
WELL CONSTRUCTION	Note: Measure all depths	Depth to	Depth to	Diameter	Material	Wgt./Rating	
Total depth drilled 35 ft.  Well finished to 35 ft.	from land surface	Top (ft.)		(inches)	Material	(lbs/sch no.)	
Well finished to ft.	Single/Inner Casing	0	15	4	PVC	40	
Borehole diameter:	Middle Casing	_					
Top	(for triple cased wells only)						
Well was finished: above grade	Outer Casing (largest diameter)	_					
্ৰি #ash mounted	Open Hole or Screen (No. Used	15	35	4	PUC	40	
If finished above grade, casing height (stick up) above land surface ft.	Blank Casings (No. Used ) A						
Was steel protective casing installed?	Fall Piece Soy	13	35	#	2 Sond 4	elte	
No Static water level after drilling 24 ft.	Gravel Pack	11	13	ı.	POOSAND	C 24 A	
Water level was measured using TAPE	Giavoi, aox		15	<u> </u>	Neat Cement	40.0 lbs.	
Well was developed for hours	Grout	0	11	_	Bentonite	60 lbs.	
atgpm	G	routing M	ethod	Trem	ü		
Method of development	D	rilling Me	thod	179	14cm		
Was permanent pumping equipment installed					<del></del>		
Pump capacity gpm		Note e	ach denth wh	GEOLOG		consolidated	
	•	Note each depth where water was encountered in consolidated formations.					
Pump type:	— M. D			explai	140 S	collece	
Drilling Fluid Type	of Rig South	81-15-Dang F-M Sand Hallevel					
Health and Safety Plan submitted?   Yes	] No						
Level of Protection used on site (circle one)	None(1) C B A	15 - W - Mout F-M Sand, freds i					
1	h	20 - 35 - May FAILED F-1/1 CHAIN					
I certify that I have constructed the a accordance with all well permit requi			17/	D==C/(1)			
State rules and regu	• •						
Drilling Company ADVANCED DRILL	ING, INC.						
Januala	10 · D = 1111.1		AS-F	BUILT WE	LL LOCATION		
Well Driller (Print)	ACBERGUA CIA		(NAD	83 HORIZ	ONTAL DATUM		
Driller's Signature	Meallag				NATE IN US SURV	EY FEET	
Paristration No. 775 20	Date 9/10/01	NOR	THING:		EASTING:	· — — — ·	
Registration No	Date / / / / / / / / / / / / / / / / / / /	LATITUD	E: O	·'·-'	R LONGITUDE:	o	
COPIES: White - DEF	Canary - Driller	Pink - 0	Owner	Goldenrod	l - Health Dept.		



#### New Jersey Department of Environmental Protection Bureau of Water Allocation

#### MONITORING WELL RECORD

Well Permit No. Atlas Sheet Coordinates 31 -- 1 OWNER IDENTIFICATION - Owner GLES, INC. Address 278 E. CHESTNUT HILL RD. NEWARK Zip Code 19713 - 127 / State City \_\_\_\_\_ WELL LOCATION - If not the same as owner please give address. Owner's Well No.

County Camben Municipality BELLmawr 80R0 Lot No.

Block No. Address DATE WELL STARTED 7 34 99
DATE WELL COMPLETED 9 34 55 TYPE OF WELL (as per Well Permit Categories) \_\_\_ Case I.D.# \_\_\_\_ Regulatory Program Requiring Well \_\_\_\_\_ CONSULTING FIRM/FIELD SUPERVISOR (if applicable) \_\_\_\_\_ Tele. # \_\_\_\_ WELL CONSTRUCTION Wgt./Rating Note: Measure all depths Depth to Depth to Diameter Material Total depth drilled from land surface Bottom (ft.) (lbs/sch no.) Top (ft.) (inches) Well finished to \_\_\_\_ PUC Single/Inner Casing SCH40 10 Borehole diameter: Middle Casing Top (for triple cased wells only) Bottom Outer Casing (largest diameter) Well was finished: above grade X flush mounted Open Hole or Screen SCHYU PUC 10 30 (No. Used ,010 If finished above grade, casing height (stick Blank Casings up) above land surface \_\_\_\_\_ ft. (No. Used Was steel protective casing installed? Tail Piece ☐Yes ☐ No Static water level after drilling <u>25</u> ft. 250 8 Gravel Pack HI 30 7 Water level was measured using Tup **Neat Cement** Grout 0 Well was developed for \_ **Bentonite** at \_\_\_\_\_ gpm Grouting Method \_\_\_ Drilling Method Method of development pump Sung Was permanent pumping equipment installed? Yes No **GEOLOGIC LOG** Pump capacity \_\_\_\_\_ gpm Note each depth where water was encountered in consolidated formations. Pump type: \_\_\_\_\_ Drilling Fluid None Type of Rig 3-579 Health and Safety Plan submitted? Tyes A No Level of Protection used on site (circle one) None (D/ C B A 27 - 30 I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations. QUINLAN WELL DRILLING Drilling Company \_\_\_ Well Driller (Print) JOC & UINLAN Driller's Signature \_\_\_ Registration No. \_\_\_\_\_\_\_\_/2

### New Jersey Department of Environmental Protection

	MONITORING W	ELL K	Well Perm	nit No	_ 96723			
OMNED IDENTIFICATION COMPA	כובס ואר				es	1 376		
OWNER IDENTIFICATION - Owner Address 278 E. CH	ESTNUT HILL RD.		<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>	·····				
City NEWARK	State		DE	2	Zip Code <u>/97/</u>	3-122/		
WELL LOCATION - If not the same as ow CountyCAMDEN Address65 N. BLACK HOFSE	vner please give addressMunicipality8ELL _PIKE	Owner's Mawr Bo	s Well No R0 Lot	<u>ηω-</u> : No	Z. Block N	No		
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	іяоттиок. (грідоре				STARTED 9 DMPLETED 9			
CONSULTING FIRM/FIELD SUPERVISO	PR (if applicable)				Tele. #			
WELL CONSTRUCTION  Total depth drilled \$\frac{3}{5} \frac{0}{0} ft.  Well finished to \$\frac{5}{0} \frac{0}{0} ft.	Note: Measure all depths from land surface	Depth to Top (ft.)		Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)		
	Single/Inner Casing	O	10	4	PUC	schild		
Borehole diameter:  Top/ O in.  Bottom/ O in.	Middle Casing (for triple cased wells only)							
Well was finished: □ above grade	Outer Casing (largest diameter)	***						
If finished above grade, casing height (stick	Open Hole or Screen (No. Used )	10	30	4	PUC	,010		
up) above land surface ft.	Blank Casings (No. Used )							
Was steel protective casing installed? ☐Yes ☐ No	Tail Piece							
Yes No Static water level after drilling 15 ft.	Gravel Pack	7	30		#/	2504		
Water level was measured using Type Well was developed forhours	Grout	0	フ		Neat Cement Bentonite	lbs.		
atgpm	Gi	-	ethod	gran UCA	ل			
Method of development	2 Dyes DNo	rilling Met			<u> </u>			
Pump capacitygpm	. [] 100 [] 110	Note	ach dooste wh	GEOLOG				
Pump type:		Note each depth where water was encountered in consolidated formations.						
Drilling Fluid		0-15. Frendfrill clay in their						
Health and Safety Plan submitted?   Yes	] No	15.21 Frand/ siller/ Julen						
Level of Protection used on site (circle one) None C B A		71-30 Front Silter Claye guy						
l certify that I have constructed the a accordance with all well permit requi State rules and regui	rements and applicable							
Drilling Company QUINLAN &	IELL DRILLING							
Well Driller (Print) Joe RUIN	LAN							
Driller's Signature	·							
Registration No	Date 9 124 199	<u></u>						

### New Jersey Department of Environmental Protection

## Bureau of Water Allocation MONITORING WELL RECORD

	WONTOHING W	<u>ELL N</u> I	Well Perm	it No. <u>31                                    </u>	56724		
					es <u>31   11   </u>	3 <b>9</b> 6	
OWNER IDENTIFICATION - Owner31	ES. INC.		, mas one	i coordina.	·	***************************************	
Address 278 E. CHES	TNUT HILL RG.						
Address 278 E. CHES  City NEWARK	State	)E		Z	(ip Code <u>/ 9</u> 7	3-1221	
WELL LOCATION - If not the same as own County65 N. BLACK HORSE P.	ner please give address. Municipality <u>EELLMA</u> IKE	Owner's ⊮R 30R0	s Well No Lot	<i>M</i> . 1	- <u>3</u> Block N	lo. <sup>92</sup>	
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	gories)	İ			STARTED 2		
Regulatory Program Requiring Well			Case i.i	J. 11			
CONSULTING FIRM/FIELD SUPERVISO	R (if applicable)			-	Tele. #		
WELL CONSTRUCTION  Total depth drilled3 o ft.  Well finished to3 o ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)	
Well finished to 50ft.	Single/Inner Casing	0	10	۱.	PVC	schro	
Borehole diameter:  Top / O in.  Bottom / Ø in.	Middle Casing (for triple cased wells only)						
Bottomin.  Well was finished:  above grade	Outer Casing (largest diameter)						
If finished above grade, casing height (stick up) above land surfaceft.	Open Hole or Screen (No. Used )	10	30	4	PUC	1010	
	Blank Casings (No. Used )						
Was steel protective casing installed?  ☐ Yes ☐ No /	Tail Piece						
Yes No Static water level after drilling 25 ft.	Gravel Pack	フ	30			ZSZK	
Water level was measured usingtspe	Grout	0	フ		Neat Cement Bentonite	Jbs.	
Well was developed for hours at gpm			<b></b>	7	Demonie		
Method of development Dung Sur		routing M rilling Me	thod	45 B.	9		
Was permanent pumping equipment installed	? ☐Yes ☐∕No						
Pump capacitygpm	<del></del>	GEOLOGIC LOG					
Pump type:		Note each depth where water was encountered in consolidated formations.					
Drilling Fluid Type o	of Rig 1359	0-15 pand/setto/ clay in their					
Health and Safety Plan submitted? ☐ Yes ☐	₹No	15-22 Frank silla / trans of					
Level of Protection used on site (circle one)	None (D) C B A	22-30 Frankhille Class Jun					
I certify that I have constructed the all accordance with all well permit requir							
State rules and regul	• •	<u> </u>					
Drilling Company QUINLAN WEL		-					
Well Driller (Print) JOE QUINLAN							
Well Driller (Print) JOE GUINLAN  Driller's Signature Charles  Registration No. 16/2 Date 9124199							
Registration No. / / / Z-	Date 9124199				· · · · · · · · · · · · · · · · · · ·		

#### New Jersey Department of Environmental Protection

			Well Perm	nit No	. 56424	· · · · · · · · · · · · · · · · · · ·
The second second			Atlas Shee	et Coordinat	es <u>31</u> :12	149
OWNER IDENTIFICATION - Owner						The second secon
Address PO BOX 103 City HADDONFIEL	D Ctoto		דע	-	7in Cada	
Jily IINDOON IEL	.v State		NJ	4	zip Code	
WELL LOCATION - If not the same as ow CountyCAMDEN Address101 WEST KINGS HWY	ner please give address.  Municipality	Owner's	Well No	MW9 No. 1.0	1 Block N	lo. 32
Address101 WEST KINGS HWY	/				<del></del>	
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	egories) MONITORIN	NG	DAT	DATE WELL E WELL CO	STARTED 8 MPLETED 8	9 99
CONSULTING FIRM/FIELD SUPERVISO	OR (if applicable) Resource	e Contro	Corporation	<u>'</u>	Tele. #	
WELL CONSTRUCTION	Note: Manager all donths	l	Davids 4			TV4/-4 /52-4/
Total depth drilled 17' ft.  Well finished to 17' ft.	Note: Measure all depths from land surface	Depth to Top (ft.)		Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
	Single/Inner Casing	ď	2'	2"	PVC	Sch. 40
Borehole diameter:  Top 8" in.  Bottom 8" in.	Middle Casing (for triple cased wells only)					
Bottom In.  Well was finished: □ above grade	Outer Casing (largest diameter)					
☑ flush mounted	Open Hole or Screen (No. Used )	2'	17'	2"	PVC	Sci. 40
If finished above grade, casing height (stick up) above land surface ft.	Blank Casings (No. Used )					
Was steel protective casing installed?  ☐Yes 🔼 No	Tail Piece					
Static water level after drilling 10' ft.	Gravel Pack	1.5'	17'		Morie #2	
Water level was measured using <u>Tape</u> Well was developed for <u>1/2 Hour</u> hours	Grout	ď	1.5'		Neat Cement Bentonite	188 lbs. 10 lbs.
at gpm	G	routing M	ethod Gravi	tv		
Method of development Pump			thod Auge			
Was permanent pumping equipment installed	? Tyes XX No				·····	
Pump capacitygpm	معرف المعرف			GEOLOG		
Pump type:gpm		Note ea		ere water wa	as encountered in	consolidated
Drilling Fluid Type o	of Rig Hurricane					
Health and Safety Plan submitted? Yes [	] No		See Att	ached		
Level of Protection used on site (circle one)	None (D) C B A			<del></del>		
I certify that I have constructed the a accordance with all well permit requi State rules and regu	rements and applicable					
	L DRILLING CO INC	-				
Well Driller (Print) Jeff Marchesi						
Driller's Signature Jeff Ma	chesi					
Registration No. M1512	Date 8 / 23 /99				· · · · · · · · · · · · · · · · · · ·	



Chimney Rock Road, Bldg. 9W Bound Brook, NJ 08805

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#### WELL LOG

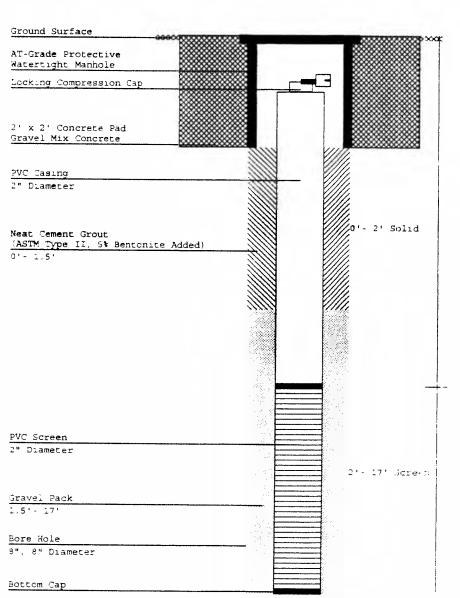
WELL: MW9 DATE DRILLED: 08/09/1999 COORD #1: 31.12.149 PERMIT #1: 31-56424 COORD #2: PERMIT #2: COUNTY: Camden SITE: Haddonfield Lumber, 101 West Kings Highway, , Mount Ephraim, NJ ASTREET: Station ave / 1 the CWNER: Freeway Yard Associates, P.O. Box 1038, , Haddonfield, NJ 08803 USE: Monitoring INNER CASING: PVC OUTER CASING: SCREEN TYPE 1: FVC DRILLING METHOD: Audre: DIAMETER. 2 " DIAMETER: SCREEN TYPE 2. SAMPLING METHOD. GENGTH 2' LENGTH: DIAMETER: HOLE DIA. 8", 8" LENGTH 1 15' TOTAL DEPTH: 17' 171 SET WELL: GAL PER MIN: 1/I LENGTH 2: GRAVEL PK SZ: Morie #2 STAT H2O LVL: 10' SLOT SIZE: .020 ORILLER: Jeff Marchesi DEVELOPMENT METHOD: Pump CASING SEAL: Portland SURFACE COMPLETION: M DEVELOPMENT TIME: 1/2 Hour OPEN HOLE:

SURFACE FROM - TO	ON SAMPLER	
0' - 4'	Macro	
4' - 8'	Marco	
8' - 12'	Macro	
12' - 16'	macro	
REMARKS / SOILS	IDENTIFICATION	

BLOWS PER 6"

0'- 17' Brown f/c sand  $\tilde{\alpha}$  silty clay.

DEPTH BELOW



### New Jersey Department of Environmental Protection

See See of			Well Pern	nit No. <u>31</u>	56425	
			Atlas She	et Coordinat	es <u>31</u> :12	149
OWNER IDENTIFICATION - Owner						
Address PO BOX 103	8 D State					
City HADDONF IEL	U State		NJ		Zip Code	
WELL LOCATION - If not the same as ow	vner please give address.	Owner's	s Well No.	MW10		
County CAMDEN	Municipality MOUNT	EPHRAI	MB Lo	No. 1.01	Block I	No. 32
Address 101 WEST KINGS HWY				DATE 14/EL 1	OTA DTCD	
TYPE OF WELL (as per Well Permit Cate	ngarias) MONITORIN	G	DAT	E WELL CO	STARTED8	!/ <u>9/99</u> !/ 0/00
Regulatory Program Requiring Well	UST		<del></del>			
CONSULTING FIRM/FIELD SUPERVISO	OR (if applicable) Resource	ce Contro	Corporation	· · · · · · · · · · · · · · · · · · ·	Tele. #	
WELL CONSTRUCTION	Note: Measure all depths	Depth to	Depth to	Diameter		Wgt./Rating
Total depth drilledft.  Well finished toft.	from land surface	Top (ft.)		(inches)	Material	(lbs/sch no.)
weir finished toπ.	Single/Inner Casing	O'	2'	2"	PVC	Sch. 40
Borehole diameter:	Middle Casing					
Top 8" in. Bottom 8" in.	(for triple cased wells only)					
Well was finished: ☐ above grade	Outer Casing (largest diameter)					
Well was finished. □ above grade  ☐ flush mounted	Open Hole or Screen	2'	17'	2"	PVC	Sc.02040
If finished above grade, casing height (stick	(No. Used )	2	17		PVC	Scn. 40
up) above land surface ft.	Blank Casings					
Was steel protective casing installed?	(No. Used )					
Yes No Static water level after drilling 10' ft.	Tail Piece					
Water level was measured usingTape	Gravel Pack	1.5'	17'		Morie #2	
	Grout	0	1.5'		Neat Cement	94 lbs. 5 lbs.
Well was developed for1/2 Hour_ hours at1/2 gpm			ark and Grav	itv	Bentonite	ibs.
Method of development Pump	G D	routing Me	ethod Grav	er Fr		
Was permanent pumping equipment installed						
Pump capacity gpm				GEOLOG		
•		Note ea		ere water wa	s encountered in	consolidated
Pump type:	<del></del>					
Drilling Fluid Type of	of Rig Hurricane					
Health and Safety Plan submitted? 🔼 Yes	] No		See At	tached		
Level of Protection used on site (circle one)	None (D) C B A					
	•					
I certify that I have constructed the all accordance with all well permit requi	bove referenced well in					
State rules and regul						
•	L DRILLING CO INC					
			<del></del>			
Well Driller (Frint)						
Driller's Signature JHMan	chesi					
Registration No. 11512	Date 8 / 23 / 99					



**ENVIRONMENTAL SPECIALISTS** 

Chimney Rock Road, Bldg. 9W Bound Brook, NJ 08805

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#### WELL LOG

WELL: MW10

CATE DRILLED: 08/09/1999 COORD #1: 31.12.149

PERMIT #1: 31-36425

COUNTY: Camden

SITE: Haddonfield Lumber, 101 West Kings Highway, , Mount Ephraim, NJ OWNER: Freeway Yard Associates, P.O. Box 1038, , Haddonfield, NJ 08863

COORD #2:

PERMIT #2:

INNER CASING: PVC DIAMETER. 2"

OUTER CASING:

XSTREET. Station and 7 1 cu-USE. Monitoring

DIAMETER: LENGTH -

SCREEN TYPE 1. PVC SCREEN TYPE 2: DIAMETER:

DRILLING METHOD: Aurie SAMPLING METHOD

LENGTH: 2 \*

17' GRAVEL PK SZ: Morie #2

GAL PER MIN: 1/2 STAT H20 LVL: 101

LENGTH 1: LENGTH 2: SLOT SIZE: HOLE DIA. 8", 8" TOTAL DEPTH: 17'

SET WELL:

DRILLER: Jeff Marchesi

DEVELOPMENT METHOD: Pump

.020

CASING SEAL: Portland

SURFACE COMPLETION: M

DEVELOPMENT TIME: 1/2 Hour

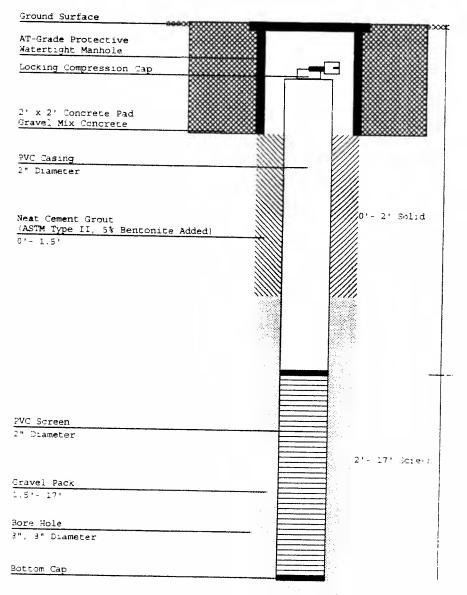
OPEN HOLE:

15 '

DEPTH BELOW BLOWS PER 6" SURFACE ON SAMPLER FROM - TO 0' - 4' Macro 4' - 8' Marco 8' - 12' Macro 12' - 16' macro

REMARKS / SOILS IDENTIFICATION

0'- 17' Brown f/c sand & silty clay.



DWR-138 14 11/98

## New Jersey Department of Environmental Protection

Bureau of Water Allocation
MONITORING WELL RECORD

الله الله الله الله الله الله الله الله			Well Perr	nit No. <u>31</u>	56426	
OWNER IDENTIFICATION - Owner	FREEWAY YARD ASSOC		Atlas She	et Coordinat	es <u>31 : 12</u>	2 149
Address PO BOX 10	38					
City HADDONF IE	_D State		LN	2	Zip Code	
WELL LOCATION - If not the same as ow CountyCAMDEN Address101 WEST KINGS HW	vner please give address.  Municipality MOUN	Owner's T EPHRA	s Well No.	MW/11		
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well		NG	DAT	DATE WELL E WELL CO	STARTED ——8 MPLETED ——8	9/99
CONSULTING FIRM/FIELD SUPERVISO	OR (if applicable) Resource	ce Contro	l Corporatio	<u>n</u> -	Tele. #	
WELL CONSTRUCTION  Total depth drilled17'ft.  Well finished to17'ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
it.	Single/Inner Casing	ď	2'	2"	PVC	Sch. 40
Borehole diameter:  Top 8" in.  Bottom 8" in.	Middle Casing (for triple cased wells only)					
Well was finished: ☐ above grade	Outer Casing (largest diameter)					
flush mounted finished above grade, casing height (stick	Open Hole or Screen (No. Used )	2'	17'	2"	PVC	Scii. 40
up) above land surface ft.  Nas steel protective casing installed?	Blank Casings (No. Used )					
Yes No	Tail Piece				W	
Static water level after drilling <u>10'</u> ft.	Gravel Pack	1.5'	17'		Morie #2	
Water level was measured using <u>Tape</u> Well was developed for <u>1/2 Hour</u> hours	Grout	O'	1.5'		Morie #2 Neat Cement Bentonite	94_lbs. 5_lbs.
at gpm		-	ethod <u>Grav</u>		Denionite	<u>J</u> 103.
Method of development Pump		rilling Met	hod Auge	er		<del></del>
Was permanent pumping equipment installed	? L_Yes K_ No		······································	GEOLOG	IC LOG	
Pump capacity gpm Pump type:		Note each depth where water was encountered in consolidated formations.				
Drilling Fluid Type o						
Health and Safety Plan submitted? ☒ Yes [	7 No	See Attached				
Level of Protection used on site (circle one) None (D) C B A						
l certify that I have constructed the al accordance with all well permit requil State rules and regul	rements and applicable ations.					
Orilling Company SUMMIT WEL	L DRILLING CO INC					
Well Driller (Print) Jeff Marchesi	7					
Oriller's Signature	resi					
Registration No. M1512	Date 8 / 23 / 99	L				



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#### WELL LOG

WELL: MW11 DATE DRILLED: 08/09/1999 COORD #1: 31.12.149 PERMIT #1: 31-56426 COGRD #2: PERMIT #2: CCUNTY, Camden SITE: Haddonfield Lumber, 101 West Kings Highway, , Mount Ephraim, NJ XSTREET: Station ..... CWNER: Freeway Yard Associates, P.O. Box 1038, , Haddonfield,  $N_{\rm J}$  C8803 USE: Monitoring INNER CASING: PVC OUTER CASING. SCREEN TYPE 1: PVC DRILLING METHOD Alge DIAMETER. DIAMETER: SCREEN TYPE 2: SAMPLING METHOD. LENGTH: 2 ' LENGTH: HOLE DIA. 8", 8" DIAMETER: LENGTH 1: 15' TOTAL DEPTH: 17'

SET WELL: 17' GAL PER MIN: 1/2 LENGTH 2: GRAVEL PK SZ: Morie #2 STAT H20 LVL: 10' DRILLER: Jeff Marchesi DEVELOPMENT METHOD: Pump

SLCT SIZE: .020

DEVELOPMENT TIME: 1/2 Hour

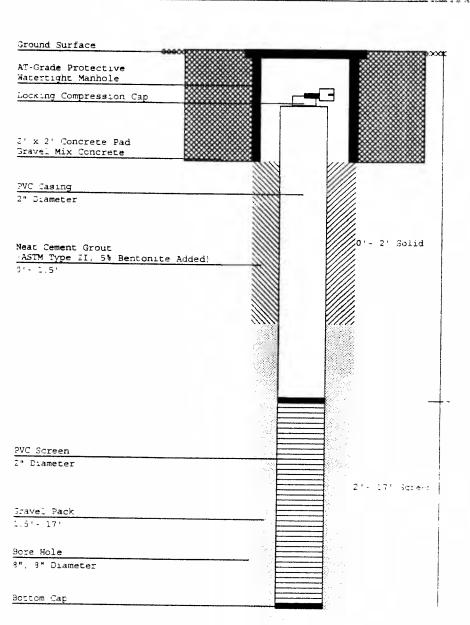
CASING SEAL: Portland

CPEN HOLE:

DEPTH BELOW BLOWS PER 6" SURFACE ON SAMPLER FROM - TO 0' - 4' Macro 4' - 8' Marco 8' - 12' Macro 12' - 16' macro REMARKS / SOILS IDENTIFICATION

SURFACE COMPLETION: M

0'- 17' Brown f/c sand & silty clay.



DWR-138 M 11/98

## New Jersey Department of Environmental Protection

### Bureau of Water Allocation

MONITORING WELL RECORD

14 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			AAGII E GII	THE NO	- 36427		
OWNER IDENTIFICATION Owner	EDECHAY VADO AGOTO		Atlas She	et Coordina	ites <u>31</u> :1	2 149	
OWNER IDENTIFICATION - Owner Address P0 B0X 10	TREEWAY YARD ASSOC						
City HADDONF IE	LD State		LI Y				
WELL LOCATION - If not the same as or County CAMDEN Address 101 WEST KINGS HW	vner please give address. Municipality <u>MOUN</u> Y	Owner T EPHRA	s Well No IM B _ Lo	MW12 t No. 1.0	D1 Block	No32	
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	egories) MONITORII UST	NG	DAT	DATE WEL TE WELL CO D.#	L STARTED — { OMPLETED — {	3/ <u>9</u> / <u>99</u> 3/ <del>9</del> / <del>99</del>	
CONSULTING FIRM/FIELD SUPERVISO	OR (if applicable) Resource	e Contro	Corporation	n	Tele. #		
WELL CONSTRUCTION  Total depth drilledft.  Well finished to17' ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to	Diameter	Material	Wgt./Rating (lbs/sch no.)	
	Single/Inner Casing	ď	2	2"	PVC	Sch. 40	
Borehole diameter:  Top 8" in.  Bottom 8" in.	Middle Casing (for triple cased wells only)					301. 40	
Well was finished: ☐ above grade	Outer Casing (largest diameter)						
flush mounted  If finished above grade, casing height (stick	Open Hole or Screen (No. Used )	2'	17'	2"	P <b>V</b> C	s:020 <sub>0</sub>	
up) above land surface ft.  Was steel protective casing installed?	Blank Casings (No. Used )						
∐Yes ☑ No	Tail Piece						
Static water level after drilling <u>10'</u> ft.  Water level was measured using <u>Tape</u>	Gravel Pack	1.5'	17'		Morie #2		
Well was developed for <u>1/2 Hour</u> hours at <u>1/2</u> gpm	Grout	O'	1.5'		Neat Cement Bentonite	94 lbs. 5 lbs.	
Method of development Pump	Green Gr	outing Me illing Metl	ethod <u>Gravi</u> hod <u>Auge</u>	ty			
Was permanent pumping equipment installed							
Pump capacitygpm		GEOLOGIC LOG					
Pump type:	<del></del>	Note each depth where water was encountered in consolidated formations.					
Drilling FluidType o	f Rig <u>Hurricane</u>						
Health and Safety Plan submitted? 🛛 Yes 🗌	1	See Attached					
Level of Protection used on site (circle one)	lone D C B A						
I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.							
Orilling Company SUMMIT WELL	DRILLING CO INC						
Vell Driller (Print)							
Oriller's Signature Jeff Marc	hesi						
Registration No. M1512	Date 8 / 23 / 99						



**ENVIRONMENTAL SPECIALISTS** 

Chimney Rock Road, Bldg. 9W Bound Brook, NJ 08805

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#### WELL LOG

WELL. MW10

DATE DRILLED: 08/09/1999 | TOORD #1: 31.12.149

COGRD #2:

PERMIT #1: 31-56427

SITE: Haddonfield Lumber, 101 West Kings Highway, , Mount Ephraim, NJ OWNER: Freeway Yard Associates, P.C. Box 1038, . Haddonfield, NJ 08803 PERMIT #2:

COUNTY: Camcen XSTREET: Station and . .

USE: Monitoring

INNER CASING: PVC

DIAMETER: 2"

CUTER CASING:

SCREEN TYPE 1: PVC SCREEN TYPE 2:

DRILLING METHOD: Aude

LENGTH.

DIAMETER: LENGTH:

DIAMETER. LENGTH 1: 15' SAMPLING METHOD: HOLE DIA. 9", 8" TOTAL DEPTH: 17'

GET WELL. GRAVEL PK SZ: Morie #2

271

GAL PER MIN: 1/2 STAT H20 LVL. 10

LENGTH 2: SLOT SIZE:

.020

DRILLER: Jeff Marchesi SURFACE COMPLETION. M

DEVELOPMENT METHOD: Pump

DEVELOPMENT TIME: 1/2 Hour

CPEN HOLE:

CASING SEAL: Portland

DEPTH BELOW SURFACE

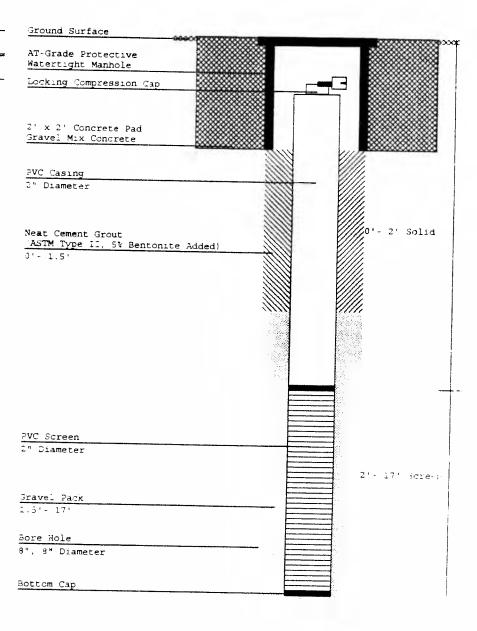
BLOWS PER 6"

FROM - TO

ON SAMPLER

REMARKS / SOILS IDENTIFICATION

)'+ 17' Brown f/c sand & silty clay.



DWR-138 M 11/96

## New Jersey Department of Environmental Protection

## Bureau of Water Allocation MONITORING WELL RECORD

3 3 3000			Well Perr	nit No. <u>3</u>	1 5642	8
OWNER IDENTIFICATION - Owner	FREEWAY YARD AS	soc	Atlas She	et Coordina	tes <u>31</u> : 1	2 : 149
Address PO BOX 1038						
City HADDONFIELD	StateNJ	•			Zip Code	
WELL LOCATION - If not the same as over County CAMDEN  Address 101 WEST KINGS HW  TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	Municipality <u>MOUNT</u> Y egories) MONITORIN	EPHR <i>I</i>	AIM B Lo	t No. 1.( DATE WE	D1 Block I	8 / 9 / 99 8 / 9 / 99
CONSULTING FIRM/FIELD SUPERVISO	OR (if applicable) Resource	e Contro	l Corporatio	<u>n</u>	Tele. #	
WELL CONSTRUCTION  Total depth drilledft.  Well finished toft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
	Single/Inner Casing	0,	2*	2"	PVC	Sch. 40
Borehole diameter:  Top8" in.  Bottom8" in.	Middle Casing (for triple cased wells only)					
Well was finished: above grade	Outer Casing (largest diameter)					
If finished above grade, casing height (stick	Open Hole or Screen (No. Used )	2'	17'	2"	PVC	sc.02040
up) above land surface ft.  Was steel protective casing installed?	Blank Casings (No. Used )					
Yes No	Tail Piece					
Static water level after drilling 10' ft.	Gravel Pack	1.5'	17'		Maria #0	
Water level was measured using <u>Tape</u> Well was developed for <u>1/2 Hour</u> hours	Grout	0,	1.5'		Morie #2 Neat Cement Bentonite	<u>94</u> lbs. 5 lbs.
at <u>1/2</u> gpm Method of development <u>Pump</u>			ethod <u>Grav</u>		Demonite	IDS.
Was permanent pumping equipment installed		iming Met	nou <u>Auge</u>	<u> </u>		
Pump capacitygpm	: Cles Mildo			GEOLOG	IC LOG	
Pump type:	-	Note ea formation	ch depth whe	re water wa	s encountered in	consolidated
Drilling FluidType o	f Rig <u>Hurricane</u>					
Health and Safety Plan submitted? 🔯 Yes 🗀	] No	See Attached				
Level of Protection used on site (circle one)	None OCBA		Oce At	tached		
I certify that I have constructed the at accordance with all well permit requir State rules and regul	ements and applicable					
Drilling Company <u>SUMMIT WELL DRII</u>	LLING CO INC					
Well Driller (Print) <u>Jeff Marchesi</u>						
Oriller's Signature Jeff Mase	hese					
Registration NoM1512	Date 8 / 24 / 99					



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#### WELL LOG

WELL, MW13

DATE DRILLED: 08/09/1999 | CCGRD #1: 31.12.149

PERMIT #1: 31-96428

CCORD #2: SITE. Haddonfield Lumber, 101 West Kings Highway, , Mount Ephraim, NJ FERMIT #2.

COUNTY Camden XSTREET Station ....

USE Monitoling

OWNER: Freeway Yard Associates, P.C. Box 1038, , Haddonfield, NJ 08803 IMNER CASING: PVC

DIAMETER. 2"

CUTER CASING: DIAMETER: LENGTH:

SCREEN TYPE 1: PVC SCREEN TYPE 2: DIAMETER: LENGTH 1: 15'

LENGTH 2:

DRILLING METHOD: Aurre SAMPLING METHOD: HCLE DIA. 8", 8" TOTAL DEPTH 124

SET WELL. GRAVEL PK SZ: Morie #2

LENGTH.

171

2.

ORILLER: Jeff Marchesi

GAL PER MIN: 1/2 STAT H20 LVL: 10'

DEVELOPMENT METHOD: Pump DEVELOPMENT TIME: 1/2 Hour

SLOT SIZE: . 320

CASING SEAL: Portland OPEN HOLE:

SURFACE COMPLETION: M

BLOWS PER 6"

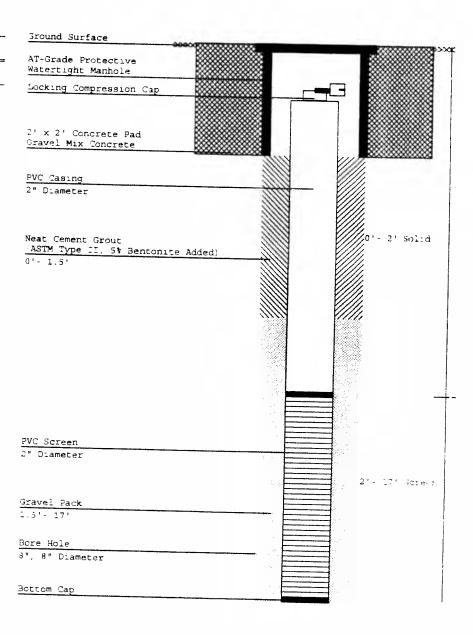
SURFACE FROM - TO

DEPTH BELOW

ON SAMPLER

REMARKS / SOILS IDENTIFICATION

3'- 17' Brown f/c sand & silty clay.



11/98

# New Jersey Department of Environmental Protection Bureau of Water Allocation MONITORING WELL RECORD

J. Carlotte and J. Carlotte an			Well Per	nit No 31	.55/14		
OWALES IDENTIFICATION			Atlas She	et Coordina	ates <u>31</u> : <u>12</u>	154	
OWNER IDENTIFICATION - Owner Address365_BL00R	<u>SMK SPEEDY INTERNAT</u>	IONAL					
City TORONTO ON	TARIO State	· · · · · · · · · · · · · · · · · · ·	<u> </u>		Zip Code <b>M</b> W	12m7	
						+3/11	
WELL LOCATION - If not the same as ow CountyCAMDEN	ner please give address.  Municipality MOUNT	Owner EPHRA1	s Well No	t No. 14	MW	lo 15	
Address 705 BLACKHORSE PIK	E			1110	Block IV	10. 13	
Trogulatory Program Frequiring ***	UST		Case I.	D.#98	L STARTED 5 OMPLETED 5 -08-19-095616		
CONSULTING FIRM/FIELD SUPERVISO	R (if applicable) Ture	<u>e 15e</u>	ean GT	exa	Tele. # <u>609</u> -2	39-003,	
WELL CONSTRUCTION	Note: Measure all depths	Depth to	Depth to	Diameter	<u> </u>	I Mart /Dating	
Total depth drilledft.  Well finished tof\$ft.	from land surface	Top (ft.)	Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)	
Developed at the second	Single/Inner Casing	-3"	5	2	PUC	Sch 40	
Borehole diameter: Top in. Bottom in.	Middle Casing (for triple cased wells only)		-				
Well was finished: ☐ above grade	Outer Casing (largest diameter)						
∭fush mounted  If finished above grade, casing height (stick	Open Hole or Screen (No. Used, O (O)	5	15	2	prc	Sch 40	
up) above land surface ft. Was steel protective casing installed?	Blank Casings (No. Used )						
Yes No	Tail Piece						
Static water level after drillingft.	Gravel Pack	3/2	15	10	5 Well Grave	300	
Water level was measured using red tape	Grout	0	7		Neat Cement	lbs.	
Well was developed for hours at gpm			31/2	10	Bentonite	25 lbs.	
Method of development Submersil	de pump o		ethod hod	tolle	ement Sw stem	auger	
Was permanent pumping equipment installed?	Yes No	<u></u>		050100			
Pump capacitygpm		GEOLOGIC LOG  Note each depth where water was encountered in consolidated					
Pump type:		formations.					
Drilling Fluid Type of	Rig Auges	0-5 Brown-light brown					
Health and Safety Plan submitted? ☐ Yes ☐	l No	sana PsiH					
Level of Protection used on site (circle one) N	None D B A	5-15 Dark brown clay					
I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.			WIT	h le	nses of	sand	
Drilling Company TALON DRILL	ING COMPANY			· · · · · · · · · · · · · · · · · · ·			
Well Driller (Print) Steve Gra	622						
Oriller's Signature Steve S	rasso por						
Registration No	Date 5/12/99						

#### DWR-138 M 11/98



### New Jersey Department of Environmental Protection

## Bureau of Water Allocation MONITORING WELL RECORD

Well Permit No. 31

55715

				Atlas She	et Coordina	ites 31 :12	154	
OWNER IDENTIFICATION - Owner	SMK SPEE	DY INTERNAT	IONAL					
Address <u>365 BL00R</u> City <u>T0R0NT0 0</u>	<u>SI. EASI</u> NTARIO	State		;U		Zin Codo M(I)	112mn	
							43/11/	
WELL LOCATION - If not the same as o	owner please	give address.	Owner	s Well No	<u> </u>	U2_		
County <u>CAMDEN</u> Address 705 BLACKHORSE PI	Munici	pality <u>MOUNT</u>	EPHRA]	MB Lo	t No. 14	Block N	10. 15	
Address 703 BEHCKHORSE PI	VE				DATE WEI	L STARTED 5	7 3 99	
TYPE OF WELL (as per Well Permit Ca	itegories)	MONITORIN	IG	DAT	E WELL C	OMPLETED	3 99	
Regulatory Program Requiring Well	UST					-08-19-09561		
CONCLUTING FIRMS IN A CONTRACTOR		5000	1000	1			0.00	
CONSULTING FIRM/FIELD SUPERVIS	SOR (if applic	cable) <u>JCOV</u>	LOIE	(9 1/4	ree	Tele. # 609-	239-00	
WELL CONSTRUCTION	Note: Mea	asure all depths	Depth to	Depth to	Diameter		Wgt./Rating	
Total depth drilledft. Well finished toft.		and surface	Top (ft.)			Material	(lbs/sch no.)	
·	Single/Inn	er Casing	-3"	5	2	PVC	Schur	
Borehole diameter:	Middle Ca				~	700	00190	
Borehole diameter: Top 644 in. Bottom 644 in.	<del></del>	ased wells only)	-					
Well was finished: above grade	Outer Cas (largest di							
Thush mounted		or Screen						
If finished above grade, casing height (stick	(No. Used		5	15	2	PVC	Sh 41	
up) above land surface ft.	Blank Cas	. •						
Was steel projective casing installed?	(No. Used							
DYOS NO NO water in	Tail Piece							
Static water level after drilling well ft.	Gravel Pac	k	31/2	15	10	#1 well 1	3001b	
Water level was measured using Seel to	Grout		2.6		10	Neat Cement	300 CL	
Well was developed for hours	Circuit .		0	3/2	10	Bentonite	a Sibs.	
at gpm				ethod	Place	ement		
Method of development			rilling Met	poq	pilou	stem.	auger	
Was permanent pumping equipment installe	d? ∐Yes 🔽	Ńо	CEO! 00!0 L 00					
Pump capacitygpm			GEOLOGIC LOG  Note each depth where water was encountered in consolidated					
Pump type:			formations.					
Drilling Fluid Type	of Rig	MAN	Pasi Borring - licht hand					
<u>`</u>	_	9	Sand + SH					
Health and Safety Plan submitted? Yes	_ ~\		<u> </u>	151 8				
Level of Protection used on site (circle one)	None D'C	ВА	<u> </u>	12 ' DC	AFK 1	orown c	clay	
I certify that I have constructed the a	above refere	nced well in		$\omega_{II}$	K IEI	WES OT	sa ma	
accordance with all well permit requi	irements and	d applicable						
State rules and regu	ılations.			<del></del>				
Drilling Company <u>TALON DRIL</u>	LING COMP	PANY						
Well Driller (Print) Steve 60	asso							
	<u> リンシリ</u>							
Oriller's Signature	nasi	10						
Registration No	Date 5	11299						

DWR-138 M 11/98



## New Jersey Department of Environmental Protection

Bureau of Water Allocation

MONITORING WELL RECORD

			Well Perr	nit No. <u>31</u>	_5 <u>5716</u>	
ا برستونی . ا			Atlas She	et Coordina	tes <u>31</u> : <u>12</u>	) 194
OWNER IDENTIFICATION - Owner	MK SPEEDY INTERNAT	IONAL				
Address 365 BLOOR S City TORONTO ON	SI. EAST			······································	-: A	1112 20 2
TORONTO ONI	HK10 State	<u>L</u>	U		Zip Code <u>//) U</u>	)43/n7
WELL LOCATION - If not the same as ow	ner please give address.	Owners	s Well No.	Mu	<i>u</i> 3	
County <u>CAMDEN</u>	Municipality MOUNT	<b>EPHRAI</b>	MB Lo	t No. 14	Block	No15
Address 705 BLACKHORSE PIKE	-					
TYPE OF WELL (as per Well Permit Cate	gories) MONITORIN	G	DAT	DATE WELL	LSTARTED 5	2/3/29
Regulatory Program Requiring Well	JST					
00101471107111						
CONSULTING FIRM/FIELD SUPERVISO	R (if applicable)	ee/:	sean (	stexa	Tele. # <u>609 -</u>	139-003
WELL CONSTRUCTION	Note: Measure all depths	Depth to	Depth to	Diameter		Wgt./Rating
Total depth drilledft.  Well finished toft.	from land surface	Top (ft.)	Bottom (ft.)	(inches)	Material	(lbs/sch no.)
	Single/Inner Casing	-3"	51	2"	PVC	Sch 40
Borehole diameter:	Middle Casing				1 /	307 40
Top 614 in. Bottom 614 in.	(for triple cased wells only)	<b></b> ,				
Well was finished: ☐ above grade	Outer Casing (largest diameter)					
⊒#ash mounted	Open Hole or Screen					
If finished above grade, casing height (stick	(No. Used OfO)	51	15'	<b>→</b> "	PVC	Sch 40
up) above land surface ft.	Blank Casings (No. Used )					
Was steel protective casing installed?  Yes No	(No. Used ) Tail Piece					
Static water level after drilling 12 ft.						
Water level was measured using Sec tage	Gravel Pack	ادادي	151	lo"	#2 Well Gra	wel 300/h
Well was developed for hours	Grout	0	31/21	<i>1</i> 0"	Neat Cement	lbs.
atgpm						_aSlbs.
Method of development		routing Me rilling Met	thod	toldo	ment w sum	auger
Was permanent pumping equipment installed					W -M	auge
Pump capacitygpm				GEOLOG	AIC LOG	
Pump type:		formati	ach depth who ions.	ere water w	as encountered in	n consolidated
	- Au 1-					
Drilling FluidType o	0	0-	<u> </u>	DWN-	lite bro	DWN_
Health and Safety Plan submitted?	] No			IKI K	SIA	
Level of Protection used on site (circle one)	None D B A	5-	15' DO	ark t	rown c	lay
I certify that I have constructed the at	20VA referenced well in	ļ	1.51	lense	7 7 2	sand.
accordance with all well permit requir	rements and applicable			1-1BC	SOT	end.
State rules and regul	ations.					
Drilling Company TALON DRILL	ING COMPANY					
Well Driller (Print) Steve Gra	2550					
Driller's Signature	rasso go					
Registration No	Date 5/12/99					

DWR-138 M 8/00

### New Jersey Department of Environmental Protection

### Bureau of Water Allocation

### MONITORING WELL RECORD

61658	

Well Permit No. \_\_\_\_\_31 Atlas Sheet Coordinates \_\_\_\_ 31 : 12 : 157 OWNER IDENTIFICATION - Owner \_\_\_\_\_\_AMERADA HESS CORP Address 1 HESS PLAZA City \_\_\_\_\_\_WOODBRIDGE \_ State \_\_\_\_\_ Zip Code WELL LOCATION - If not the same as owner please give address. Owner's Well No. MP1 County \_\_\_\_ Municipality \_\_\_\_ MOUNT EPHRAIN B Lot No. \_\_\_\_ Block No. \_\_\_\_ 85 Address BLACKHORSE PIKE & KINGS HWY DATE WELL STARTED \_\_\_\_\_g\_\_\_-\_\_\_\_\_ \_\_\_\_\_Case I.D.# Regulatory Program Requiring Well CONSULTING FIRM/FIELD SUPERVISOR (if applicable) \_\_\_\_\_Amerada Hess Corporation \_\_\_\_\_Tele. # WELL CONSTRUCTION Note: Measure all depths Depth to Wgt./Rating Depth to Diameter Total depth drilled \_\_\_\_\_ Material from land surface Top (ft.) Bottom (ft.) (inches) (lbs/sch no.) Well finished to \_\_\_\_\_\_ ft. Single/Inner Casing sch 40 Borehole diameter: Middle Casing (for triple cased wells only) Bottom 8" Outer Casing Well was finished: above grade (largest diameter) flush mounted Open Hole or Screen 41 .020 10.5 PVC (No. Used If finished above grade, casing height (stick son Af Blank Casings up) above land surface \_\_\_\_\_ ft. (No. Used Was steel protective casing installed? ☐Yes X No Tail Piece Static water level after drilling \_\_\_\_10t\_\_ ft. Gravel Pack Water level was measured using Tape Morie #2 **Neat Cement** lbs. Grout O\* Well was developed for \_\_1/2 hours Bentonite at \_\_\_\_\_\_gpm Grouting Method gravity Method of development \_\_Pump Drilling Method Auger Was permanent pumping equipment installed? ☐Yes ☒ No **GEOLOGIC LOG** Pump capacity \_\_\_\_\_gpm Note each depth where water was encountered in consolidated formations. Pump type: \_\_\_\_\_ Drilling Fluid \_\_\_\_\_ Type of Rig S-31 Health and Safety Plan submitted? A Yes No See Attached Level of Protection used on site (circle one) None (D C B A I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations. SUMMIT WELL DRILLING CO INC Drilling Company AS-BUILT WELL LOCATION Well Driller (Print) Matt Raab Driller's Signature Matt Raal-(NAD 83 HORIZONTAL DATUM) NJ STATE PLANE COORDINATE IN US SURVEY FEET Registration No. \_\_\_\_ Date 😘 

Canary - Driller

Pink - Owner Goldenrod - Health Dept.

COPIES: White - DEP



Claimney Rock Road, Bldg. 9W Wound Brook, NJ 08805 Telephone: (908) 722-4266

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(800) 242-6648 (732) 356-1009

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#### WELL LOG

WELL: MP1

LENGTH:

SET WELL:

DATE DRILLED: 09/10/2001 COORD #1: 31.12.157

PERMIT #1: 31-61658

COORD #2:

PERMIT #2:

LENGTH 2:

SLOT SIZE:

SITE: Hess Station #30525, Black Horse Pike @ Kings Highway, , Mt Ephraim, NJ

OWNER: Amerada Hess Corporation, P.O. Box 500, 1 Hess Plaza, WB 6, Woodbridge, NJ 07095

COUNTY: Camden

XSTREET: USE: Monitor

DRILLING METHOD: Auger

SAMPLING METHOD:

HOLE DIA: 8", 8"

TOTAL DEPTH: 11'

INNER CASING: PVC DIAMETER:

2 #

10.5

OUTER CASING:

DIAMETER: LENGTH:

GAL PER MIN: 1/2

STAT H2O LVL: 10'

SCREEN TYPE 1: PVC SCREEN TYPE 2:

DIAMETER:

LENGTH 1: 6.51

.020

CASING SEAL: Portland .

GRAVEL PK SZ: Morie #2 DRILLER: SURFACE COMPLETION: M

Matt Raab

DEVELOPMENT METHOD: Pump

DEVELOPMENT TIME: 1/2

Bottom Cap

OPEN HOLE:

DEPTH BELOW

SURFACE

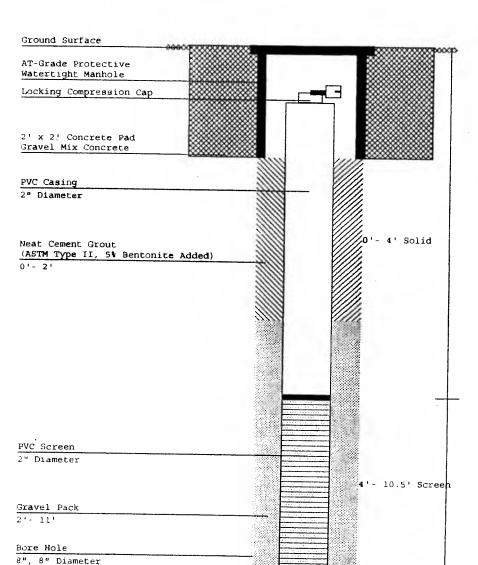
FROM - TO

BLOWS PER 6" ON SAMPLER

#### REMARKS / SOILS IDENTIFICATION

0'- 6" Asphalt

6" · 11' Tan-brown f/m sand trace fine gravel.



COPIES:

White - DEP

Canary - Driller

Pink - Owner

Goldenrod - Health Dent

# New Jersey Department of Environmental Protection Bureau of Water Allocation MONITORING WELL RECORD

		7
31	61659	

			Well Perm	it No		-	
DIAMED IDENTIFICATION C			Atlas Shee	t Coordinate	s::	12 157	
OWNER IDENTIFICATION - Owner	AMERADA HESS CORP						
Address1 HESS P CityWOODBRID	LAZA State	MY		7	in Code		
WELL LOCATION - If not the same as o County <u>CAMDEN</u>	wner please give address Municipality	Owner's	: Well No	APO			
Address <u>BLACKHORSE PIKE</u>				DATE WELL	STARTED	1 101 -	
TYPE OF WELL (as per Well Permit Ca Regulatory Program Requiring Well	MONITORI tegories)		DAT	E WELL CO	MPLETED	V <del></del>	
CONSULTING FIRM/FIELD SUPERVIS	OR (if applicable) Amera	da Hess C	Corporation		Tele. #		
WELL CONSTRUCTION  Total depth drilledft.  Well finished toft.	Note: Measure all depths from land surface	Depth to Top (ft.)		Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)	
	Single/Inner Casing	0'	5	2"	PVC	sch 40	
Borehole diameter:  Top 8" in.  Bottom 8" in.	Middle Casing (for triple cased wells only	)					
Well was finished:  above grade	Outer Casing (largest diameter)						
If finished above grade, casing height (stick	Open Hole or Screen (No. Used )	5'	11'	2"	PVC	.020 sch 40	
up) above land surface ft.  Was steel protective casing installed?	Blank Casings (No. Used )						
☐Yes 🜠 No	Tail Piece						
Static water level after drilling 10' ft.	Gravel Pack	2'	44'		** "0		
Water level was measured usingTape	Grout				Morie #2 Neat Cement	lbs.	
Well was developed forhours atgpm		Prouting M	2' lethod grav	/itv	Bentonite	lbs.	
Method of development Pump		Drilling Me					
Was permanent pumping equipment install	ed? ∐Yes ☒ No						
Pump capacity gpm	- <del></del>	Note	ach donth wh	GEOLOG	IC LOG		
Pump type:		forma	itions.	iele water w	as encountered in	i consolidated	
Drilling Fluid Typ	e of Rig <u>3-61</u>						
Health and Safety Plan submitted? 🔀 Ye	s 🗌 No	See Attached					
Level of Protection used on site (circle one	) None (D) C B A						
I certify that I have constructed the accordance with all well permit red State rules and re	above referenced well in quirements and applicable quiations DRILLING CO INC						
Drilling Company	DRILLING CO INC						
Well Driller (Print) Matt Raab	<u>a</u>		(NAD	83 HORIZ	LL LOCATION ONTAL DATUM	M)	
Driller's Signature Matt Ka	al	_	I STATE PLA	NE COORD	INATE IN US SUI	RVEY FEET	
Registration No31577	Date <u>10_/3_/_3*</u> _	LATITU	DE:O	_ ' ' '	_ EASTING: OR LONGITUDE:	0	



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http://www.summitdrilling.com email: info@summitdrilling.com

#### WELL LOG

WELL: MP2

DATE DRILLED: 09/13/2001 COORD #1: 31.12.157

COORD #2:

PERMIT #1: 31-61659

PERMIT #2:

COUNTY: Camden XSTREET:

SITE: Heas Station #30525, Black Horse Fike @ Kings Highway, , Mt Ephraim, NJ OWNER: Amerada Hess Corporation, P.O. Box 500, 1 Hess Plaza, WB 6, Woodbridge, NJ 07095

USE: Monitor

INNER CASING: PVC

DIAMETER: 2"

OUTER CASING: DIAMETER:

SCREEN TYPE 1: PVC SCREEN TYPE 2: DIAMETER:

DRILLING METHOD: Auger SAMPLING METHOD:

LENGTH:

5 .

LENGTH:

LENGTH 1: 61 HOLE DIA: 8", 8" TOTAL DEPTH: 11'

11' SET WELL: GRAVEL PK SZ: Morie #2 GAL PER MIN: 1/2 STAT H2O LVL: 10'

LENGTH 2: SLOT SIZE:

.020 CASING SEAL: Portland

DEVELOPMENT METHOD: Pump

DEVELOPMENT TIME: 1/2

OPEN HOLE:

DRILLER: Matt Raab SURFACE COMPLETION: M

BLOWS PER 6"

ON SAMPLER SURFACE

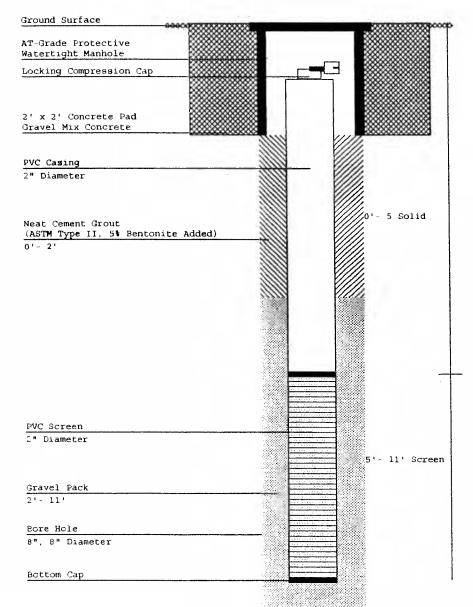
DEPTH BELOW FROM - TO

> 51 ~ 71 5-6-9-10 7' - 9' 5-7-8-10 9' - 11' 6-5-4-4

REMARKS / SOILS IDENTIFICATION

0'- 6" Asphalt.

6"- 11' Tan-brown f/m sand trace fine gravel.



# New Jersey Department of Environmental Protection Bureau of Water Allocation MONITORING WELL RECORD

no cocion			
RD Permit No	31	61660	

CIA/NED IDENTIFICATION OWNER			Atlas Sheet	t Coordinates	31 :	12 : 157
OWNER IDENTIFICATION - Owner Address1 HESS PLA	AMERADA HESS CORP				······································	
City WOODBRIDGE	State	- LK		Zi	o Code	
WELL LOCATION - If not the same as owr						
County CAMDEN	Municipality	COULDA T. CDUDA	Lot	No	Block N	0
AddressBLACKHORSE PIKE @	KINGS HWY	LFIIKA				, –
TVPE OF WELL (as per Well Permit Cate)	MONITORII	NG	L DAT	E WELL COI	STARTED MPLETED9	1 13/ 31
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	yones)					
CONSULTING FIRM/FIELD SUPERVISO	R (if applicable) Amerac	a Hess C	Corporation	Т	ele. #	
WELL CONSTRUCTION	Note: Measure all depths	Depth to	Depth to	Diameter		Wgt./Rating
Total depth drilledft.	from land surface	Top (ft.)	Bottom (ft.)	(inches)	Material	(lbs/sch no.)
Well finished toft.	Single/Inner Casing	C,	5	2"	⊃VC	sch 40
Borehole diameter:  Top in.	Middle Casing (for triple cased wells only)					
Topin.  Bottomin.  Well was finished: □ above grade	Outer Casing (largest diameter)					
flush mounted	Open Hole or Screen (No. Used )	5'	11	,24	₽ÿÇ	320 sch 40
If finished above grade, casing height (stick up) above land surfaceft.	Blank Casings (No. Used )				· · · · · · · · · · · · · · · · · · ·	
Was steel protective casing installed? ☐Yes No	Tail Piece					
Static water level after drilling10'ft.	Gravel Pack	2'	13'		Morie ≠2	
Water level was measured using	Grout				Neat Cement	24 lbs.
Well was developed for hours at gpm		3′	2'		Bentonite	lbs.
Method of development			Method <u>gra</u> ethod <u>Au</u>			
· <del>-</del>			Juliod	yei		
Was permanent pumping equipment installed Pump capacity gpm	u: []163 [63]140	<u></u>		GEOLOG		
Pump type:			each depth w ations.	here water w	as encountered i	n consolidated
Drilling Fluid Type	of Rig R-61					
Health and Safety Plan submitted? XYes	□ No		See	Attached		
Level of Protection used on site (circle one)	None CD C B A					
I certify that I have constructed the accordance with all well permit requ	irements and applicable					
State rules and reg SUMMIT WELL DR Drilling Company						
Well Driller (Print) k1att Reab					ELL LOCATION	
Driller's Signature Matt Ra	as of	N			ZONTAL DATU INATE IN US SU	
Registration No	Date10/0 /_0				EASTING: OR 'LONGITUDE:	
COPIES: White - DE	EP Canary - Driller		- Owner		id - Health Deni	



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#### WELL LOG

WELL: MP3

DATE DRILLED: 09/13/2001 COORD #1: 31.12.157

COORD #2:

DEVELOPMENT METHOD: Pump

DEVELOPMENT TIME: 1/2

PERMIT #1: 31-61660

PERMIT #2:

SITE: Hess Station #30525, Black Horse Pike @ Kings Highway, , Mt Ephraim, NJ OWNER: Amerada Hess Corporation, P.O. Box 500, 1 Hess Plaza, WB 6, Woodbridge, NJ 07095 COUNTY: Camden

SAMPLING METHOD:

HOLE DIA: 8", 8"

TOTAL DEPTH: 13'

XSTREET:

USE: Monitor

DRILLING METHOD: Auger

INNER CASING: PVC

DIAMETER: 2" LENGTH: 5 '

OUTER CASING:

DIAMETER: LENGTH:

SCREEN TYPE 1: PVC SCREEN TYPE 2:

DIAMETER:

LENGTH 1:

2 "

6'

11' SET WELL:

GRAVEL PK SZ: Morie #2 DRILLER: Matt Raab SURFACE COMPLETION: M

GAL PER MIN: 1/2 STAT H2O LVL: 10'

LENGTH 2: SLOT SIZE:

-020 CASING SEAL: Portland

OPEN HOLE:

DEPTH BRLOW BLOWS PER 6" SURFACE ON SAMPLER FROM - TO 5' - 7' 11-12-10-8 71 - 91 8-7-6-5 9' - 11' 4-5-6-6 11' - 13' 5-5-5-5

#### REMARKS / SOILS IDENTIFICATION

0'- 6" Asphalt.

6"- 13' Tan-brown f/m sand trace fine gravel.

Ground Surface AT-Grade Protective Watertight Manhole Locking Compression Cap 2' x 2' Concrete Pad Gravel Mix Concrete PVC Casing 2" Diameter - 5 Solid Neat Cement Grout (ASTM Type II, 5% Bentonite Added) 01- 21 PVC Screen 2" Diameter 5'- 11' Screen Gravel Pack 2'- 13' Bore Hole 8", 8" Diameter Bottom Cap

COPIES:

White - DEP

Canary - Driller

Pink - Owner

Goldonrad Harth Dans

## New Jersey Department of Environmental Protection

## Bureau of Water Allocation MONITORING WELL RECORD

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	MONTONING WE	<u>- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1-</u>		it No	31 616	661	
			Atlas Shee		31	12 :	157
OWNER IDENTIFICATION - Owner	AMERADA HESS CORP						
THESS PL	Δ7Δ						
CityW00DBRIDG	£ State	- NJ		Zip	Code		
WELL LOCATION - If not the same as ou	mor places give address	O	147-II 61-				
WELL LOCATION - If not the same as ow CountyCAMDEN	Municipality	Owners	well No	MP4	Dlook	N1.	_
Address BI ACKHORSE PIKE @	- Maincipanty - MOUN	T EPHRA	IN 8 LO	INO. <u>23</u>	BIOCK	NO4	<del>;</del>
	HONTTOPT	NC .		DATE WELL	STARTED	d	•
TYPE OF WELL (as per Well Permit Cate	egories)	itu	DAT	E MELL CON	MPLETED	<del>-</del>	
Regulatory Program Requiring Well			Case I.I	O.#			
CONSULTING FIRM/FIELD SUPERVISO							
WELL CONSTRUCTION					ele. #		
*	Note: Measure all depths	Depth to	Depth to	Diameter	Material	Wgt./	Rating
Total depth drilled 11 ft.  Well finished to 10 ft.	from land surface	Top (ft.)	Bottom (ft.)	(inches)	waterial	(lbs/s	ch no.)
	Single/Inner Casing	ď	4'	20	PVC		:a
Borehole diameter:	Middle Casing				- 1 10	3	ch 40
Top3"in.  Bottom3"in.	(for triple cased wells only)						
<u>_</u>	Outer Casing						
Well was finished: above grade	(largest diameter)						
flush mounted	Open Hole or Screen (No. Used )	4	10'	2"	₽γC		.020
If finished above grade, casing height (stick	Blank Casings				2 +/	5	ch 4C
up) above land surfaceft.	(No. Used )						
Was steel protective casing installed? ☐Yes No	Tail Piece	†		<del> </del>			
Static water level after drilling10'ft.		-	<del> </del>				
Water level was measured usingape	Gravel Pack	2'	नना		Morie #2		
Well was developed for	Grout	□ .	2'		Neat Cemer	nt	ੂ <sub>ਰ</sub> ibs.
at gpm					Bentonite		lbs.
	G	arouting N	Nethod <u>gra</u>	vity			
Method of development Pump		אוווויע <b>אווווי</b> ע	ethod <u>Aug</u>	jer			
Was permanent pumping equipment installe	7 \		<del></del>	GEOLOG	101.00		
Pump capacity gpm		Note	each depth w	GEOLOG here water wa	as encountere	d in consc	lidated
Pump type:		forma	ations.			a oonge	ndated
			· · · · · · · · · · · · · · · · · · ·				
Drilling FluidType	e of Rig <u>ਬ-6</u> 1			······································			
Health and Safety Plan submitted? XYes	i □ No	-	Se <b>e</b> :	Attached		**	
Level of Protection used on site (circle one)							
I certify that I have constructed the	above referenced well in						
accordance with all well permit req	uirements and applicable						
SUMMIT WELL	gulations. DRILLING CO INC						
Drilling Company							
Well Driller (Print) Matt Raap			AS	-BUILT WE	LL LOCATI	ON	
( 12 K	0.1				ONTAL DAT		
Driller's Signature	aar	N	G STATE PLA	ANE COORD	INATE IN US	SURVEY	FEET
		- NO	ORTHING: _		_ EASTING:		
Registration No. <u>25577</u>	Date <u>///</u>	_	0		DR LONGITUDE:		
		LATITU	JDE:	_ ' '	LONGITUDE:		



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(800) 242-6648 FAX: (732) 356-1009

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#### WELL LOG

WELL: MP4

LENGTH:

DRILLER:

DATE DRILLED: 09/12/2001 COORD #1: 31.12.157

COORD #2:

PERMIT #1: 31-61661

PERMIT #2:

SITE: Hess Station #30525, Black Horse Pike @ Kings Highway, , Mt Ephraim, NJ

OWNER: Amerada Hess Corporation, P.O. Box 500, 1 Hess Plaza, WB 6, Woodbridge, NJ 07095

COUNTY: Camden

XSTREET:

USE: Monitor

INNER CASING: PVC DIAMETER:

2#

OUTER CASING:

DIAMETER: LENGTH:

SCREEN TYPE 1: PVC SCREEN TYPE 2:

DIAMETER: LENGTH 1: 6 '

LENGTH 2:

.020

DRILLING METHOD: Auger

SAMPLING METHOD: HOLE DIA: 8", 8" TOTAL DEPTH: 11'

SET WELL: 10' GRAVEL PK SZ: Morie #2

SURFACE COMPLETION: M

Matt Raab

GAL PER MIN: 1/2 STAT H2O LVL: 10'

SLOT SIZE: DEVELOPMENT METHOD: Pump DEVELOPMENT TIME: 1/2

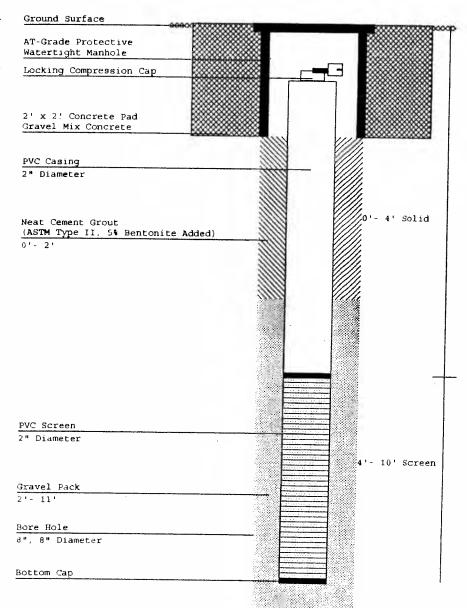
CASING SEAL: Portland

OPEN HOLE:

DEPTH BELOW SURFACE FROM - TO	BLOWS PER 6" ON SAMPLER
5' - 7'	5-3-3-7
7' - 9'	7-4-4-5
9' - 11'	5-5-4-5
REMARKS / SOILS	IDENTIFICATION

0'- 6" Asphalt.

6"- 11' Tan-brown f/m sand trace fine gravel.



## New Jersey Department of Environmental Protection Bureau of Water Allocation

MONITOR	RING WELL RECO	RD

		$\subseteq$ -
31	61662	

			Well Permit No.			_
OWNER IDENTIFICATION - Owner	AMERADA HESS CORP		Atlas Shee	et Coordinate	es:	12 157
Tudiess 1 HESS PLA	\ <del>7</del> A					
CityWOODBRIDGE	State	NJ		Z	ip Code	
WELL LOCATION - If not the same as ow CountyCAMDENAddressRLACKHORSE_PIKE_@	Municipality <del>моимт</del>	FPHRA	s Well No IM B Lot	MP5 No <del>23</del> _	Block N	lo
	MONITORIN	lG.		DATE WELL	STARTED	<u> </u>
TYPE OF WELL (as per Well Permit Cate	egories)	· · · · · · · · · · · · · · · · · · ·			MPLETED	
Regulatory Program Requiring Well				J.#		
CONSULTING FIRM/FIELD SUPERVISO	OR (if applicable) Amerac	ia Hess (	Corporation	•	Tele. #	
WELL CONSTRUCTION  Total depth drilledg'ft.  Well finished tog'ft.	Note: Measure all depths from land surface	Depth to Top (ft.)		Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
it.	Single/Inner Casing	Ο'	4'	2"	PVC	sch 40
Borehole diameter:  Top3"in.  Bottoms"in.	Middle Casing (for triple cased wells only)					3011 40
Well was finished: ☐ above grade	Outer Casing (largest diameter)					
flush mounted  If finished above grade, casing height (stick	Open Hole or Screen (No. Used )	4'	8'	2"	PVC	.020 sch 40
Up) above land surfaceft.  Vas steel protective casing installed?  Yes  No  Static water level after drillingft.  Vater level was measured usingfape	Blank Casings (No. Used )					
	Tail Piece					
	Gravel Pack	2'	9.		Morie #2	
Well was developed forhours	Grout	0,	2'		Neat Cement Bentonite	lbs
at <u>1/2</u> gpm	G	routing M	lethod <u>grav</u>	ity		
Method of development Pump		rilling <b>Me</b>	thod Aug	er		·····
Was permanent pumping equipment installed	d? ☐Yes X No			GEOLOG	SIC LOG	
Pump capacity gpm		Note e	ach depth wh	ere water w	as encountered in	consolidated
Pump type:		forma	tions.			
Drilling FluidType	of Rig <u>B-61</u>					
Health and Safety Plan submitted? XYes	☐ No		See A	ttached		
Level of Protection used on site (circle one)	None (D) C B A					
I certify that I have constructed the a accordance with all well permit requ State rules and requ SUMMIT WELL DR	irements and applicable					
Drilling Company	ILLING CO INC					
Well Driller (Print) Matt Raap			(NAD	83 HORIZ	LL LOCATION ONTAL DATUM	1)
Driller's Signature Matt Kare	26		STATE PLAN	E COORDI	NATE IN US SUR	VEY FEET
Registration No.	Date 10 / 2 / 0°	NOI	RTHING: DE: O	<del>-</del>	_ EASTING: DR LONGITUDE:	o , .
COPIES: White - DE	P Canary - Driller	Pink -			Hoolth Dont	

White - DEP

Canary - Driller

Pink - Owner

Goldonrod Hoalth Dant



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(732) 356-1009

http://www.summitdrilling.com email: info@summitdrilling.com

#### WELL LOG

WELL: MP5

DATE DRILLED: 09/11/2001 COORD #1: 31.12.157

PERMIT #1: 31-61662

COUNTY: Camden

SITE: Hess Station #30525, Black Horse Pike @ Kings Highway, , Mt Ephraim, NJ

COORD #2:

PERMIT #2:

XSTREET:

OWNER: Amerada Hess Corporation, P.O. Box 500, 1 Hess Plaza, WB 6, Woodbridge, NJ 07095

USE: Monitor

INNER CASING: PVC

OUTER CASING: DIAMETER:

SCREEN TYPE 1: PVC SCREEN TYPE 2:

DRILLING METHOD: Auger

DIAMETER: LENGTH:

LENGTH:

DIAMETER: LENGTH 1: 4 '

SAMPLING METHOD: HOLE DIA: 8", 8"

TOTAL DEPTH: 9'

SET WELL: GRAVEL PK SZ: Morie #2

Matt Raab

GAL PER MIN: 1/2 STAT H20 LVL: 10'

LENGTH 2: SLOT SIZE:

.020 CASING SEAL: Portland

DRILLER: SURFACE COMPLETION: M DEVELOPMENT METHOD: Pump DEVELOPMENT TIME: 1/2

OPEN HOLE:

BLOWS PER 6"

DEPTH BELOW SURFACE

ON SAMPLER

FROM - TO

5' - 7'

10-10-8-6

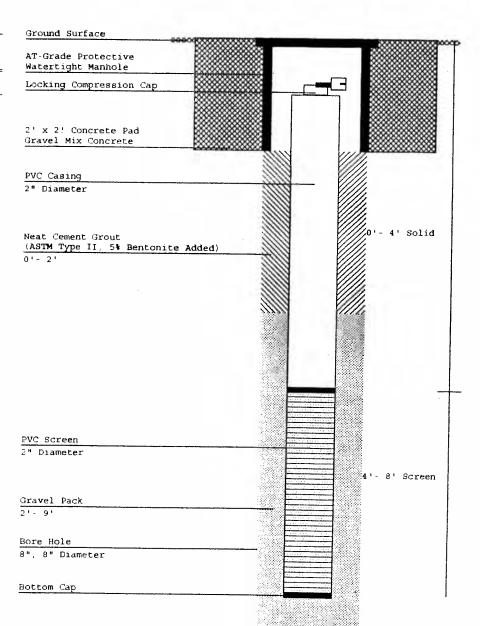
7' - 9'

7-7-6-5

REMARKS / SOILS IDENTIFICATION

0'- 6" Asphalt.

6"- 9' Tan-brown f/m sand trace fine gravel.



### New Jersey Department of Environmental Protection Bureau of Water Allocation

### **MONITORING WELL RECORD**

31	61663

			Well Permit No.	-		
DWNER IDENTIFICATION - Owner	AMERADA HESS CODO	*	Atlas Shee	et Coordinate	s:	12 : 1
Nucless PLA	ı <del>7</del> A					
City WOODBRIDGE	State	LN		Zi	p Code	
VELL LOCATION - If not the same as ow CountyCAMDEN AddressBLACKHORSE_PIKE_&	Municipality <del>MOUN</del>	Owner's	IM B Lot	No. <u>23</u>		1.5
	MONITORIA	NG	[	DATE WELL	STARTED	3/
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	gories)		DAT	E WELL CO	MPLETED	9
CONSULTING FIRM/FIELD SUPERVISO	R (if applicable)Amerac	da Hess (	Corporation	Т	ele. #	
WELL CONSTRUCTION  Total depth drilled 9' ft.  Well finished to 3.5' ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	,	Diameter (inches)	Material	Wgt./Ratin
veir infistred to (t.	Single/Inner Casing	0'	4'	2"	PVC	sch 40
Borehole diameter:  Top 5'' in.  Bottom 3'' in.	Middle Casing (for triple cased wells only)					3011 41
Well was finished: ☐ above grade	Outer Casing (largest diameter)		·			
flush mounted	Open Hole or Screen (No. Used )	4'	3.5'	2"	PVC	.020
f finished above grade, casing height (stick up) above land surfaceft.	Blank Casings (No. Used )					sch 4
Vas steel protective casing installed?	Tail Piece					
Static water level after drilling10'_ ft.	Gravel Pack	2'	9'			
Nater level was measured using Tape	Grout	C'	2'		Morie #2 Neat Cement	— 9 <u>4  </u>
Well was developed for <u>1/2</u> hours at <u>1/2</u> gpm	G		L	its:	Bentonite	1
Method of development Pump	D	rilling Me	thod <u>Aug</u>	er		
Was permanent pumping equipment installed	l? ∐Yes ⊠ No					
Pump capacitygpm		Note e		GEOLOG ere water wa	IC LOG is encountered in	n consolidate
Pump type:				····		
Drilling Fluid Type	of Rig <u>B-61</u>		<del></del>	· · · · · · · · · · · · · · · · · · ·		
Health and Safety Plan submitted? X Yes [	] No		See A	ttached		
Level of Protection used on site (circle one)	None D C B A				ALL CONTRACTOR OF THE PROPERTY	
I certify that I have constructed the a accordance with all well permit requisions and requisions SUMMIT WELL DR	rements and applicable					
Drilling Company	TEETING OF THE		ACI	MINE OF ANYTH	I LOCATION	
Well Driller (Print) Matt Raab	2		(NAD	83 HORIZO	LL LOCATION ONTAL DATUM	<b>A</b> )
Driller's Signature Matt Ra	at				NATE IN US SUI	
Registration No31577	Date <u>10 / 0 / 01</u>	NOI	RTHING:	 , Ol	EASTING: R LONGITUDE:	o ,
COPIES: White - DEF	Canary - Driller	1			Health Dont	

Canary - Driller

Pink - Owner

Goldenrod - Health Dont





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#### WELL LOG

WELL: MP6

LENGTH:

SET WELL:

DRILLER:

DATE DRILLED: 09/11/2001 COORD #1: 31.12.157

PERMIT #1: 31-61663

PERMIT #2:

COORD #2: SITE: Hess Station #30525, Black Horse Pike @ Kings Highway, , Mt Ephraim, NJ

OWNER: Amerada Hess Corporation, P.O. Box 500, I Hess Plaza, WB 6, Woodbridge, NJ 07095

XSTREET:

TOTAL DEPTH: 9'

USE: Monitor

COUNTY: Camden

DRILLING METHOD: Auger

INNER CASING: PVC DIAMETER:

2"

OUTER CASING:

DIAMETER: LENGTH:

SCREEN TYPE 1: PVC SCREEN TYPE 2: 2 " DIAMETER:

SAMPLING METHOD: HOLE DIA: 8", 8"

8.51

GAL PER MIN: 1/2 STAT H20 LVL: 10'

LENGTH 1: LENGTH 2: SLOT SIZE:

.020

CASING SEAL: Portland

SURFACE COMPLETION: M

GRAVEL PK SZ: Morie #2

Matt Raab

DEVELOPMENT METHOD: Pump DEVELOPMENT TIME: 1/2

OPEN HOLE:

4.51

DEPTH BELOW BLOWS PER 6" SURFACE ON SAMPLER FROM - TO

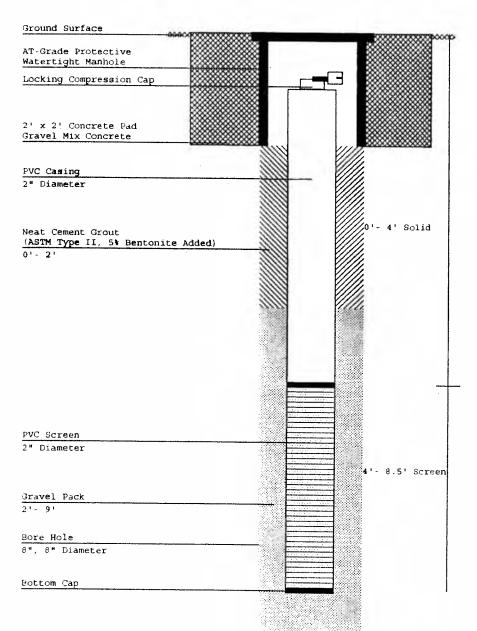
51 - 71 71 - 91 8-10-10-8

5 - 4 - 4 - 4

#### REMARKS / SOILS IDENTIFICATION

0'- 6" Asphalt.

 $6^{\,\mathrm{B}}$ - 9' Tan-brown f/m sand trace fine gravel.



### New Jersey Department of Environmental Protection

## Bureau of Water Allocation MONITORING WELL RECORD

31	61664	

				nit No		
OWNER IDENTIFICATION - Owner	AMERADA HESS CODD		Atlas Shee	et Coordinat	es:	12 157
THESE DI	Δ7Δ					
CityWOODBRIDG	E State	- нэ		7	Zip Code	
WELL LOCATION - If not the same as ow CountyCAMDENAddressBLACKHORSE_PIKE_6	Municipality	T EPHRA	IM B Lot	No. <u>23</u>	Block N	13
TYPE OF WELL (as per Well Permit Cate	egories)		DAT	E WELL CO	OMPLETED	1/
Regulatory Program Requiring Well			Case I.I	D.#		
CONSULTING FIRM/FIELD SUPERVISO	PR (if applicable) Amerac	ta Hess (	Corporation		Tel <b>e</b> . #	
WELL CONSTRUCTION  Total depth drilledg'ft.  Well finished tog'ft.	Note: Measure all depths from land surface	Depth to Top (ft.)		Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
	Single/Inner Casing	Ċ	4'	2"	PVC	sch 40
Borehole diameter:  Top 3" in.  Bottom g" in.	Middle Casing (for triple cased wells only)					
Well was finished: ☐above grade	Outer Casing (largest diameter)					
If finished above grade, casing height (stick	Open Hole or Screen (No. Used )	4'	3'	2"	PVC	.020 sch 40
up) above land surface ft.  Was steel protective casing installed?	Blank Casings (No. Used )					
Yes No Static water level after drilling 10' ft.	Tail Piece Gravel Pack					
Water level was measured using	Gravei Pack	2'	3,		Morie #2	
Well was developed forhours	Grout	ان	2'		Neat Cement Bentonite	—94 lbs. ——5 lbs.
atgpm  Method of developmentpump	Gi D	routing M rilling Me	ethod <u>grav</u> thod <u>Aug</u>	ity		
Was permanent pumping equipment installed						
Pump capacitygpm	<b>M</b>	Notes		GEOLOG		
Pump type:		format	ach depth who tions.	ere water wa	as encountered in	consolidated
Drilling Fluid Type	of Rig <u>B-61</u>					
Health and Safety Plan submitted? Yes [	□ No		See A	ttached		
Level of Protection used on site (circle one)	None (D) C B A					
I certify that I have constructed the a accordance with all well permit requi State rules and requ	rements and applicable lations.					
Drilling Company	ILLING CO INC					
Well Driller (Print) Matt Raab			(NAD	83 HORIZO	LL LOCATION ONTAL DATUM	I)
Driller's Signature Matt Ro	rot				NATE IN US SUR	
Registration No34577	Date 10 / 2 / 01	NOR LATITUD	E: O	·	EASTING: R LONGITUDE:	o
COPIES: White - DEF	Canary - Driller	Pink - (			Hoolth Dont	

Canary - Driller

Pink - Owner

Goldenrod - Health Dent.



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WELL LOG

WELL: MP7

DATE DRILLED: 09/11/2001 CCORD #1: 31.12.157

PERMIT #1: 31-61664 PERMIT #2:

SITE: Hess Station #30525, Black Horse Pike @ Kings Highway, , Mt Ephraim, NJ

COORD #2:

COUNTY: Camden XSTREET:

DRILLING METHOD: Auger

USE: Monitor

OWNER: Amerada Hess Corporation, P.O. Box 500, I Hess Plaza, WB 6, Woodbridge, NJ 07095

INNER CASING: PVC DIAMETER: LENGTH: 4 '

OUTER CASING:

DIAMETER -LENGTH:

SCREEN TYPE 1: PVC

SCREEN TYPE 2: DIAMETER:

LENGTH 1:

4 '

LENGTH 2: SLOT SIZE:

.020

SAMPLING METHOD:

HOLE DIA: 8", 8" TOTAL DEPTH: 9'

SET WELL: DRILLER:

8 ,

GRAVEL PK SZ: Morie #2 Matt Raab GAL PER MIN: 1/2 STAT H20 LVL: 10'

DEVELOPMENT METHOD: Pump DEVELOPMENT TIME: 1/2

CASING SEAL: Portland

OPEN HOLE:

DEPTH BELOW

SURFACE COMPLETION: M

BLOWS PER 6" SURFACE ON SAMPLER

FROM - TO

51 - 71

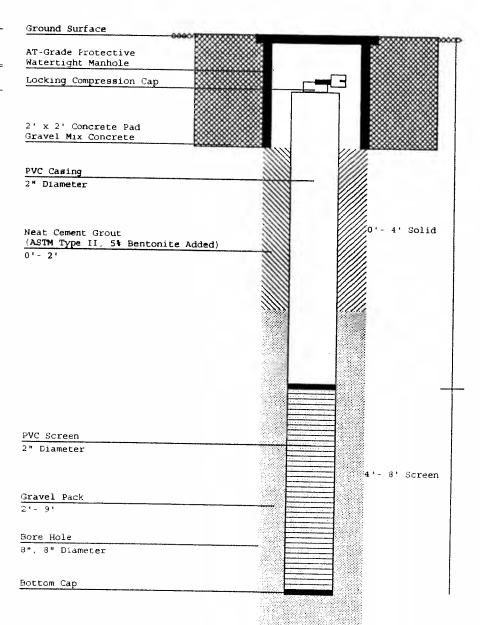
13-11-12-10 5-4-4-3

71 - 91

REMARKS / SOILS IDENTIFICATION

0'- 6" Asphalt.

6"- 9' Tan-brown f/m sand trace fine gravel.



DWR-138 M 8/00

## New Jersey Department of Environmental Protection Bureau of Water Allocation

Well Permit No.

		rator / modatjori	
	ITABILA	14/21 1	_
nat ini		WELL DECADE	٠
MOIT	HUMING	WELL RECORD	ı

31

OWNER IDENTIFICATION Owner			Atlas She	et Coordina	tes	12 : 157
OWNER IDENTIFICATION - Owner Address 1 HESS PL	AMERADA HESS CORP				7. · · · · · · · · · · · · · · · · · · ·	
CityWOODBRIDG	State	NJ NJ			Zip Code	
WELL LOCATION - If not the same as ov	vner please give address.	Owner	s Wall No	5.4D≎		
County CAMDEN	Municipality	IT EDUDA	TM D LO	t No. 37	Block	No
Address <u>BLACKHORSE PIKE</u> 6	KINGS HWY	or Crimer				
TVDE OF WELL (on par Wall Barmit Oct.	MONITORI	NG	ר אַ רו	DATE WELL	STARTED OMPLETED	d-d-o-
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	egories)		Case I.	D.#		<u>d-1d-24</u>
CONSULTING FIRM/FIELD SUPERVISO						
WELL CONSTRUCTION		·	Y			
Total depth drilledft.  Well finished toft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
	Single/Inner Casing	Q	4'	2"	PVC	sch 40
Borehole diameter:  Top 6" in.  Bottom 3" in.	Middle Casing (for triple cased wells only)				7,40	sch 40
Well was finished: ☐ above grade	Outer Casing (largest diameter)				***	
If finished above grade, casing height (stick	Open Hole or Screen (No. Used )	4'	10'	2"	PVC	.020
up) above land surface ft.	Blank Casings (No. Used )					sch 40
Was steel protective casing installed? ☐Yes ☑ No	Tail Piece					
Static water level after drilling 10' ft.	Gravel Pack					
Water level was measured usingTape		2'	11'		Morie #2	
Well was developed forhours at	Grout	G'	2'		Neat Cement Bentonite	lbs. lbs.
Method of development Pump			ethod <u>gravi</u> hod <u>Auge</u>			
Was permanent pumping equipment installed						
Pump capacitygpm		<u></u>		GEOLOG	IC LOG	
Pump type:	niceronary.	formati	ich depth whe ons.	ere water wa	s encountered in	consolidated
Drilling Fluid Type o	f Rig <u> 5-31</u>					
Health and Safety Plan submitted?   ☑ Yes  ☐	l No		See Att	acher.		
Level of Protection used on site (circle one)				actied		
I certify that I have constructed the ab accordance with all well permit requir State rules and regula SUMMIT WELL DRI	ements and applicable					
Drilling Company						
Well Driller (Print) Matt Raab					L LOCATION NTAL DATUM	
Oriller's Signature Matt Ka	at		TATE PLANE	COORDIN	ATE IN US SURV	EY FEET
Registration No1577	Date <u>10 / 2 / 01</u>				EASTING:	
		LATITUDE	· '	'Le	ONGITUDE:	<i>''</i> '-
COPIES: White - DEP	Canary - Driller	Pink - O	wner G	Goldenrod -	Health Dept.	44



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WELL LOG

WELL: MP8

DATE DRILLED: 09/12/2001 COORD #1: 31.12.157

PERMIT #1: 31-61665

COORD #2: PERMIT #2:

COUNTY: Camden

SITE: Hess Station #30525, Black Horse Pike @ Kings Highway, , Mt Ephraim, NJ

XSTREET:

OWNER: Amerada Hess Corporation, P.O. Box 500, 1 Hess Plaza, WB 6, Woodbridge, NJ 07095

USE: Monitor

INNER CASING: PVC DIAMETER:

OUTER CASING: DIAMETER:

SCREEN TYPE 1: PVC SCREEN TYPE 2: DIAMETER: 2" LENGTH 1: 61

DRILLING METHOD: Auger SAMPLING METHOD: HOLE DIA: 8", 8"

LENGTH: GET WELL:

10'

GAL PER MIN: 1/2 STAT H20 LVL: 10'

LENGTH 2: SLOT SIZE: .020

TOTAL DEPTH: 11'

GRAVEL PK SZ: Morie #2 DRILLER: Matt Raab SURFACE COMPLETION: M

DEVELOPMENT METHOD: Pump DEVELOPMENT TIME: 1/2

CASING SEAL: Portland

LENGTH:

OPEN HOLE:

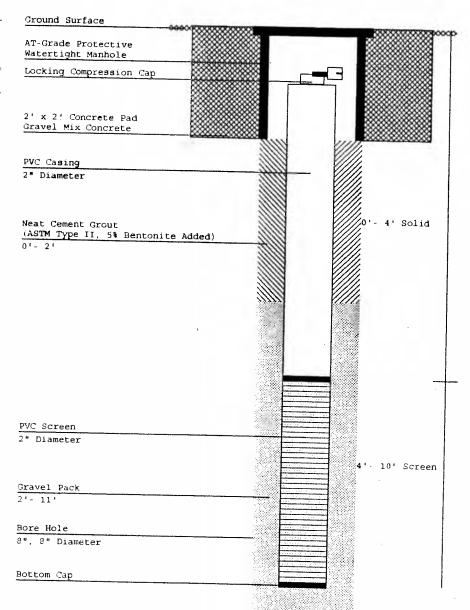
DEPTH BELOW BLOWS PER 6\* SURFACE ON SAMPLER FROM - TO 5' - 7' 5-5-5-5

7' - 91 5-4-4-4 9' - 11' 8-9-10-10

REMARKS / SOILS IDENTIFICATION

0'- 6" Asphalt.

6"- 11' Tan-brown f/m sand trace fine gravel.



...R-138 M ../98

## New Jersey Department of Environmental Protection

Bureau of Water Allocation

## MONITORING WELL RECORD

				Well Pe	ermit No	<del>31 - 5878,</del>	ζ
OWNER IDENTIF	ICATION - Owner	PIEST, STEVE		Atlas Sh	neet Coordir	ates	
Address	990 0 0	PIEST, STEVE				01	-10
City	ZZO 3 BI	State					
1 A 1570	DELEMAN	PIEST, STEVE  ACK HORSE PIKE State		<del>- LN</del>		Zip Code	
WELL LOCATION	- If not the same as o	wner please give address	s Owno	ric Mall N-	$R_{-}$	1	
County	CAMDEN	Municipality	S. OWING	is well No.			
Address	300 BLACK HORSE	wner please give address  Municipality  BE	LLMAWK !	<del>3080</del> ∟	01 1401	.02 Block	No146.0
TYPE OF WELL (a. Regulatory Program	s per Well Permit Cat n Requiring Well	tegories) MONITO	RING	DA	DATE WEL TE WELL C	L STARTED OMPLETED	8,14,00 8,14,00
CONSULTING FIRM	M/FIELD SUPERVISO	OR (if applicable)	Neber	t Ervin	11 05 00 Ú	Tele # 6/0/	414-200
WELL CONSTRU	JCTION	Note: Manager III to at				<del></del>	171 0/8
Total depth drilled Well finished to	33 ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating
Borehole diameter:		Single/Inner Casing	0	3	4	PVC	
Borehole diameter:  Top  Bottom	10.25 in.	Middle Casing (for triple cased wells only			/		40
Well was finished:	above grade	Outer Casing (largest diameter)	-				
	tush mounted	Open Hole or Screen		- 6			
If finished above grade up) above land surface	∋ ft.	(No. Used 3. G) Blank Casings	3	23	4	Pric	40
Was steel protective ca. ☐ Yes ☐ No	Ising installed?	(No. Used )					
Static water level after o	drilling <u>5.7</u> ft.	Tail Piece SINTER Gravel Pack	2.5	23	#	2 SIAND FI	LTER
Water level was measur		^ ·	105	2.5		005AN05	ELAL
Well was developed for at gpm	_	Grout	0	105		Neat Cement Bentonite	100 lbs.
Method of development	Pum	Gr.	outing Met	thod	Tien	reger	
		U	illing metn	od	45 1	Fuger	
Jump oor "	ng equipment installed?	∐Yes LHNo				0	
oump capacity	gpm		Note as =	h -444 ·	GEOLOGIC	LOG	
ump type:			formation	n depth where	water was	encountered in co	onsolidated
Orilling Fluid	Type of I	Rig Failers		7'	Esph	set+Siel	bese
lealth and Safety Plan	submitted? 🗌 Yes 🗹		7'-1	o - Duy	. SHN	Cabbles,	Cirés.
	on site (circle one) No		6-10	- west	Sexte	FMSA	10
accordance with a	e constructed the abov Il well permit requiren ate rules and regulation	nents and applicable	10'-20	-wet	F.M	•	
illing Company	ADVANCED DR	ILLING, INC.	20 . 25	3 - We	+ side	Cley	
ell Driller (Print)		gel -				, ,	
iller's Signature	/ /	rely -					
gistration No. $\_\mathcal{M}$	1166 Dat	e 8/28/00					

## New Jersey Department of Environmental Protection

## Bureau of Water Allocation MONITORING WELL RECORD

	9
1	61320

2111	O I III I	<u> </u>	<u> </u>	<u></u>
			Well	Permit No

OWNER IDENTIFICATION - Owner	GLES INC		Atlas She	et Coordina	ates31:	12 : 173
Address						
Address 2604 KIRK City NEWARK	State	DF			Zip Code	
WELL LOCATION - If not the same as over County CAMPEN Address 65 NORTH BLACKHOR  TYPE OF WELL (as per Well Permit Cate	vner please give address.  Municipality  BELL  SE PIKE	Owner	s Well No bro Lo	1 No1	<i>N-6</i> Block N	Vo
Regulatory Program Requiring Well			Case I.	D.#		
CONSULTING FIRM/FIELD SUPERVISO	OR (if applicable)	Kelu	et Enu	med	Tele. # 610/	444 5189
WELL CONSTRUCTION  Total depth drilled	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter	/ Material	Wgt./Rating (lbs/sch no.)
	Single/Inner Casing	0	15	4	PVC	40
Borehole diameter: 10, 25 in. Bottom 10, 25 in.	Middle Casing (for triple cased wells only)	_				
Well was finished: ☐ above grade	Outer Casing (largest diameter)	_				
য়ু blash mounted If finished above grade, casing height (stick	Open Hole or Screen (No. Used	15	35	4	PUC	40
up) above land surface ft.	Blank Casings (No. Used ) 1	_				
Was steel protective casing installed?  No Static water level after drillingft.	Fall Piece Sugar	13	35	#	2 Sond 7	este
	Gravel Pack	11	13		posard	
Water level was measured using TAPE	Grout		,,		Neat Cement	400 lbs.
Well was developed for hours at gpm	<u> </u>	0	<u> </u>	7.0.11	Bentonite	,,
Method of development	Dr	outing Met illing Met	nod	149V	Huger	
Was permanent pumping equipment installed?	Yes 🗔 No					
Pump capacity gpm		Note ea		GEOLOG	IC LOG s encountered in c	annalidated
Pump type:		formation	ons. ケバ	· · · · · ·		1 1
Drilling FluidType of	Rig Delay			speac	the su	bluce
Health and Safety Plan submitted?  Yes	No	8 -	15 - 14	ong F	Mound	Felleril
Level of Protection used on site (circle one) N	one(1) CBA	15 -6	6 -M	unt f	-M Sand	trascit
I certify that I have constructed the abo accordance with all well permit require	ove referenced well in ments and applicable	20 - 35 - MOUSTOUSE F-M SHAD				
State rules and regula  Drilling Company ADVANCED DRILLIN						
Well Driller (Print) Scott K	HBEXALIA				L LOCATION	
Driller's Signature	Placellage	NJ ST	ATE PLANE	COORDIN	NTAL DATUM) ATE IN US SURVE	Y FEET
Registration NoD	ate 9/10/01	NORTI	HING:	OR ''LO	EASTING:	
COPIES: White - DEP	Canary - Driller	Pink - Ou			Health Dept.	

## New Jersey Department of Environmental Protection Bureau of Water Allocation

## Bureau of Water Allocation MONITORING WELL RECORD

			Well Pern	nit No.	38747	**************************************
			Atlas She	et Coordina	tes:	,
OWNER IDENTIFICATION - Owner	MT FDHQATH RODOUG	: U			<u> </u>	181
Address121 3. BL	ACKHORSE RIKE	411				
Address	IH State		ТИ		Zip Co <b>de</b>	
WELL LOCATION - If not the same as ow CountyCAMDEN	ner please give address.	Owner's	s Well No.	$\gamma\gamma$	u) – !	
County CAMPEN	Municipality	H ENUN	Loi	No	Block N	0.
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	gories) <u>HONITORI</u>	NG	DAT Case I.I	E WELL CO D.# <u>98</u>	DMPLETED 7 -07-28-10	119 100 119 100
CONSULTING FIRM/FIELD SUPERVISO	R (if applicable)	<u>I</u>	ENVITOR	Ental	Tele. # 856-9	785-7800
WELL CONSTRUCTION (	Note: Measure all depths	Depth to	Depth to	Diameter		Wgt./Rating
Total depth drilled 22 ft.  Well finished to 216 ft.	from land surface	Top (ft.)	Bottom (ft.)	(inches)	Material	(lbs/sch no.)
Well finished to ft.	Single/Inner Casing					
Borehole diameter:	Middle Casing					
Borehole diameter:  Top   2 in.  Bottom / 2 in.	(for triple cased wells only)					
Well was finished: ☐ above grade	Outer Casing (largest diameter)	0	66"	41	PVC	ScH. 40
flush mounted  If finished above grade, casing height (stick	Open Hole or Screen (No. Used ≥ 720)	66"	216"	4"	PVC	SCH. 40
up) above land surfaceft.	Blank Casings (No. Used )					
Was steel protective casing installed? ☐Yes ☐ No	Tail Piece					
Static water level after drillingft.	Gravel Pack	4'	22'		*2 SAND	500 LBS
Water level was measured using TAPE	Grout	۵	4		Neat Cement	94 lbs.
Well was developed for hours at gpm		L	l	- Di	Bentonite	20 lbs.
Method of development Pumping					102D - 60	
Was permanent pumping equipment installed?	? ∐Yes.⊠No			050100		
Pump capacitygpm		Note ea	ach denth whe	GEOLOG	IC LOG as encountered in o	consolidated
Pump type:		format	ions.		as encountered in t	D. 3"
	I Rig AUGES		457+	MIT		3.
Drilling Fluid Type of Health and Safety Plan submitted? ☐ Yes ☒	,	CRU	245D 2	tone	3"-	-8,
		Maris	t-5A+.	Green		<del>, ,</del>
Level of Protection used on site (circle one) N	lone D C B A	711013	SILTY	FINZ		12/
I certify that I have constructed the ab accordance with all well permit require		Moist	-S4+ E	Early		/2 /
State rules and regula			510		INE SGNO	16
Drilling Company	R	Moss	Snuy	£ 5	me>	162
Well Driller (Print)	YDES		$\nabla$	5,5	CLAY	
Driller's Signature			三ん?	) 3f	BAING	<u> </u>
Registration No. VI-1123	Date 9 19 100				1	

### New Jersey Department of Environmental Protection

Bureau of Water Allocation
MONITORING WELL RECORD

13	monitorina w	<u> </u>			60084 		
OWNER IDENTIFICATION - Owner	MT EPHRAIM BOROUGH				31 1		
Address121 S BLAC	K HORSE PIKE	<del></del>			7: A !	•	
City MT EPHRAIM	State		NJ		Zip Code	03007	
WELL LOCATION - If not the same as ow	ner please give address.	Owner	s Well No.	mw.	- 2_		
County CAMPIEN	Municipality Morney	ETHIDAT	M D IO	t No. 4 n	2 Block	k No. 61	
Address 121 S BLACK HORSE	PIKE						
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	egories)MONITORIN	G	DAT			7 3 / 3 / 3 / 3 / 3 / 3 / 3 / 3 / 3 / 3	
CONSULTING FIRM/FIELD SUPERVISO	OR (if applicable)	ゴ	ENVIRO	r suta	Tele. # <u>756</u>	-985-370	
WELL CONSTRUCTION /	Note: Measure all depths	Ta	T D4-4-	T a: .	<del></del>	T	
Total depth drilled15ft.  Well finished to15ft.	from land surface	Depth to Top (ft.)		Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)	
Well finished toft.	Single/Inner Casing			(**************************************			
Borehole diameter:  Topin.  Bottomi 2in.	Middle Casing						
Bottom 12- in	(for triple cased wells only)						
Well was finished: ☐ above grade	Outer Casing (largest diameter)	0	5'	4"	PVC	Set. 40	
If finished above grade, casing height (stick	Open Hole or Screen (No. Used •O 20)	5'	15	4"	PVC	ScH. 40 ScH. 40	
up) above land surfaceft.  Was steel protective casing installed?	Blank Casings (No. Used )						
Yes No	Tail Piece						
Yes No Static water level after drilling 66 ft. Water level was measured using 1472	Gravel Pack	3'	15		#25AND	600 LB	
Water level was measured using hours	Grout	2	3'		Neat Cement	<b>94</b> lbs.	
at gpm				C-10 5	Bentonite	5 lbs.	
Method of development	ات الالا	routing Me rilling Met	etnoa <u>Fi</u> thod <i>H</i>	allow	AUGETS		
Was permanent pumping equipment installed	/ - /						
Pump capacitygpm	, <u> </u>			GEOLO	SIC LOG		
		Note ea	ach depth who	ere water w	as encountered	in consolidated	
Pump type:	- cms-55		4" As	PHALT	8"6,5	0-1/	
Drilling Fluid Type of	of Rig AUGET	Dem					
Health and Safety Plan submitted? Tyes	<b></b> ¶ No	0 /4 /	, <del>G</del> ( 8 )	N BLA	ct F 591	10 / - 4	
Level of Protection used on site (circle one)	None DC B A	MOST, DRANGE, TAN F SAND 4					
,		Little-Some SICT 7					
I certify that I have constructed the at	ove referenced well in	54+	ORAN		- A.In		
accordance with all well permit requir State rules and regul		AN		V = V	SAND	<del></del>	
Drilling Company	anons.					15.4	
JOHN SNIDER				<u> 三ND</u>	st Hols		
Well Driller (Print) <u>しゃみん 気</u> の	YOU'S				LL LOCATION ONTAL DATU		
Driller's Signature		NJ S	STATE PLAN	E COORDI	NATE IN US SU	RVEY FEET	
	Date 3 / 9 /0/	NOR	THING:	<u>-</u>	EASTING:		
V		LATITUDE	E: O	'·_'	R LONGITUDE:		
COPIES: White - DEP	Canary - Driller	Pink - C	wner (	Goldenrod	- Health Dept.		

# DWR-138 M 8/00

## New Jersey Department of Environmental Protection

	Water Alloca	
<u>MONITORING</u>	WELL F	RECORD

CORD Well Permit No.	31	60085					
Atlas Sheet Coor	dinates _	31	.12	181			

OWNER IDENTIFICATION - Owner	MT EPHRAIM BOROUGH			et Coordina		· · · · · · · · · · · · · · · · · · ·	
Address 121 S BL. City MT EPHRA	LOW MODERN			·····			
City 121 3 BL	ACK HORSE PIKE State				Zin Code 20	7355	
MI EPHKA	iM otato	······································	NJ		Zip Code	622 7	
WELL LOCATION - II not the same as	OWNEr blease dive address	Owner	c Mall Nic	171 (32	)		
County CAMDEN	Municipality <del>MOUNT</del>	EPHRAI	M B LO	t No. <u>4.0</u>	12 Block I	Vo. <u>-61</u>	
Address121 S BLACK HORS	E PIKE				3	7 21	
TYPE OF WELL (as per Well Permit C Regulatory Program Requiring Well	ategories)MONITYWRIN	<b>G</b>			L STARTED 3		
				<i>υ.</i> π <u>98</u>	3-7-28-1032-3	b	
CONSULTING FIRM/FIELD SUPERVI	SOR (if applicable)	<u></u>	-NVITON-	ental	Tele. # <u>75%-</u>	985-385	
WELL CONSTRUCTION /	Note: Measure all depths	Donth to	Donth to	Diameter	T	146 - 4 /50 - 15	
Total depth drilledft.  Well finished to14 ft.	from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter	Material	Wgt./Rating	
Well finished to14 ft.		100 (11.)	Dottorii (it.)	(inches)		(lbs/sch no.)	
Daniel III	Single/Inner Casing						
Borehole diameter:	Middle Casing						
Topin.  Bottom12in.	(for triple cased wells only)		,				
	Outer Casing	_	,, 1	4"	<u> </u>	,	
Well was finished: 🗌 above grade	(largest diameter)	D	4	4	PVC	SCH 40	
flush mounted	Open Hole or Screen	,, (	10	4"	0.1		
lf finished above grade, casing height (stick	(No. Used > 220)	4	14	4.	PUL	Sc4 40	
up) above land surface ft.	Blank Casings						
Was steel protective casing installed?	(No. Used )						
Yes No Static water level after drilling 5 17 1/1 ft.	Tail Piece						
Static water level after drillingft.	Gravel Pack	3	14		#		
Water level was measured using TAP2		ರ	14		#25 AND	600 L	
Well was developed forhours	Grout	0	3'	_	Neat Cement Bentonite	94 lbs. 5 lbs.	
atgpm	_ Gr	outing Me	ethod HA	TND 1	PLACED		
Method of development Pumpin	D'L D		hod Ho		AUGEN		
Was permanent pumping equipment install							
				GEOLOG	SICLOG		
Pump capacitygpm	ı	GEOLOGIC LOG  Note each depth where water was encountered in consolidated					
Pump type:	ساسى بەيمانىد		formations				
	- CME-55		4 4	SPHOLIT	<u>- 8" ८.</u>	. 0-1	
Drilling FluidType	e of Rig AUGES	<u> </u>					
Health and Safety Plan submitted?    Yes	, <del>, , , , , , , , , , , , , , , , , , </del>	Dec	r Brou	<u> バリア</u>	5 56ND	i ,	
	- /_		T F.	C/ws		5	
Level of Protection used on site (circle one)	None(D) CBA	<del>}</del>	<del>+</del>				
Lande W. L.L.			t ORAn	/	-, 2 6mD	5	
I certify that I have constructed the	above referenced well in	<u></u>	#1-5	one s	5, <u> </u>	<del>)</del>	
accordance with all well permit requ	uirements and applicable			<del>,,</del> ,		<u> </u>	
State rules and reg	gulations.		END 0	- Ho	12 14		
Orilling Company <u>JOHN SNYDER</u>							
			AC DI		U LOCUTION:		
Well Driller (Print) <u> </u>	NIEC				LL LOCATION		
	*	NIC	(INAL) 8. Tate pi and	OCCUPANTAL CONTRACTOR	ONTAL DATUM) NATE IN US SURV	EV DEED	
Oriller's Signature		1,49,73	THE REPORTE	COORDI	TALE IN US SURV	ETFEET	
Production No / I-1/23	2 3 3	NORT	HING: _		EASTING:		
Registration No	_ Date <u>3 / 7 /3/</u>				R	<del></del>	
V		LATITUDE	:''	'	R LONGITUDE:	)' '':	
COPIES: White - DE	P Canani Delle-	m:					
OUT TEO. VVIIILE - DE	P Canary - Driller	Pink - O	wner G	ioldenrod	- Health Dept.		

# DWR-138 M

New Jersey Department of Environmental Protection
Bureau of Water Allocation
MONITORING WELL RECORD
Well Permit No.

1	60086
-	0000

				mit NO				
OWNER IDENTIFICATION - Owner _	MT EPHRAIM BOROUGH				ates12			
Address121_q_pt	ACY HODGE DIVE							
Address 121 S BL City MT EPHRA WELL LOCATION of not the same as	State		N.I		Zip Code _ D 8	3059		
WELL LOCATION If not the come		_	110	Ma . A	1	,		
TTELL LOOKHOIT - II HOLLING Sainle as	i owner piease give aggress.	()wner	s Well No	1/11/1-	· <del></del>			
County CAMPEN	MountcipalityMOUNT	EPHRAI	M-B-LC	ot No. 4.0	2 Block N	lo. <u>61                                    </u>		
Address 121 S BLACK HORS	B PIKE			DATE MEI	LOTADTED 3	18,21		
TYPE OF WELL (as per Well Permit C Regulatory Program Requiring Well	Categories)MONITORIN	IG	DA <sup>-</sup> DA <sup>-</sup> Case I.	TE WELL C	L STARTED 3 OMPLETED 3 -7-28-1032-36	18 31		
CONSULTING FIRM/FIELD SUPERV	ISOR (if applicable)	II. F	NVIFOR	ental	Tele. # 856-9	85-882		
WELL CONSTRUCTION,		·						
Total depth drilled 13 ft.  Well finished to 13 ft.	Note: Measure all depths from land surface	Depth to Top (ft.)		Diameter	Material	Wgt./Rating		
Well finished to 13 ft.		Top (it.)	Bottom (R.)	(inches)		(lbs/sch no.)		
Borehole diameter:	Single/Inner Casing		,					
Top 12 in. Bottom 12' in.	Middle Casing (for triple cased wells only)							
Bottom 12" in.	Outer Casing	<u> </u>		ļ <del>,-</del>				
Well was finished: above grade	(largest diameter)	0	3	4"	PVC	Sc# 42		
flush mounted	Open Hole or Screen	3'	13	4"		SCH.40		
If finished above grade, casing height (stick	(No. Usedeのシン)	3	13	4	PVC	SCH.40		
up) above land surface ft.	Blank Casings							
Was steel protective casing installed?								
☐Yes ☐ No	Tail Piece							
Static water level after drilling 5 ft.	Gravel Pack	2	13	~	#25hw	/		
Water level was measured using TAPE	C				Neat Cement	600 LB 94 lbs.		
Well was developed for hours	Grout	0	_2_		Bentonite	15 lbs.		
atgpm	Gr	routing Me	ethod Hi	AND	PLACED			
Method of development Pumpi	D. D.	rilling Met	hod Ho	Now .	AUSER			
Was permanent pumping equipment install	ed? □Yes XNo							
Pump capacitygpm				GEOLOG	IC LOG			
Pump type:	•	Note ea			as encountered in c			
rump type.	ent Bin Augel		0118. 4'1 A	349 <i>26</i>	27 8"c.5	0-11		
Drilling FluidTyp	e of Rig AUGE!					<del>-,</del>		
Health and Safety Plan submitted?    Yes	TXI No	DAMP, BIN BLACK 1)						
	_ ~		F_	28mD				
Level of Protection used on site (circle one)	None D C B A	Mois	- 54+	DRA	NSS			
I certify that I have constructed the	above referenced well in	F	JAND		Y 5/5 (27			
accordance with all well permit req	uirements and applicable							
State rules and reg	julations.		END 0	+ Ho	1=	13		
Orilling Company JOHN SNYDER					***************************************			
	IYDET		AS-RI	UILT WEI	L LOCATION			
Well Driller (Print) JOHN SA	-0		(NAD 8.	3 HORIZO	ONTAL DATUM)			
Oriller's Signature	X	NJ S	TATE PLANE	COORDIN	NATE IN US SURVI	EY FEET		
Registration No. 1-1123	_ Date <u>3 / ラ</u> /カ/	MORI			EASTING:	<del></del>		
		LATITUDE:	: ^'	'L	R ONGITUDE:	' ' ;		
COPIES: White - DE	P Canary - Driller	Pink - O	wner G	oldenrod	- Health Dept	· · · · · · · · · · · · · · · · · · ·		

New Jersey Department of Environmental Protection
Bureau of Water Allocation
MONITORING WELL RECORD
Well Permit No.

	OLOGI OTEVE		Atlas She	et Coordina	tes <u>31</u> :12	193	
OWNER IDENTIFICATION - Owner	ACK HORSE PIKE					- 1.4	
Address 220 S. BL City 3ELLMAWR	Ctoto		N T		<del>-</del>		
Only	State	****		·	Zip Code <u></u> の分	0 3/	
WELL LOCATION - If not the same as of County CAMBEN Address 220 S. BLACK HORS	wner please give address. Municipality BELLM	Owner's	s Well No	Mw-	H Blook N	10 4:17	
Address 220 S. BLACK HORS	PIKE						
TYPE OF WELL (as per Well Permit Cat Regulatory Program Requiring Well	egories)MONITORIN		DAT	E MELL CO	L STARTED 9 OMPLETED 9	115159	
CONSULTING FIRM/FIELD SUPERVISO	OR (if applicable)				Tele. #		
WELL CONSTRUCTION  Total depth drilled/ 2 ft.  Well finished to/ 7 ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)	
well fillistred toπ.	Single/Inner Casing	0	2	4	PUC	SCHYO	
Borehole diameter:  Top in.  Bottom / 0 in.	Middle Casing (for triple cased wells only)		<u> </u>	7		36446	
Well was finished: above grade	Outer Casing (largest diameter)						
☐ flush mounted  If finished above grade, casing height (stick	Open Hole or Screen (No. Used )	ع ع	12	4	Puc	SCHYO	
up) above land surface ft.  Was steel protective casing installed?	Blank Casings (No. Used )						
☐Yes ☐ No	Tail Piece						
Static water level after drillingft.	Gravel Pack	1	/ >			300	
Water level was measured usinghours	Grout	0	12		Neat Cement Bentonite	lbs.	
atgpm	Gr	outing Me	ethod	GRAN		103.	
Method of development	<i>: 1</i>	rilling Met	ethod hod	HS A	9		
Was permanent pumping equipment installed	l? ∐Yes ∐No			0501.00	10100		
Pump capacitygpm		GEOLOGIC LOG  Note each depth where water was encountered in consolidated					
Pump type:		formati	ons.			consolidated	
Drilling Fluid Type	of Rig 13-59	0-5 Frand Brown					
Health and Safety Plan submitted? ☐ Yes [	No (	5-12 Organic selt					
Level of Protection used on site (circle one)	None (D <sup>)</sup> C B A						
I certify that I have constructed the a accordance with all well permit requi State rules and regui	rements and applicable						
Drilling CompanyQUINLAN WE	LL DRILLING						
Well Driller (Print) Joe GUII	VLAV						
Driller's Signature	<u> </u>						
Registration No. 1612	Date 91/6/99						

COPIES: White - DEP

Canary - Driller

Pink - Owner

Goldenrod - Health Dept.

\_56669

**DWR-138 M** 11/98

### New Jersey Department of Environmental Protection

## Bureau of Water Allocation MONITORING WELL RECORD

The commentation of the comments of the commen			Well Peri	nit No	<u>1 - 58517 </u>				
OMMED IDENTIFICATION O			Atlas She	et Coordina	tes <u>7: : :</u>	2 <b>;</b> 35			
OWNER IDENTIFICATION - Owner		3 13							
Address 303 FELLO	M2HIL KII		A 4 7						
City HOORESTON	State		<u>N.)</u>		Zip Code				
WELL LOCATION - If not the same as ow	mer please give address.	Owner's	s Well No.	MWIC	12				
County CARDEN Address 132 R BLACK HERSE	PIKE								
		TAIC	D.43	DATE WELL	L STARTED 7	18,00			
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	3,10,7-1	itte	Case I.	D.# <sup>9</sup> .	OMPLETED 7 3-09-14-1320	148.00			
CONSULTING FIRM/FIELD SUPERVISO	R (if applicable)				Tele. #				
WELL CONSTRUCTION		·							
Total depth drilledft. Well finished toft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)			
	Single/Inner Casing		15	2	PVC	40			
Borehole diameter:  Top	Middle Casing (for triple cased wells only)					10			
Boπomin. Well was finished: □above grade	Outer Casing (largest diameter)	/							
flush mounted	Open Hole or Screen	15	30	2	Dile	,020			
If finished above grade, casing height (stick up) above land surface LLA ft.	Blank Casings	/ /	90		PUC	1000			
Was steel protective casing installed?	(No. Used ) Tail Piece					_			
Static water level after drilling 20 ft.	Gravel Pack	13	30	8	SNID	#2			
Water level was measured using Tope  Well was developed for	Grout	0	13	8	Neat Cement	lbs.			
atgpm	<u> </u>				Bentonite )	/00 lbs.			
	DUMP D	routing Me rilling <mark>Me</mark> t		Troyi	8				
Was permanent pumping equipment installed?	Yes <b>∑</b> No	Γ							
Pump capacitygpm			GEOLOGIC LOG						
Pump type: NA			Note each depth where water was encountered in consolidated formations.						
Drilling FluidNAType of Rig			0-4" Asphalt						
Health and Safety Plan submitted? Tyes X No			4"-30 Lt brn - brn silks						
Level of Protection used on site (circle one) None C B A		clayey SWI)							
I certify that I have constructed the ab accordance with all well permit require State rules and regula	ements and applicable								
Drilling Company SARY PARENT/SHORE DRUG. THE.									
Well Driller (Print) Gay Parent									
Oriller's Signature Golegar	ext								
Registration No. MD 1540 [	Date 8 / 10 / 00								

11/98

..... colog woperation of Environmental Follows,

Bureau of Water Allocation
MONITORING WELL RECORD

	MONTONING W	/CLL F	IECORD	7.1	7.4.4.7.1					
			Well Peri	nit No.	<u> 5567)</u>					
OWNER IDENTIFICATION - Owner	PICAT STEVE		Atlas She	et Coordina	tes	.2 136				
Address 220 S. BLA	CK HORSE PIKE									
Address 220 S. BLAI City BELLMAWR	State		rd.)			<b>70.32</b>				
	•									
WELL LOCATION - If not the same as over	vner please give address	Owner	's Wall No	11/1-	1					
CountyCAMDEN	Municipality BELLM	AWR BOR	0 10 -	t No. 1.02	Place	k No 1-16.01				
WELL LOCATION - If not the same as ov County CAMDEN  Address 229 3. BLACK HORSE	PIKE		LO	LINO	BIOC	K NO.				
				DATE WELI	LSTARTED	9   14   59 9   14   59				
TYPE OF WELL (as per Well Permit Cate	egories)	G	DAT	E WELL CO	OMPLETED	9114199				
Regulatory Program Requiring Well			Case I.	D.#						
CONSULTING FIRM/FIELD SUPERVISO	OR (if applicable)	·			Tele. #					
WELL CONSTRUCTION		· · · · · · · · · · · · · · · · · · ·	,							
Total depth drilledft.  Well finished toft.	Note: Measure all depths from land surface	Depth to Top (ft.)		Diameter	Material	Wgt./Rating				
Well finished toft.		Top (IL.)	- ` <u>'</u>	(inches)		(lbs/sch no.)				
Borehole diameter:	Single/Inner Casing	0	2.5	4	PUC	SCH 40				
	Middle Casing (for triple cased wells only)									
Topin. Bottomin.										
Vell was finished: ☐ above grade	Outer Casing (largest diameter)									
Tabove grade  ∏ flush mounted	0									
<del>7 - </del>	(No. Used )	2.5	15	4	Puc	SCHYO				
finished above grade, casing height (stick up) above land surfaceft.	Blank Casings		/3		700	,010				
	(No. Used )									
Vas steel protective casing installed? ☐Yes ☐ No	Tail Piece									
Static water level after drillingft,										
Vater level was measured using Tope	Gravel Pack	2	15		HI	300H				
. ,	Grout				Neat Cement					
Vell was developed for hours	Grout	0	ચ		Bentonite	ZJ lbs.				
t gpm	Gr	Grouting Method								
Method of developmentpump p	urge D	rilling Met		HSA	0					
Was permanent pumping equipment installed		<del></del>								
oump capacitygpm		GEOLOGIC LOG								
		Note ea	ich depth whe	re water wa	s encountered	in consolidated				
Pump type:		formati	ons,							
Drilling Fluid Type o	f Rig R-59	O-2 Backfill								
•	1.2			21-10' green sand fine						
Health and Safety Plan submitted? Tyes No		10-15	dark	brown	n sand ls	ilta				
evel of Protection used on site (circle one)	None (D) C B A									
Loomify that I have a series of the series				M						
I certify that I have constructed the ab	ove referenced well in			····						
accordance with all well permit require State rules and regula	ements and applicable									
OUTAN AN OFFI										
g company			***************************************							
Vell Driller (Print) 100 6 UI	171.41/									
	NUDY									
Priller's Signature	2									
Registration No. 16/2	Date 9 / 16 / 59 1									

COPIES:

White - DEP

Canary - Driller

Pink - Owner

Goldenrod - Health Dept.

## Bureau of Water Allocation MONITORING WELL RECORD

	MONTONING W	<u>ELL D</u>	<b>ECOKD</b>					
			Well Perr	nit No	.36671			
			Atlas She	et Coordina	tes <u>31 : 12</u>	2 186		
OWNER IDENTIFICATION - Owner	PICOT, STEVE							
Address 220 S. BL/ City BELLMAWR	State		ЦИ		Zip Code <u>08</u>	<u> </u>		
WELL LOCATION - If not the same as ow CountyCAMDEN Address220 3. BLACK HORSE	vner please give address.	Owner	s Well No	MW-	2			
Address 220 3. BLACK HORSE	MunicipalityBELLI E_PIKE	HUMK RO	Lo	t No	Block i	Vo. 146.01		
				DATE WELL	I STARTED タ	114159		
TYPE OF WELL (as per Well Permit Cate	egories)MONITORIA				LSTARTED 7 DMPLETED 7			
Regulatory Program Requiring Well			Case I.	D.#				
CONSULTING FIRM/FIELD SUPERVISO	ND (if applicable)				_			
CONSULTING FIRM/FIELD SUPERVISO	(ii applicable)				Tele. #			
WELL CONSTRUCTION  Total depth drilled /8 #	Note: Measure all depths	Depth to		Diameter	Material	Wgt./Rating		
Total depth drilled	from land surface	Top (ft.)		(inches)		(lbs/sch no.)		
Borehole diameter:	Single/Inner Casing	0	5,5	4	Puc.	SCH40		
Topin.  Bottomin.	Middle Casing (for triple cased wells only)							
Bottom / / in.	Outer Casing							
Vell was finished: □ above grade	(largest diameter)							
💢 flush mounted	Open Hole or Screen	5,5	18		ກ	SCHYO		
finished above grade, casing height (stick	(No. Used ) Blank Casings	2,0	' 6	4	PUC	,010		
up) above land surfaceft.	(No. Used )							
Vas steel protective casing installed? ☐Yes ☐ No	Tail Piece							
Static water level after drillingft.	Gravel Pack	,,	10		/			
Vater level was measured using type		4	18		Hard Orman	300		
Vell was developed for hours	Grout	0	4		Neat Cement Bentonite	المحمد lbs. lbs.		
tgpm	Gr	outing Me	ethodS	canity	1	<u> </u>		
Method of development	Duge Di	rilling <b>M</b> et	hod	HS9				
Was permanent pumping equipment installed?	? ☐Yes ☐No			0501.00	10100			
oump capacity gpm		GEOLOGIC LOG  Note each depth where water was encountered in consolidated						
oump type:		formations.						
Orilling Fluid Type or	f Rig 13-59	0-2	Bu		Famil			
		7. 18 Frankfults / dark brown						
Health and Safety Plan submitted? Yes No								
evel of Protection used on site (circle one)	None (D/C B A							
I certify that I have constructed the ab	ove referenced well in							
accordance with all well permit require	ements and applicable							
State rules and regula	ations. LL DRILLING							
Vell Driller (Print) <u>Joe Cy</u> 47.	NLAN		· · · · · · · · · · · · · · · · · · ·					
_ )						!		

COPIES:

1412

Driller's Signature

Registration No. \_\_

White - DEP

Canary - Driller

Date 9/16/99

Pink - Owner

Goldenrod - Health Dept.

## Bureau of Water Allocation MONITORING WELL RECORD

			Well Perr	nit No	<u> </u>	
OWNER IDENTIFICATION - Owner	PICOT. STEVE BLACK HORSE PIKE			et Coordina	tes <u>31 : 1</u>	2 186
Address 220 S. 3 City BELLMAWI	State		NI		7: 0	\
WELL LOCATION - If not the same as a County CAMDEN  Address 220 S. BLACK HO					Zip Code <u>Ø</u> & - <b>3</b> <sup>02</sup> Block l	
TYPE OF WELL (as per Well Permit Ca Regulatory Program Requiring Well	ategories)MONITORI	NG	DAT	DATE WELL	STARTED <u>9</u> OMPLETED <u>9</u>	114 199
CONSULTING FIRM/FIELD SUPERVIS	SOR (if applicable)	··········			Tele. #	*
WELL CONSTRUCTION  Total depth drilled	Note: Measure all depths from land surface	Depth to Top (ft.)		Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
	Single/Inner Casing	0	2.5	4	PUC	SCH40
Borehole diameter:  Top in.  Bottom in.	Middle Casing (for triple cased wells only)					
Well was finished: □above grade	Outer Casing (largest diameter)					·
flush mounted f finished above grade, casing height (stick	Open Hole or Screen (No. Used )	2.5	15	4	Ρνc	SCHYO
up) above land surface ft.	Blank Casings (No. Used )					
Was steel protective casing installed? ☐Yes ☐ No	Tail Piece					<u> </u>
Static water level after drillingft.  Water level was measured usingft.	Gravel Pack	2	15		ا کیا	300
Well was developed for hours	Grout	0	2		Neat Cement Bentonite	lbs.
Method of development	June D	routing Met		HSA "		
Pump capacitygpm		Note ea	sch depth whe	GEOLOG ere water wa	IC LOG s encountered in	consolidated
Pump type:				0 + J		
Drilling Fluid		3-15	algon	u siet	5	
Level of Protection used on site (circle one)			<i>U</i>			
I certify that I have constructed the accordance with all well permit requ State rules and reg	above referenced well in uirements and applicable					
Well Driller (Print) Joe Qui	JLDN					
Well Driller (Print) Joe Quin  Driller's Signature	lar					
Registration No 16/2	Data 9 //6 /99					

COPIES:

White - DEP

Canary - Driller

Pink - Owner

Goldenrod - Health Dept.

Ji 36672

#### New Jersey Department of Environmental Protection Bureau of Water Allocation

	MONITORING W	ELL R	ECORD Well Perr	nit No	6113	34	
				et Coordinate		: 11	636
WNER IDENTIFICATION - Owner	BELL HARBOR INC.	<u></u>					
ddress442 CHAPEL H	EIGHTS RD.					·····	
ddress <del>442 CHAPEL H</del> ity <del>SEWELL</del>	State	EN		Z	(ip Code		
/ELL LOCATION - If not the same as or ountyCAMDEN	wner please give address. Municipality	Owner's	s Well No	T.,	<u>B 1</u>	ock Nr	
ddress <u>CREEK RD &amp; HARDING</u>	BL	ELLMAWN					
	*			DATE WELL	STARTED	<u> </u>	2,01
YPE OF WELL (as per Well Permit Cat	egories) <u>BORING</u>						•
egulatory Program Requiring Well	N/A-		Case I.	D.#	N/A		
ONSULTING FIRM/FIELD SUPERVISO	OR (if applicable) <u>りぃヮ</u> ₃	ir Woo.	与与	7	Геlе. # <u>85</u>	56-9	731-382
WELL CONSTRUCTION /	Note: Measure all depths	Depth to	Depth to	Diameter			Mat /Dating
otal depth drilled $\frac{70}{70}$ ft.	from land surface	Top (ft.)	Bottom (ft.)		Materia	.	Wgt./Rating (lbs/sch no.)
ell finished toft.	Single/Inner Casing	, , , , , , , , , , , , , , , , , , ,	( /	()			
orehole diameter:	Middle Casing			$\sim$			
Top in.  Bottom in.	(for triple cased wells only)		/				
Bottom in.	Outer Casing						
ell was finished: above grade							
ell was finished: above grade flush mounted	Open Hole or Screen		/				
nished above grade, casing height (stick	(No. Used )						
above land surface ft.	Blank Casings						
as steel protective casing installed?	(No. Used )	ļ	/				
Yes No No atter drilling 55 ft.	Tail Piece						
atic water level after drilling ft	Gravel Pack						
ater level was measured using 54		•	-		Neat Cem	ont	376 lbs.
ell was developed for hours	Grout	0	70		Bentonit		20 lbs.
gpm	G	routing M	ethod	Tremi			
ethod of development			thod	10 llow	AUSZE	7	<del>/</del>
as permanent pumping equipment installed							
	11 11 14 5 73 140			GEOLOG	IC LOG		
J		Note e	ach depth who	ere water wa	s encounter		,
ump type:	- cme-55	format	ions. 45 Sici	+CLA	$\succ$	0	ے ′
rilling FluidType	of Big AUG ET				·	I	
		Mis	C. TRI	isH	2		
ealth and Safety Plan submitted? 🔲 Yes	_						/
evel of Protection used on site (circle one)	None D C B A		· · · · · · · · · · · · · · · · · · ·			ك	25
I certify that I have constructed the a	abovo rofaranco dall in	Mais	t-54.	<del></del>	SILT		<u> </u>
accordance with all well permit requi			CL67	TOV	F. SAY		<del>2 -</del>
State rules and regu				<i>I</i>	, 32, 70		7
arra o						70	
- GOTH SKIDER				¥78¥781 80700=			
'ell Driller (Print) しゅん るん`	YDEL			UILT WEL			
T O		NJ S	(NAD) STATE PLAN	3 HORIZO E COORDIN	ATE IN US	IUMI) SURVI	EV FEET
riller's Signature							
egistration No	Date 7 / 5 /0/	NOR	THING:				
egistration No.	Date/	LATITION	0	OR		o	

COPIES: White - DEP

Canary - Driller

Pink - Owner

Goldenrod - Health Dept.

# New Jersey Department of Environmental Protection Bureau of Water Allocation MONITORING WELL RECORD

31

61134

			Well Perm	nit No		4174		
OWNER IDENTIFICATION - Owner			Atlas Shee	et Coordina	tes3	1 11	636	
Address 442 CHAREL HE	BELL HARBOR, INC.	•						
Address 442 CHAPEL HE City SEWELL	State	N-I			Zip Code	e		
WELL LOCATION - If not the same as own CountyCAMDEN AddressCREEK_RD & HARDING	ner please give address. Municipality <del></del>	Owner's	s Well No	/ -	<u>₽</u>	<u> </u>		
CREEK RU & HORUING	AVE.			DATE WEL	L START	ED	10,2	
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	gories) <u>BORING</u>		DAT Case I.I	E WELL CO	OMPLET	ED <u>7</u>	10/	
CONSULTING FIRM/FIELD SUPERVISO								
WELL CONSTRUCTION  Total depth drilled 70 ft.  Well finished to 70 ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Mar	terial	Wgt./Rating (lbs/sch no.)	
	Single/Inner Casing			<i>~</i>				
Borehole diameter: Topin. Bottomin.	Middle Casing (for triple cased wells only)							
Well was finished: ☐ above grade	Outer Casing (largest diameter)							
If finished above grade, casing height (stick	Open Hole or Screen (No. Used )							
up) above land surface ft.  Was steel protective casing installed?	Blank Casings (No. Used )	,						
Yes No Static water level after drilling 65 ft.	Tail Piece Gravel Pack							
Water level was measured using	Graver Pack	/					7-7/ 15-	
Well was developed for hours at gpm	Grout	0	70		Ben	Cement tonite	376 lbs. 20 lbs.	
Method of development	Gi D	routing M Prill <mark>ing Me</mark>	ethodt	to llow	AUS	<u> २</u> ८५		
Was permanent pumping equipment installed	? ∐Yeş ⊠ No			CEOL O	210 1 00			
Pump capacitygpm		Note e	ach depth wh	GEOLO( ere water w			consolidated	
Pump type:	- cmz-55	format	ions	r+CLI	t		-2	
Drilling Fluid Type o		Mis	- TRA	<del>4</del> SH		2/		
Health and Safety Plan submitted? 🔲 Yes 🔀	] No /							
Level of Protection used on site (circle one)	None DC BA					<i>\</i>	a5 /	
l certify that I have constructed the at accordance with all well permit requir State rules and regul	Moist-Sot. Drivy SILT 65 TRICLAY, TO V.F. SAND							
Drilling Company JOHN SNYDER								
Well Driller (Print) JOHN SN		(NAD	BUILT WE 83 HORIZ	ONTAL	DATUM			
Driller's Signature		NJ STATE PLANE COORDINATE IN US SURVEY FEET						
Registration No	Date 7 / 5 /0/	NOR	E: O	· ·	_ EAST] DR LONGITI	ING: CDE:	o , , , , , ,	
COPIES: White - DEP	Canary - Driller	Pink - (		Goldenro				

## New Jersey Department of Environmental Protection

## Bureau of Water Allocation MONITORING WELL RECORD

			Well Peri	mit No	31 <u> </u>				
OWNER IDENTIFICATION - Owner			Atlas She	et Coordina	ates	• i = :			
OWNER IDENTIFICATION - Owner	PIEST, STEVE			·	J. J.	.275			
City 220 S BLs	ACK HORSE PIKE	Zip Code							
BELL MAWR	State		HJ -		Zip Code				
VVE 1				7 1					
		MAMD D	one lo	t No	Dlack	N1-			
Address 300 BLACK HORSE (	SIKE	EMINK B	nkn	1140. —1-	-02 BIOCK I	VO. 146.01			
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well	egories)MONITOR		Casal	D #	L STARTED SOMPLETED				
CONSULTING FIRM/FIELD SUPERVISO	DR (if applicable) LJ	Lebert	Ervin	ar es la C	Tele. # 610/	444-290g			
WELL CONSTRUCTION		T				111/5/			
Total depth drilled 33 ft.  Well finished to 33 ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)			
Boroholo diameter:	Single/Inner Casing	0	3	4	PVC	40			
Borehole diameter: Top	Middle Casing (for triple cased wells only)	_				70			
Well was finished: above grade	Outer Casing (largest diameter)	_							
If finished above grade, casing height (stick	Open Hole or Screen (No. Used 3.0	3	23	4	Pre	40			
up) above land surfaceft. Was steel protective casing installed?	Blank Casings (No. Used )	_				70			
₩Yes U No	Tail Piece SAND FILTER	2.5	19	#	100				
Static water level after drilling 5.7 ft.	Gravel Pack		23		2 SAND FI	LIER			
Water level was measured using, THE		105	2.5		00 SAMO-	EHL			
Well was developed for/2_ hours atsgpm	Grout	0	1.5		Neat Cement Bentonite	100 lbs. 20 lbs.			
Method of development	Gr	outing Me	ethod	Lien	ie Augu				
Was permanent pumping equipment installed?		ming Met	1100	1+5	Auge				
Pump capacity gpm	r ∐res ⊞ro			GEOLOG					
3		Note ea	ch depth whe	re water wa	as encountered in	nonnolidate d			
Pump type:		formati	ons. 7	18		consolidated			
Drilling Fluid Type of	Aig Faelery			aspl	cel+Sie	blue			
Health and Safety Plan submitted?   Yes	No	<del></del>	6 - Nu	J- 504A	O, Cobbles	Cinker			
Level of Protection used on site (circle one) N		6-10	1- we	+ Selo	E, F-m SI	410			
I certify that I have constructed the ab accordance with all well permit require State rules and regula	ements and applicable	10'-2	C-we	+ FV	n SARD				
Drilling Company 3DVANCED (	DRILLING, INC.	20.3	3 - 14	t Sil	L. Clay				
Well Driller (Print) Rogをし	OgEL								
Oriller's Signature Rogu (	agel, m								
Registration No. MIII66	Date 8/28/00								

## **APPENDIX B Known Contaminated Site List**

KCS-NJ County - Municipality Listing (2001 Edition)

County and Municipality:

CAMDEN

**BELLMAWR BOROUGH** 

## Coronalo, CLLLMANNA BOROUGH

## A COMPANIES OF SOURCES, OF CONTAMINATION

TOTAL SECTION AND AND ADDRESS OF THE PARTY.		\$		:
A E PRICE INCO	DRPORATED			
BFO-IN	0084900	INTERSTATE ACTIVE	INDUSTRIAL PRK - 3/3/94	NJL60005380ა
BELL HARBOR	NCORPORATED LANDFILL	I I A POPULATION AND A SECOND		
ВСМ	941102210745	ACTIVE	E (OFF CREEK RD) - 12/22/94	NJD980779599
BELLMAWR AUT	O & TIRE SERVICE	220 81 4024	3000 m. s	
BUST	0004745	220 BLACKHO ACTIVE	- 10/2/96	NJL800155285
BELLMAWR BOF	ROUGH PUBLIC WORKS GARAGE	KARR DR & C	DES.	
BUST	0123121	ACTIVE	- 10/24/94	NJD982744476
BELLMAWR BOR	OUGH SANITARY LANDFILL	1 00# 0		
BFO-CA	930480	I-295 & CREEI PENDING	( - 6/17 <i>1</i> 93	NJD000535401
DEANGELIS AUT	O REPAIR			
UST	0004754	65 BLACKHOF ACTIVE	SE PK N - 11/5/98	NJL800440026
AZZIO SANITAR	Y LANDER I		-	
FO-CA	930836	204 HARDING PENDING	AVE - 4/6/94	NJD980505127
LAGS INCORPO	RATED	44 0444 444		
FO-CA	920138	41 OAK AVE PENDING	- 9/25/9 <del>5</del>	NJD002352300
TERSTATE INDI	JSTRIAL PARK	a mari marini.	•	
FO-8	9709112	400 BENIGNO I PENDING	3LVD 9/19/97	NJL800053373
TURNPIKE AUT	THORITY INTERCHANGE 3	At 4 Tonas a sure		
JST	0131735	NJ TPKE MP 26 ACTIVE		NJL800182081
E&G COMPANY		001151155		
JST	0041825	80 HELLER RD ACTIVE	- 3/22/90	NJL600027338
INT FRANCIS DI	E SAILS CONVENT	424 E BROWNIN	IG RD	
O-S	990211124053	ACTIVE	- 3/9/9 <del>9</del>	NJL800472789
ELL SERVICE S' ST	TATION BELLMAWR BOROUGH 0078250	132 BLACK HOR	SE PK N	NJD986593077
		ACTIVE		1450-900393077
NOCO SERVICE	STATION BELLMAWR BOROUGH 0145514	NORTH-SOUTH	FREEWAY & RELL GADDEN AVE	Numara
		ACTIVE	- 12/14/92	NJD000694117
RA SERVICE STA	ATION BELLMAWR BOROUGH 0007201	1 BLACKHORSE	PK RD s	NJL800616674

KCS-NJ County - Municipality Listing (2001 Edition)

County and Municipality:

CAMDEN

**GLOUCESTER CITY** 

CAMPEN Municipality GLOWESTER CITY

## A STOCKETHOUSERS COURCES OF COLUMN AND A STOCKET AND A STO

		1.		
AMSPEC CHEM	#CAL COMPANY	751 WATER		The second secon
BCM <sup>-</sup>	9608170	PENDING	5 i - 8/23/98	NJD000312371
CONTINENTAL	SAND & GRAVEL			
BFO-CA	이 그 마른 그는 맛있었다. 그래 얼마를 다 먹었다고 있다.		AMSTOWN RD	NJL000075119
Bro-CA	981206	PENDING	- 11/30/98	
GLOUCESTER	CITY SEWAGE TREATMENT PLANT	BRICK ST	vg.	
BFO-S	950714132446	ACTIVE	- 7/14/95 <sup>3</sup>	NJL800153405
GLOUCESTER	COAL GAS (PSE&G)	IEDSEV AVE	& 6TH ST 1408	
BCM	NJD961083058		- 4/6/90	NJD981083058
			- 4/0/8G	
	HEIGHTS SCHOOL	NICHOLSON	CORNELL RDS	NJL800493728
BFO-S	990519124442	ACTIVE	- 10/14/99	110200433728
INDCO INCORP	ORATED	RAILROAD AV	E N & ESSEX ST	
BUST	0238522	ACTIVE	- 1/3/00 i	NJL600156731
LIQUID CARBON	IIC SPECIALTY GAS CORP	560 S BROAD	WAY	
BEECRA	E91294	ACTIVE **		NJL500019351
O S JOHNSON 8	COMPANY INCORPORATED			
BEECRA	E93632	ACTIVE	開始 19年 年7年 年 18 日本 11 月 11 日本	NJL500041363
		VC11AE	- 11/15/93	
	ORY	HUNTER & ST	H STS	N II good caana
BCM	NJL800153397	ACTIVE	- 12/18/96	NJL800153397
RUG FACTORY		POWELL & QU	CTH & HUNTER STS	
BCM	NJL800153389	ACTIVE		NJL800153389
SHELL SERVICE	STATION GLOUCESTER CITY	CDF00F1 FF 91	10 <b>5</b>	
UST	0076398	ACTIVE	VD & NICHOLSON RD	NJD982279499
FO-IN	931015142137	ACTIVE	- 7/3/86 = - 10/15/93	
			- 10/15/93	
	EMORIAL AVENUES	UNIVERSITY &	MEMORIAL AVES	NJL000031872
CM =	NJL000031872	ACTIVE	- 4/1/92	1432000031872
ANGUARD VINY	L SIDING INCORPORATED	CHARLES & W	ATED STS	
MSA	9403141	PENDING		NJD982530073
OOD! AND OXY	GEN COMPANY INCORPORATED	560 S BROADV	1437	
		DOLL S MACIACINA	JAY	NJL500035068

14 SITES WITH ON-SITE SOURCE(S) OF CONTAMINATION

IN GLOUCESTER CITY

KCS-NJ County - Municipality Listing (2001 Edition)

County and Municipality:

CAMDEN

MOUNT EPHRAIM BOROUGH

CARDITY. Note that I've MOUNT ENTRAM COROUGH

THE TRAIN DISCUSES TO BE CONTRAMINATED

137 6TH AVENUE CEHA	960501064017		- 5/1/96	NJL800222432
BO BET MOTEL BFMCR	970797	310 BLACKHORS PENDING	E PK N - 7/31/97	NJL#00122145
HADDONFIELD LUM BUST	a disking the contract of the second and the second	101 KINGS HWY	12/19/91	NJL800421398
MERIT OIL CORPOR	RATION 0091271	BLACK HORSE PI ACTIVE	( & KINGS HWY - 11/21/88	NJD982185332
MOBIL SERVICE ST. BUST	ATION MOUNT EPHRAIM BORO 0082444	6 BLACK HORSE	PK & KINGS HWY 9/20/91	NJD986605574
MOUNT EPHRAIM B	OROUGH HALL 0132 <del>004</del>	121 BLACKHORSE ACTIVE	E PK 12/4/98	NJL800138281
MOUNT EPHRIAM B	OROUGH 200002166	CLEVELAND AVE PENDING	2/23/00	NJL800023699
SACRED HEART HAI	0477044		AVE & BLACKHORSE PK 6/19/00	NJL800496523
8 SITES WIT	HON-SITE SOURCE(S) OF CO			

## C SITES WITH CLOSED CASE(S) WITH RESTRICTIONS

EXXON SERVICE STATION MOUNT EPHRAIM BORO BLACK HORSE PK BUST

उत्तर विकास अ Car a Boat of

NJD986610814

0078618

- 12/15/9<del>9</del>

814 C C

Restricted

1 SITES WITH CLOSED CASE(S) WITH RESTRICTIONS

IN MOUNT EPHRAIM BOROUGH

## APPENDIX C Freshwater Fish Management Database

#### NEW JERSEY DIVISION OF FISH AND WILDLIFE BUREAU OF FRESHWATER FISHERIES

Report Version 2.0

I MOLINE

10-2012110

#### FRESHWATER FISH MANAGEMENT DATABASE REPORT

### Big Timber Creek: Summary Data

Species Name:	Scientific Name:	First Captured:	Last Captured:	
Goldfish	Carassius auratus	9/5/1975		
Base, largemouth	Micropterus salmoides	8/19/1992	9/5/1975	
Bass, striped	Morone saxetilis		8/19/1992	
Bluegill	Lapomis macrochirus	9/5/1975	8/19/1992	
Bullhead, brown	Ameiurus nebulosus	9/5/1975	9/5/1975	
Carp, common	Cyprinus carpio	9/5/1975	8/19/1992	
Calfish, channel	Ictaturus punctatus	9/5/1975	9/5/1975	
Catfish, white		6/19/1992	8/19/1992	
Alcwife	Amelurus catus	8/19/1992	8/19/1992	
cl, American	Alosa pseudoharengus	9/5/1975	9/5/1975	
	Anguilla rostrata	9/5/1975	9/5/1975	
Shad, gizzera	Dorasoma cepedianum	9/5/1975	9/5/1975	
Horring, blueback	Alosa sestivalis	5/19/1992	8/19/1992	
Killifish, bended	fundulus disphenus	9/5/1975	8/19/1992	
Minnow, Silvery	Hybograthus regius	9/3/1975	8/19/1992	
Mudminnow, oastem	Umbra pygmaea	9/28/1998		
Mummichog	Fundulus heterocitus	9/5/1975	9/28/1998	
Perch, white	Morone americana	2/3/1975	9/5/1975	
Doocning	Lepornis gibbosus		9/5/1975	
ihad, American	Alosa sapidissima	9/5/1975	9/5/1975	
rappic, black	Pomosis nigromaculatus	8/19/1992	8/19/1992	
		0/19/199Z	8/19/1992	

Run by: ams 9:20 AM Page 1 of 2 Printed V3/2005

Received 08-04-2005 01:41pm From-1 609 629 5044

To-DRESDNER ROBIN

Page 002

Report Version 2.0

#### NEW JERSEY DIVISION OF FISH AND WILDLIFE BUREAU OF FRESHWATER FISHERIES

FRESHWATER FISH MANAGEMENT DATABASE REPORT

Survey Data Big Timber Creek:

Reason: Classification

County: Camden

Township: Berlin Boro

NJDEP Watershed: Big Yimber Creek

USGS Quad: CLEMENTON NJ

Site Alternate Name:

Latitude (DMS): Longitude (DMS):

76 C.

39 74

48

20

LOCATION

Clamenton/ New Freedom Road SE of Sharp's Corner

Survey Date: Monday, September 28, 1998

Crew: Carberry

Weather: Clear and Sunny

Air Temperature:

Entered by: KRP

04/08/1990

Survey ID: 2042547415

SURVEY NOTES: Trout Classification

Stream Depth; ,5'-1.5' Stream Width: 4.5 Sample Legth 500 ft. Time: 3425 sec.

Depth(m) Location Notes

Conductivity Alkalinity pH kNitrate Total P Water Temp Diss O % Sat Time 80

14.3

Run by: cms

9;21 AM

Page 1 of 3

Printed 8/3/2005

#### Report Version 2.0

#### NEW JERSEY DIVISION OF FISH AND WILDLIFE BUREAU OF FRESHWATER FISHERIES

### FRESHWATER FISH MANAGEMENT DATABASE REPORT

			Big Tin	nber Creek:						
Survey Date:	Monday, Septem	ber 28, 1998				Reason: (	Classification			
SAMPLE#	GEAR Electrofishing	ı - Type VII POV	V SR Ba	Ckpack (DC)		Sample Depth	0 m.			
Sample Location/Notes; Many frogs and mud minnows. No salamanders like at Mason's Run			Age Group Definition:			Electrofishing Settrings (if applicable)  Current type: Voltage:				
Fish Collecte Species Name Mudminnow, east		Number Len 23	<u>ogth (mm)</u>	Weight (kg) 0.000			es Sex			

Run by: cme 9:21 AM Page 3 of 3 Printed 8/3/2005

#### NEW JERSEY DIVISION OF FISH AND WILDLIFE BUREAU OF FRESHWATER FISHERIES

### FRESHWATER FISH MANAGEMENT DATABASE REPORT

#### Survey Data Big Timber Creek:

Survey Date: Wednesday, August 19, 1992 Reason: Update Information County: Camden Site Alternate Name: Township: NJDEP Watershed: Big Timber Creek Latitude (DMS): 36 51 16 USGS Quad: RUNNEMEDE NJ Longitude (DMS): **7**5 60 LOCATION. Route 206 and Turnpike bridges. Crew: Carberry. Entered by: TLS Weather: 11/26/1997 Air Temperature: C. Survey ID: 1515162235 SURVEY NOTES: Depth(m) Location Notes Conductivity Alkalinity pH kNitrate Total P Weter Temp Diss O % Sat Time Start of outgoing tide. 193

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#### NEW JERSEY DIVISION OF FISH AND WILDLIFE BUREAU OF FRESHWATER FISHERIES

Report Vorsion 2.0

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## FRESHWATER FISH MANAGEMENT DATABASE REPORT

#### Big Timber Creek: Survey Date: Wednesday, August 19, 1992 Reason: Update Information SAMPLE # GEAR: Electrofishing - Unknown Electrofishing Gear (not recorde 1 Sample Depun. Sample Location/Notes: CPUE: Age Group Definition: Electrofishing Sattlings (if applicable) Current type: Elapsed Time: 4258 Fish Collected Output Mode: Species Name Number Longth (mm) Weight (kg) Shed, American Length (in) Weight (lb) Age Age Class Sex Bass, largemouth 68 0.000 Z.70 0.00 1 325 Shed, American 0.000 13.00 0.00 1 63 0.000 Herring, blueback Z.50 0.00 2 ٥ Catfish, white 0.000 0.00 2 0.00 ō 0.000 Shad, American 0.00 0.00 æ Bess, largemouth 0.000 2.70 0.00 263 Shad, American 0.000 10.50 0.00 1 80 0.000 Shed, American 3.30 0.00 1 50 Shed, American 0.000 2.30 0.00 70 Shed, American 0.000 2.00 0.00 1 ĬQ. Shad. American 0.000 3.20 0.00 1 Corrish, channel 73 0.000 2.90 0.00 1 Ö Bass, striped 0.000 0.00 0.00 4 70 Minnow, Silvery 0.000 2.60 0,00 7200 0 Killifish, banded 0.000 0.00 750 0.00 0 Bess, largemouth 0.000 0.00 0.00 1 346 Shed, American 0.000 13.60 0.00 1 73 Sass, striped 0.000 2.90 0.00 1 145 Bass, largemouth 0.000 5.60 0.00 280 Shod, American 0.000 11.20 0.00 78 Crappie, black 0.000 3.10 0.00 168 Bullhoad, brown 0.000 0.70 0.00 2 0 0.000 0.00 0.00

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#### Report Version 2.0

#### NEW JERSEY DIVISION OF FISH AND WILDLIFE BUREAU OF FRESHWATER FISHERIES

## FRESHWATER FISH MANAGEMENT DATABASE REPORT

#### Survey Data Big Timber Creek: Survey Date: Friday, September 05, 1975 Reason: Classification County: Gloucester Site Alternate Name: Township: Brookswn Boro NJDEP Watershed: Big Timber Creek Litttude (DMS): 39 52 26 USGS Quad: RUNNEMEDE NJ Longitude (DMS): 75 7 26 LOCATION: Gioucaster City, Route 47 bridge. Crew; Soldwedel Westher: Entered by: TLS 09/26/1997 Air Temperature: C. SURVEY NOTES: Survey ID: -555278742 Slight gradient Depth(m) Location Notes Conductivity Alkalinity pH kivitrate Total P Water Temp Diss O % Sat Time 270 6.50

100-C01C1 (30N)

#### NEW JERSEY DIVISION OF FISH AND WILDLIFE BUREAU OF FRESHWATER FISHERIES

Report Version 2.0

## FRESHWATER FISH MANAGEMENT DATABASE REPORT

Big Timber Creek: Survey Date: Friday, September 05, 1975 Reason: Classification SAMPLE # GEAR: Electrofishing - AC 230 - volt generator stream rig Sample Depth:  $0 \, m$ Sample Location/Notes: CPUE: Age Group Definition: Electrofishing Settlings (if applicable) The number and weight of the American Eels O = Young of the year | = Intermediate. Current type: were estimated Voltage: Elapsed Time. Fish Collected Output Mode Species Name Number Length (mm) Weight (kg) Carp. common Length (In) Weight (Ib) Age Age Class Sca 0 Builhead brown 1.474 0.00 3.25 >1 lb ō 0.454Dluegill 0.00 1.00 >7 ٥ Goldfish 0.008 0.00 0.15 0 >5 Bass, striped 0.295 0.00 0.65 0 <1 lb 0.113 Alewife 0.00 0.25 <7" ٥ 0.068 Shad, gizzard 0.00 0.15 o Perch, white 0.068 0.00 0.15 0 Pumpldnesed 0.150 0.00 0.35 3 ح7\* ō Eni, American 0.136 0.00 0.30 100 **<5**' 0 Perch, white 34.014 0.00 75.00 1 Ō Perch, white 0.027 0.00 0.06 1 ٥ ō Pumpkinseed 0.227 0.00 0.50 5 Ō >7 Mummichog 0.454 0.00 1.00 134 >5" ō Killifish, banded 0.227 0.00 0.50 **Z7** 0 Minnow, Silvery 0.136 0.00 0.30 49 0 0.295 0.00 0.65

Page 3 of 3 Printed 8/3/2005

#### Report Version 2.0

#### NEW JERSEY DIVISION OF FISH AND WILDLIFE BUREAU OF FRESHWATER FISHERIES

### FRESHWATER FISH MANAGEMENT DATABASE REPORT

#### Survey Data Little Timber Creek:

Survey Date: Thursday, August 02, 2001 Reason: Integrated Biological Aquatic Assessment County: Camden Site Alternate Name: Township: Bellmawr Boro NJDEP Watershed: Delaware River (11) Latitude (DMS): 39 12 USGS Quad: RUNNEMEDE NJ Longitude (DMS): 18 LOCATION Devon Road Bridge, 37 m upstream Crow: Bernu, Crouse, Ward Entered by: Weather: mostly sunny 08/07/2001 Air Temperature: 20 C. Survey (D: 842602182 SURVEY NOTES: salinky of 0.1 ppr non-trout shade: complete WMA: 10

O Cepth(m)	Location Notes specific cond of 310.2	Co	nductivity	Alkalinity	pH kNicrati	t Total P	Water Temp	Disa O	% Sat	Time
	specific cond of 310.2 specific cond of 310.2		275.2	18	6.22		19	7.4	V	1522 6

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#### NEW JERSEY DIVISION OF FISH AND WILDLIFE BUREAU OF FRESHWATER FISHERIES

## FRESHWATER FISH MANAGEMENT DATABASE REPORT

HABITAT NOTES		
AQUATIC VEGETATION:	A	SUBSTRATE  Abundance: (%) Substrate:  10 Gravel  70 Sand  20 Silt  ITAT ASSESSMENT.  Crouse, Ward
	B Epifeunal Substate:  Pool Substrate:  Pool Substrate:  Pool Veriability:  Sediment Deposition:  Channel Flow Status:  Channel Flow Status:  Channel Sinuosity:  Bank Stability (Left Bank):  D Bank Stability (Right Bank):  Veg. Protection (Left Bank)  RVZW (Left Benk)  RVZW (Right Bank):	HIGH GRADIENT  Deplement Substrate. Deposition: Deposi

Run by: cms 9:24 A	M	 	 -	 		
		 				Printed 8/3/2005

#### Report Version 2.0

#### NEW JERSEY DIVISION OF FISH AND WILDLIFE BUREAU OF FRESHWATER FISHERIES

#### FRESHWATER FISH MANAGEMENT DATABASE REPORT

			Little Tin	nber Creek;					
urvey Date:	Thursday, Augus	1 02, 2001		Reas	on: Integra	ted Biolog	jical A	\quatic As	sessme
SAMPLE #	GEAR:	- 1			·	Sample	Depth:	0 m	
<u> </u>	Electrofishing	- Model 12	2-B POW				CPUE	:-	
Sample Location/I	Notes:	Age G	roup Definition:		Electro	ifishing Setttin	gs (if a	oplicable)	***************************************
					Cui	rent type:		Voltage:	
		!			Elaps	ed Time:	c	Output Mode.	
Fish Collecte	d				<del></del> '				
Species Name		Number	Length (mm)	Weight (kg)	1	<b>144</b>	_		
dillfish. bended		1	0	0.000	Length (in)	Weight (lb)	Age	Age Class	Sex
Audminnow, easte	an -	1	0	0.000	0.00	0.00			
el, American		10	0	0.000	0.00	0.00			

Run by: cms 9:24 AM Page 3 of 3 Printed 8/3/1105

## APPENDIX D Agency Correspondence

Ø 001	
Laurence Smith 260123 201-2,7-9	76
LINITED STATES DEDARTMENT OF COLUMN	E
Subject: 1295/ I74/ St. 42  Subject: NATIONAL MARINE FISHERIES SERVICE Habitat Conservation Division James J. Howard Marine	
Sciences Laboratory 74 Magruder Rd. Highlands, NJ 07732	
Anita Riportella (reviewing biologist)  The National Marine Fisheries Service's Habitat Conservation Division has received your request for information. Your request concerning the presence or absence of marine resources is required pursuant to the regional conditions implemented for notice.	
The National Marine Fisheries Service's Habitat Conservation Division has received your request for information. Your request 1. Smith concerning the presence or absence of marine resources is required pursuant to the regional conditions implemented for nationwide permit activities in the State of New Jersey.	٨
It should be noted that our response to your request should not be construed as a formal review of your proposed project with respect to its eligibility or compliance with the Corps' nationwide permit program. (NWP). It is incumbent upon you or your agent to coordinate your application with the appropriate office of the U.S. Army Corps of Engineers to ensure that the project complies with all of the necessary NWP requirements.	
Based upon our review of the information you have provided, we offer the following comments:	
Endangered Species Act	
Other than an occasional transient, there are no endangered or threatened species under NMFS's jurisdiction present in	
Endangered species or threatened species may be present in the project area. Please contact: Protected Resources Division, National Marine Fisheries Service. One Blackburn Drive. Gloucester. MA 01930.	
Fish and Wildlife Coordination Act	
The following may be present in the project area: Big Timber Cilek - alcuste, blue back to	n
The following may be present in the project area:  Big Timber Culk - alcurit, blueback he stuped bass, America 86  Acttle Timber Culk - no resource of concerning by Timber Culk: \$15-6/30 for in-water work acttle Timber Culk: \$15-6/30 for in-water work fittle Timber Culk: none necessary  Magnuson-Stevens Fishery Concernation and Magnuson-Stevens Fishery Concernatio	_
Magnison Street Timber Creek; none necessary	20"
Constitution and Management Act (MSA)	
The project area has been designated as Essential Fish Habitat (EFH) pursuant to the MSA for one or more species. The information you have provided will be utilized by the Corps to prepare an EFH assessment of the proposed activity and its impacts to EFH. Conservation recommendations may be included as a condition of the permit. For a listing of EFH and further information regarding EFH, please go to our website: www.nero.nmfs.gov/ro/doc/webintro.html	
PLEASE NOTE IF CHECKED BELOW	
We are unable to fully respond to your request due to insufficient information provided in your request. In order to assess the effects to the above listed species by the proposed activity, please provide us with the all information required in condition G-1 of the regional permit conditions listed in the Federal Register/Vol. 67. No. 10, 15 January 2002.	
The proposed project does not appear to qualify for NWP authorization. To avoid any unnecessary and/or lengthy dolays, please contact the Army Corps of Engineers at (215) 656-6728 as soon as possible to assure that your project complies with the NWP.	

U.S. Army Corps of Engineers, Philadelphia District \_\_\_\_U.S. Army Corps of Engineers, New York Dist



## United States Department of the Interior

#### FISH AND WILDLIFE SERVICE

New Jersey Field Office Ecological Services 927 North Main Street, Building Pleasantville, New Jersey 08232 Tel: 609-646-9310

Fax: 609-646-0352 http://njfieldoffice.fws.gov

OCT 9 2003



IN REPLY REFER TO: ES-03/512

> Victor Furmanec, Senior Project Manager Dresdner Robin 371 Warren Street Jersey City, New Jersey 07302-3035 Fax Number: (201) 217-9607

Reference: Threatened and endangered species review within the vicinity of the proposed I 295.

I 76, and R oute 42 connection project located within Bellmawr; Mount Ephraim; and

Gloucester City, Camden County, New Jersey.

The U.S. Fish and Wildlife Service (Service) has reviewed the above-referenced proposed project pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) to ensure the protection of federally listed endangered and threatened species. The following comments do not address all Service concerns for fish and wildlife resources and do not preclude separate review and comment by the Service as afforded by other applicable environmental legislation.

Except for an occasional transient bald eagle (Haliaeetus leucocephalus), no other federally listed or proposed threatened or endangered flora or fauna under Service jurisdiction are known to occur within the vicinity of the proposed project site. Therefore, no consultation pursuant to Section 7 of the Endangered Species Act is required between the federal action agency and the Service. If additional information on federally listed species becomes available, or if project plans change, this determination may be reconsidered.

Enclosed is current information regarding federally listed and candidate species occurring in New Jersey. The Service encourages federal agencies and other planners to consider candidate species in project planning. The addresses of State agencies that may be contacted for current site-specific information regarding federal candidate and State-listed species are also enclosed.

Reviewing Biologist:

Authorizing Supervisor:

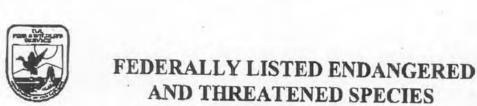
Enclosures: Current summaries of federally listed and candidate species in New Jersey

Addresses for additional information on candidate and State-listed species

Permit requirements for activities in wetlands

No part of this response should be used out of context and if reproduced, should appear in its entirety.

K\lioms\esfax\_nopot.wpd 7/19/02





An ENDANGERED species is any species that is in danger of extinction throughout all or a significant portion of its range.

IN NEW JERSEY

A THREATENED species is any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

	COMMON NAME	SCIENTIFIC NAME	STATUS
FISHES		Acipenser brevirostrum	E
REPTILES	Bogmette All State And All Sta	Clemmys muhlenbergii	T
	Atlansis Ricity (urtic	Lepidochelys kempii	E
	Green turtle	Chelonia mydas	T
	Hamisballingple	Eretmochelys imbricata	E
	Leatherback fürtig*  Loggerhead turtle*	Dermochelys coriacea	E
			T
BIRDS	Baideagle:	Haliaeerus leucocephalus	T
	Piping plover	Charadrius melodus	Т
and the second of	Roseate tern	Sterna dougallii dougallii	E
MAMMALS	Eastern cougar	Felis concolor couguar	E+
	Indianalbat Tick au	Myotis sodalis	E
	Graywolf	Canis lupus	E+
	Deimarya Toxisquir relia	Sciurus niger cinereus	E+
	Blue whale to the second	Balaenoptera musculus	Е
	Finback whale was At 1	Balaenoptera physalus	Е
	Humpback whale	Megaptera novaeangliae	E
	Right whole*	Balaena glacialis	Е
	Sel whale	Balaenoptera borealis	E
	Sperm whale*	Physeter macrocephalus	E

	COMMON NAME	SCIENTIFIC NAME	STATUS
INVERTEBRATES		Alasmidonta heterodon	E
	Nonderstermbrachungen beene 22	Cicindela dorsalis dorsalis	T
	12/33-19 社会開始 11/11 11/11 11/11	Neonympha m. mitchellii	E+
	Maries No. 1 been 1916 to	Nicrophorus americanus	E+
PLANTS	Sizzii she tabioronal sa a sa sa	Isotria medeoloides	Т
		Helonias bullata	T
	Energospania Lan IVIII	Rhynchospora knieskernii	T
	Contain a criteri (40 millionia)	Schwalbea americana	E
		Aeschynomene virginica	T
	医特别斯斯特别斯特斯特斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯	Amaranthus pumilus	Т

No Pine		i di mis	
E	endangered species	PE	proposed endangered
T	threatened species	PT	proposed threatened
+	presumed extirpated**		

- Except for sea turtle nesting habitat, principal responsibility for these species is vested with the National Marine Fisheries Service.
- Current records indicate the species does not presently occur in New Jersey, although the species did occur in the State historically.

Note: for a complete listing of Endangered and Threatened Wildlife and Plants, refer to 50 CFR 17.11 and 17.12.

For further information, please contact:

U.S. Fish and Wildlife Service New Jersey Field Office 927 N. Main Street, Building D Pleasantville, New Jersey 08232 Phone: (609) 646-9310

Fax: (609) 646-0352





### FEDERAL CANDIDATE SPECIES IN NEW JERSEY

CANDIDATE SPECIES are species that appear to warrant consideration for addition to the federal List of Endangered and Threatened Wildlife and Plants. Although these species receive no substantive or procedural protection under the Endangered Species Act, the U.S. Fish and Wildlife Service encourages federal agencies and other planners to give consideration to these species in the environmental planning process.

SPECIES	SCIENTIFIC NAME
Bog asnkode)	Narthecium americanum
Hirst's panic grassing	Panicum hirstii

Note: For complete listings of taxa under review as candidate species, refer to <u>Federal Register</u> Vol. 64, No. 205, October 25, 1999 (Endangered and Threatened Wildlife and Plants; Review of Plant and Animal Taxa that are Candidates for Listing as Endangered or Threatened Species).

#### FEDERAL CANDIDATE AND STATE-LISTED SPECIES

Candidate species are species under consideration by the U.S. Fish and Wildlife Service (Service) for possible inclusion on the List of Endangered and Threatened Wildlife and Plants. Although these species receive no substantive or procedural protection under the Endangered Species Act, the Service encourages federal agencies and other planners to consider federal candidate species in project planning.

The New Jersey Natural Hentage Program maintains the most up-to-date information on federal candidate species and State-listed species in New Jersey and may be contacted at the following address:

Coordinator
Natural Heritage Program
Division of Parks and Forestry
P.O. Box 404
Trenton, New Jersey 08625
(609) 984-0097

Additionally, information on New Jersey's State-listed wildlife species may be obtained from the following office:

Dr. Larry Niles
Endangered and Nongame Species Program
Division of Fish and Wildlife
P.O. Box 400
Trenton, New Jersey 08625
(609) 292-9400

If information from either of the aforementioned sources reveals the presence of any federal candidate species within a project area, the Service should be contacted to ensure that these species are not adversely affected by project activities.

5002 / CO / OI

## PERMIT REQUIREMENTS FOR ACTIVITIES IN WETLANDS

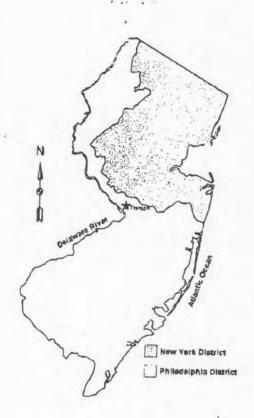
A review of the Service's National Wetland Inventory maps indicates that wetlands occur within the project area. Wetlands provide habitats for a variety of migratory and resident species of fish and wildlife. Thus, the Service discourages activities in and affecting the Nation's wetlands that would unnecessarily damage, degrade, or destroy the values associated with them. Project activities in wetlands may require federal and State permits from the U.S. Army Corps of Engineers pursuant to the Clean Water Act of 1977 (33 U.S.C. 1344 et seq.), and the New Jersey Department of Environmental Protection and Energy pursuant to the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et seq.). Thus, if work is proposed in or adjacent to wetlands, the following offices must be contacted to determine federal and State permit requirements, respectively:

#### Federal Permitting Authority:

Regulatory Branch
U.S. Army Corps of Engineers
New York District
26 Federal Plaza
New York, New York 10278-0090
(212) 264-3996
Fax #: (212) 264-4260

or

Regulatory Branch
U.S. Army Corps of Engineers
Philadelphia District
100 Penn Square East
Philadelphia, Pennsylvania 19107-3390
(215) 656-6725
Fax #: (215) 656-6724



### State Permitting Authority:

Land Use Regulation Program

New Jersey Department of Environmental Protection

P.O. Box 439

501 East State St., 2<sup>nd</sup> Floor

Trenton, New Jersey 08625

(609) 984-3444

Fax #: Northern Counties (609-292-1231); Southern Counties (609-292-8115)

Revised January 29, 2003



James E. McGreevey

Department of Environmental Protection

Division of Parks and Forestry
Office of Natural Lands Management
Natural Heritage Program
P.O. Box 404
Trenton, NJ 08625-0404
Tel. #609-984-1339
Fax. #609-984-1427

September 11, 2003

Bradley M. Campbell Commissioner

Victor Furmanec Dresdner Robin 371 Warren Street Jersey City, NJ 07302-3035

Re:

I-295/I-76/Route 42 Direct Connection

Dear Mr. Furmanec:

Thank you for your data request regarding rare species information for the above referenced project site in Bellmawr, Mt. Ephraim and Gloucester City, Camden County.

Searches of the Natural Heritage Database and the Landscape Project are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the topographic map(s) submitted with the Request for Data into our Geographic Information System. We do not verify that your project bounds are accurate, or check them against other sources. Landscape patches are searched using the boundary depicted on your map buffered by 15 meters. The 15-meter buffer is to accommodate for inherent GIS mapping imprecision.

We have checked the Natural Heritage Database and the Landscape Project habitat mapping for occurrences of any rare wildlife species or wildlife habitat on the referenced site. Please see Table 1 for species list and conservation status.

Table 1 (on referenced site).

cientific Name	Federal Status	State Status	Grank	Srank
			Cicini	Oranic
(	cientific Name	cientific Name Federal Status	State Status State Status	cientific Name Federal Status State Status Grank

Neither the Natural Heritage Database nor the Landscape Project has records for any additional rare wildlife species or wildlife habitat within 1/4 mile of the referenced site.

We have also checked the Natural Heritage Database for occurrences of rare plant species or natural communities. The Natural Heritage Data Base does not have any records for rare plants or natural communities on or within 1/4 mile of the site.

Attached is a list of rare species and natural communities that have been documented from Camden County. If suitable habitat is present at the project site, these species have potential to be present.

Status and rank codes used in the tables and lists are defined in the attached EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS.

If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive I-Map-NJ website at the following URL, http://www.state.nj.us/dep/gis/imapnj/imapnj.htm or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program.

PLEASE SEE THE ATTACHED 'CAUTIONS AND RESTRICTIONS ON NHP DATA'.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Herbert a. Lord

Herbert A. Lord Data Request Specialist

cc:

Lawrence Niles

NHP File No. 03-3907571

CAMDEN COUNTY
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

SRANK	S2B, S4N S2 S2 S2 S1B, S7N S3 S2B, S2N	83 8 85 83 8	\$253 \$253 \$253 \$3 \$1 \$1 \$253 \$3 \$3
GRANK	G5 G3 G4 G4 G4 G5 G4T4	G37 G47 G3	G5 G3 G4 G3 G3 G4 G4 G4 G4 G5 G5
REGIONAL	*		
STATE	8/8 8 8 8 8 8 4 4 4 4 4 4 4 4 4 4 4 4 4 4		F4 F4
FEDERAL	TI		
COMMON NAME	GREAT BLUE HERON BOG TURTLE TIMBER RATTLESNAKE PEREGRINE FALCON PINE BARRENS TREEFROG RED-HEADED WOODPECKER NORTHERN PINE SNAKE	VERNAL POND FRESHWATER TIDAL MARSH COMPLEX PITCH PINE LOWLAND FOREST	COMET DARNER FROSTED ELFIN MARTHA'S PENNANT SCARLET BLUET PINE BARRENS BLUET ROBUST BASKETTAIL MOTTLED DUSKY WING BANNER CLUBTAIL SMOOTH COIL DOTTED SKIPPER EASTERN LAMPMUSSEL TIDEMATER MUCKET
NAME	ARDEA HERODIAS CLEMMYS MUHLENBERGII CROTALUS HORRIDUS FALCO PEREGRINUS HYLA ANDERSONII MELANERPES ERYTHROCEPHALUS PITUOPHIS MELANOLEUCUS MELANOLEUCUS	COASTAL PLAIN INTERMITTENT POND FRESHWATER TIDAL MARSH COMPLEX PITCH PINE LOWLAND FOREST	ANAX LONGIPES CALLOPHRYS IRUS CELITHEMIS MARTHA ENALLAGMA PICTUM ENALLAGMA RECURVATUM EPITHECA SPINOSA ERYNNIS MARTIALIS GOMPHUS APOMYIUS HELICODISCUS SINGLEYANUS HESPERIA ATTALUS SLOSSONAE LAMPSILIS RADIATA LEPTODEA OCHRACEA
	*** Vertebrates	*** Ecosystems	** Invertebrates

27 JUN 2002

2

CAMDEN COUNTY
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

			STATUS	STATUS	STATUS	Winds.	
LIBELLULA AXILENA		BAR-WINGED SKIMMER				GS	SZBS3B,'SZ
arrigan arminit		EASTERN PONDMUSSEL		F		G4G5	z G
NICROPHORUS AMERICANUS		AMERICAN BURYING BEETLE	I.B.	Ø		6263	SH
PIERIS VIRGINIENSIS		WEST VIRGINIA WHITE				G3G4	SH
POLYGONIA PROGNE		GRAY COMMA				GS	SH
PONTIA PROTODICE		CHECKERED WHITE		F		949	S1
SPARTINIPHAGA CARTERAE		CARTER'S NOCTUID MOTH				G2G3	\$2
*** Vascular plants							
AESCHYNOMENE VIRGINICA		SENSITIVE JOINT-VETCH	LT	М	LP	G2	SI
AGASTACHE SCROPHULARIIFOLIA		PURPLE GIANT-HYSSOP				G4	25
AMIANTHIUM MUSCITOXICUM		FLY POISON				G4G5	82
ARISTIDA DICHOTOMA VAR		CURTISS' THREE-AWN GRASS				GSTS	25
CURTISSII							
ARISTIDA LANOSA		WOOLLY THREE-AWN GRASS		Eq		GS	S1
ARISTIDA VIRGATA		WAND-LIKE THREE-AWN GRASS				G5T4T5	25
ARNOGLOSSUM MUEHLENBERGII		GREAT INDIAN PLANTAIN				G4	SX.1
ASCLEPIAS RUBRA		RED MILKWEED			ILP	G4G5	82
ASCLEPIAS VARIEGATA		WHITE MILKWEED				GS	25
ASCLEPIAS VERTICILLATA	TA	WHORLED MILKWEED				GS	82
ASTER RADULA		LOW ROUGH ASTER		м		GS	SI
BIDENS BIDENTOIDES		ESTUARY BURR-MARIGOLD				63	82
BOTRYCHIUM ONEIDENSE		BLUNT-LOBE GRAPE FERN				640	82
CACALIA ATRIPLICIFOLIA	IA	PALE INDIAN PLANTAIN		M		G4GS	81
CALAMOVILFA BREVIPILIS	SI	PINE BARREN REEDGRASS			LP	G4	84
CALYSTEGIA SPITHAMAEA	A	ERECT BINDWEED		ы		G4G5T4T5	SI
CAREX AQUATILIS		WATER SEDGE		М		GS	81
CAREX BARRATTII		BARRATT'S SEDGE			LP	G4	84
CAREX CUMULATA		CLUSTERED SEDGE		D		24.2	SH

CAMDEN COUNTY
AND NATURAL COMMUNITIES PRES

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN THE NEW JERSEY NATURAL HERITAGE DATABASE

	NAME	COMMON NAME	FEDERAL	STATE	REGIONAL	GRANK	SRANK
MITCHELL'S SEDGE BOTTLE-SHAPED SEDGE SCARLET INDIAN-PAINTBRUSH REDBUD RED GOOSEPOOT LONG-BRACT GREEN ORCHID SLENDER DAYFLOWER ROSE-COLOR COREOPSIS ELLIPTICAL RUSHFOIL SMARTWEED DODDER ENGELWANN'S FLAT SEDGE LANCASTER FLAT SEDGE ROUGH PLAYSEDGE PINELAND TICK-TREPOIL VELLOFT TICK-TREPOIL VELLOFT TICK-TREPOIL VELLOFT TICK-TREPOIL VELLOFT TICK-TREPOIL TARGER BUTTONWEED CORNEL-LEAF ASTER CAROLINA WHITLOW-GRASS DOWNY WILLOWHERB PARKER'S PIPEWORT ROUGH COTTON-GRASS M DOG-PENNEL THOROUGHWORT ROUGH COTTON-GRASS M DOG-PENNEL THOROUGHWORT ROUGH GENTAN PARRICAN MANNA GRASS E PINE BARREN GENTAN  RHERICAN MANNA GRASS E					001010		
BOTTLE-SHAPED SEDGE SCARLET INDIAN-PAINTBRUSH REDBUD REDBUD RED GOOSEFOOT LONG-BRACT GREEN ORCHID SLENDER DAYFLOWER ROSE-COLOR COREOPSIS ELLIPTICAL RUSHFOIL SMARTWEED DODDER ENGELMANN'S FLAT SEDGE LANCASTER FLAT SEDGE PINELAND TICK-TREFOIL VELVETY TICK-TREFOIL	CAREX MITCHELLIANA	MITCHELL'S SEDGE				G3G4	82
SCARLET INDIAM-PAINTBRUSH REDBUD REDBUD RED GOOSEPOOT LONG-BRACT GREEN ORCHID SLENDER DAYFLOWER ROSE-COLOR COREOPSIS ELLIPTICAL RUSHFOIL SWARTWEED DODDER ENGELMANN'S FLAT SEDGE LANCASTER FLAT SEDGE LANCASTER FLAT SEDGE ROUGH FLATSEDGE ROUGH PLATSEDGE PINELAND TICK-TREFOIL VELVETY TICK-TREFOIL VELVETY TICK-TREFOIL VELVETY SEGGE ROUGH PLATSEDGE POWNY WILLOWHERB CAROLINA WHITLOW-GRASS DOWNY WILLOWHERB PARKER'S PIPEWORT ROUGH COTTON-GRASS TALL RAITLESNAKE-MASTER M VAR TORREY'S BONESET PINE BARREN BONESET PINE BARREN GENTIAN AMERICAN WANNA GRASS E	CAREX UTRICULATA	BOTTLE-SHAPED SEDGE				GE	82
REDBUD RED GOOSEPOOT RED GOOSEPOOT SLENDER DAYFLOWER ROSE-COLOR COREOPSIS ELLIPTICAL RUSHFOIL SWARTWEED DODDER ENGELMANN'S FLAT SEDGE LANCASTER FLAT SEDGE LANCASTER FLAT SEDGE ROUGH PLATSEDGE ROUGH PLATSEDGE ROUGH PLATSEDGE ROUGH PLATSEDGE CORNEL-LEAF ASTER CAROLINA WHITLOW-GRASS DOWNY WILLOWHERB PARKER'S PIPEWORT ROUGH COTTON-GRASS TALL RATTLESNAKE-MASTER M VAR TORREY'S BONESET PINE BARREN BONESET PINE BARREN GENTIAN AMERICAN MANNA GRASS E	CASTILLEJA COCCINEA	SCARLET INDIAN-PAINTBRUSH				GS	82
RED GOOSEFOOT  LONG-BRACT GREEN ORCHID  SLENDER DAYFLOWER  ROSE-COLOR COREOPSIS  ELLIPTICAL RUSHFOIL  SWARTWEED DODDER  ENGELMANN'S FLAT SEDGE  LANCATER FLAT SEDGE  ROUGH FLATSEDGE  CORNEL-LEAF ASTER  CAROLINA WHITLOW-GRASS  DOWNY WILLOWHERB  PARKER'S PIPEWORT  ROUGH COTTON-GRASS  R  M DOG-FENNEL THOROUGHWORT  M DOG-FENNEL THOROUGHWORT  M VAR TORREY'S BONESET  PINE BARREN BONESET  PINE BARREN GENTIAN  AMERICAN MANNA GRASS  E	CERCIS CANADENSIS	REDBUD		ы		GSTS	SI
SLENDER DAYFLOWER  SLENDER DAYFLOWER  ROSE-COLOR COREOPSIS  ELLIPTICAL RUSHFOIL SWARTWEED DODDER  ENGELMANN'S FLAT SEDGE LANCESTER FLAT SEDGE CORNEL-LEAF ASTER  CAROLINA WHITLOW-GRASS DOWNY WILLOWHERB PARKER'S PIPEWORT ROUGH COTTON-GRASS  R  R  DOG-FENNEL THOROUGHWORT  M  DOG-FENNEL THOROUGHWORT  M  VAR TORREY'S BONESET  E  PINE BARREN BONESET  E  PINE BARREN GENTIAN  AMERICAN MANNA GRASS  E	CHENOPODIUM RUBRUM	RED GOOSEFOOT		ы		GS	S1
SLENDER DAYFLOWER  ROSE-COLOR COREOPSIS  ELLIPTICAL RUSHFOIL SWARTWEED DODDER  ENGELANN'S FLAT SEDGE LANCASTER FLAT SEDGE LANCASTER FLAT SEDGE LANCASTER FLAT SEDGE LANCASTER FLAT SEDGE  ROUGH PLAISEDGE  PINELAND TICK-TREFOIL VELVETY TICK-TR	COELOGLOSSUM VIRIDE VAR	LONG-BRACT GREEN ORCHID				GSTS	82
SLENDER DAYFLOWER  ROSE-COLOR COREOPSIS  ELLIPTICAL RUSHFOIL SMARTWEED DODER  ENGELAUN'S FLAT SEDGE LANCASTER FLAT SEDGE LANCASTER FLAT SEDGE LANCASTER FLAT SEDGE LANCASTER FLAT SEDGE CORNEL-LEAF ASTER CAROLINA WHITLOW-GRASS DOWNY WILLOWHERB PARKER'S PIPEWORT ROUGH COTTON-GRASS TALL RATTLESNAKE-MASTER TALL RATTLESNAKE-MASTER THE BARKEN BONESET FINE BARREN BONESET PINE BARREN GENTIAN AMERICAN MANNA GRASS E  E  PROSE-COLOR CORDED E  E  FINE BARREN GENTIAN  E  FINE BARREN GENTIAN  AMERICAN MANNA GRASS E	VIRESCENS						
ROSE-COLOR COREOPSIS ELLIPTICAL RUSHFOIL SWARTWEED DODDER ENGELAANN'S FLAT SEDGE LANCASTER FLAT SEDGE  ROUGH FLATSEDGE  ROUGH FLATSEDGE  CORNEL-LEAF ASTER CAROLINA WHITLOW-GRASS DOWNY WILLOWHERB PARKER'S PIPEWORT  ROUGH COTTON-GRASS AR TALL RATTLESNAKE-MASTER  TOME OCG-FENNEL THOROUGHWORT UM DOG-FENNEL THOROUGHWORT  UM DOG-FENNEL THOROUGHWORT  TORREY'S BONESET  FINE BARREN BONESET  FINE BARREN GENTIAN  AMERICAN MANNA GRASS E	COMMELINA ERECTA	SLENDER DAYFLOWER		ы		GSTS	SH.1
ELLIPTICAL RUSHFOIL SWARTWEED DODDER ENGELMANN'S FLAT SEDGE LANCASTER FLAT SEDGE LANCASTER FLAT SEDGE LANCASTER FLAT SEDGE  LANCASTER FLAT SEDGE  ROUGH PLATSEDGE  PINELAND TICK-TREFOIL VELVETY TICK-TREFOIL  LARGER BUTTONWEED  CORNEL-LEAF ASTER  CAROLINA WHITLOW-GRASS  E  DOMNY WILLOWHERB  PARKER'S PIPEMORT  ROUGH COTTON-GRASS  TALL RATTLESNAKE-MASTER  TORREY'S BONESET  PINE BARREN BONESET  PINE BARREN GENTIAN  AMERICAN MANNA GRASS  E	COREOPSIS ROSEA	ROSE-COLOR COREOPSIS			LP	G3	25
SMARTWEED DODDER  ENGELMANN'S FLAT SEDGE  LANCASTER FLAT SEDGE  LANCASTER FLAT SEDGE  ROUGH FLATSEDGE  PINELAND TICK-TREFOIL  UARGER BUTTONWEED  CORNEL-LEAF ASTER  CAROLINA WHITLOW-GRASS  DOWNY WILLOWHERB  PARKER'S PIPEWORT  ROUGH COTTON-GRASS  AR  TALL RATTLESNAKE-MASTER  TALL RATTLESNAKE-MASTER  DOG-FENNEL THOROUGHWORT  UM VAR  TORREY'S BONESET  PINE BARREN GENTIAN  RAMERICAN MANNA GRASS  E	CROTON WILLDENOWII	ELLIPTICAL RUSHFOIL			LP	G2	52
ENGELMANN'S FLAT SEDGE LANCASTER FLAT SEDGE ROUGH FLATSEDGE PINELAND TICK-TREFOIL LARGER BUTTONWEED CORNEL-LEAF ASTER CAROLINA WHITLOW-GRASS DOWNY WILLOWHERB PARKER'S PIPEWORT ROUGH COTTON-GRASS AR TALL RATTLESNAKE-MASTER TORREY'S BONESET UM VAR TORREY'S BONESET FINE BARREN GENTIAN FE PINE BARREN GENTIAN FE PINE BARREN GENTIAN FE FE FINE BARREN GENTIAN FINE BARREN GENTIAN FE FINE BA	CUSCUTA POLYGONORUM	SMARTWEED DODDER				GS	82
LANCASTER FLAT SEDGE  ROUGH FLATSEDGE  PINELAND TICK-TREFOIL  VELVETY TICK-TREFOIL  LARGER BUTTONWEED  CORNEL-LEAF ASTER  CAROLINA WHITLOW-GRASS  DOWNY WILLOWHERB  PARKER'S PIPEWORT  ROUGH COTTON-GRASS  AR  TALL RATTLESNAKE-MASTER  UM  DOG-FENNEL THOROUGHWORT  UM VAR  TORREY'S BONESET  PINE BARREN BONESET  PINE BARREN GENTIAN  E  PINE BARREN GENTIAN  E  PINE BARREN GENTIAN  E  PINE BARREN GENTIAN  E  PINE BARREN GENTIAN	TYPERUS ENGELMANNII	ENGELMANN'S FLAT SEDGE				G40	82
ROUGH FLATSEDGE PINELAND TICK-TREFOIL VELVETY TICK-TREFOIL LARGER BUTTONWEED CORNEL-LEAF ASTER CAROLINA WHITLOW-GRASS DOWNY WILLOWHERB PARKER'S PIPEWORT ROUGH COTTON-GRASS AR TALL RATTLESNAKE-MASTER UM DOG-FENNEL THOROUGHWORT UM DOG-FENNEL THOROUGHWORT UM DOG-FENNEL THOROUGHWORT  TORREY'S BONESET  PINE BARREN BONESET  PINE BARREN GENTIAN  E  PINE BARREN GENTIAN  E  PINE BARREN GENTIAN  E  PINE BARREN GENTIAN  E  PINE BARREN GENTIAN	CYPERUS LANCASTRIENSIS	LANCASTER FLAT SEDGE		ш		GS	SI
PINELAND TICK-TREFOIL  VELVETY TICK-TREFOIL  LARGER BUTTONWEED  CORNEL-LEAF ASTER  CAROLINA WHITLOW-GRASS  DOWNY WILLOWHERB  PARKER'S PIPEWORT  ROUGH COTTON-GRASS  AR  TALL RAITLESNAKE-WASTER  UM VAR  TORREY'S BONESET  PINE BARREN GENTIAN  E  PINE BARREN GENTIAN  E  PINE BARREN GENTIAN  E  PINE BARREN GENTIAN  E	CYPERUS RETROFRACTUS	ROUGH FLATSEDGE		M		GS	SH
VELVETY TICK-TREEPOIL  LARGER BUTTONWEED  CORNEL-LEAF ASTER  CAROLINA WHITLOW-GRASS  DOWNY WILLOWHERB  PARKER'S PIDEWORT  ROUGH COTTON-GRASS  AR  TALL RATTLESNAKE-MASTER  UM VAR  TORREY'S BONESET  PINE BARREN GENTIAN  E  PINE BARREN GENTIAN  E  F  ROHEN MANNA GRASS  E	DESMODIUM STRICTUM	PINELAND TICK-TREFOIL			LP	G4	82
RMA CORNEL-LEAF ASTER  CAROLINA WHITLOW-GRASS  M CAROLINA WHITLOW-GRASS  I PARKER'S PIPEWORT  IUM PARKER'S PIPEWORT  IUM VAR TALL RATTLESNAKE-MASTER  IFOLIUM DOG-FENNEL THOROUGHWORT  IFOLLUM VAR TORREY'S BONESET  ISOM PINE BARREN GENTIAN  E BINE BARREN GENTIAN  E	DESMODIUM VIRIDIFLORUM	VELVETY TICK-TREEFOIL				G52	82
CORNEL-LEAF ASTER CAROLINA WHITLOW-GRASS DOWNY WILLOWHERB PARKER'S PIPEWORT ROUGH COTTON-GRASS  VAR TALL RATTLESNAKE-MASTER LIUM DOG-FENNEL THOROUGHWORT E LIUM VAR TORREY'S BONESET  PINE BARREN BONESET  PINE BARREN GENTIAN  E  PINE BARREN GENTIAN  E  F  F  F  F  F  F  F  F  F  F  F  F	DIODIA VIRGINIANA	LARGER BUTTONWEED		D)		GSTS	S1
CAROLINA WHITLOW-GRASS  DOWNY WILLOWHERB PARKER'S PIPEWORT  ROUGH COTTON-GRASS  M VAR  TALL RATTLESNAKE-MASTER  DOG-FENNEL THOROUGHWORT  OLIUM  DOG-FENNEL THOROUGHWORT  E  PINE BARREN BONESET  M  PINE BARREN GENTIAN  E  RAMERICAN MANNA GRASS  E	DOELLINGERIA INFIRMA	CORNEL-LEAF ASTER				GS	82
DOWNY WILLOWHERB PARKER'S PIPEWORT ROUGH COTTON-GRASS  M VAR TALL RATTLESNAKE-MASTER  OLIUM DOG-FENNEL THOROUGHWORT  OLIUM VAR TORREY'S BONESET  M PINE BARREN BONESET  PINE BARREN GENTIAN  AMERICAN MANNA GRASS  E	DRABA REPTANS	CAROLINA WHITLOW-GRASS		В		GS	SH
PARKER'S PIPEWORT  ROUGH COTTON-GRASS  M VAR TALL RATTLESNAKE-MASTER  OLIUM DOG-FENNEL THOROUGHWORT  OLIUM VAR TORREY'S BONESET  M PINE BARREN BONESET  RINE BARREN GENTIAN  AMERICAN MANNA GRASS  E	EPILOBIUM STRICTUM	DOWNY WILLOWHERB				952	22
M VAR TALL RATTLESNAKE-MASTER  DOLUM DOG-FENNEL THOROUGHWORT  OLIUM VAR TORREY'S BONESET  M PINE BARREN BONESET  R PINE BARREN GENTIAN  AMERICAN MANNA GRASS  E	ERIOCAULON PARKERI	PARKER'S PIPEWORT				G3	82
TALL RATTLESNAKE-MASTER  DOG-FENNEL THOROUGHWORT  VAR TORREY'S BONESET  PINE BARREN BONESET  E  PINE BARREN GENTIAN  E  AMERICAN MANNA GRASS  E	ERIOPHORUM TENELLUM	ROUGH COTTON-GRASS		ы		GS	S1
DOG-FENNEL THOROUGHWORT  TORREY'S BONESET  PINE BARREN BONESET  PINE BARREN GENTIAN  E  PINE MANNA GRASS  E	ERYNGIUM YUCCIFOLIUM VAR	TALL RATTLESNAKE-MASTER				GSTS	SX
DOG-FENNEL THOROUGHWORT  TORREY'S BONESET  PINE BARREN BONESET  PINE BARREN GENTIAN  E  AMERICAN MANNA GRASS  E	YUCCIFOLIUM						
TORREY'S BONESET  PINE BARREN GENTIAN  AMERICAN MANNA GRASS  E	EUPATORIUM CAPILLIFOLIUM	DOG-FENNEL THOROUGHWORT		M		GS	82
PINE BARREN BONESET  PINE BARREN GENTIAN  AMERICAN MANNA GRASS  E	EUPATORIUM HYSSOPIFOLIUM VAR	TORREY'S BONESET				GST4TS	82
PINE BARREN BONESET E PINE BARREN GENTIAN AMERICAN MANNA GRASS E	LACINIATUM						
PINE BARREN GENTIAN AMERICAN MANNA GRASS E	EUPATORIUM RESINOSUM	PINE BARREN BONESET		ш	LP	63	25
AMERICAN MANNA GRASS	GENTIANA AUTUMNALIS	PINE BARREN GENTIAN			ΓÞ	63	83
	SLYCERIA GRANDIS	AMERICAN MANNA GRASS		[4]		GSTS	82

27 JUN 2002

CAMDEN COUNTY
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL	STATE	REGIONAL	GRANK	SRANK
		STATUS	STATUS	STATUS		
GNAPHALIUM HELLERI	SMALL EVERLASTING		ш		G4G5T3?	SH
HELONIAS BULLATA	SWAMP-PINK	LT	123	LP	G3	83
HEMICARPHA MICRANTHA	SMALL-FLOWER HALFCHAFF SEDGE		M		G4	S1
HETERANTHERA MULTIFLORA	BOUQUET MUD-PLANTAIN	4			G4	25
HYDRASTIS CANADENSIS	GOLDEN SEAL		ы		G4	SH.1
JUNCUS CAESARIENSIS	NEW JERSEY RUSH		ы	LP	G2	SS
JUNCUS TORREYI	TORREY'S RUSH		м		G5	SI
KUHNIA EUPATORIOIDES	FALSE BONESET		м		GSTS	SI,
LEMNA PERPUSILLA	MINUTE DUCKWEED		ы		GS	SI
LIMOSELLA SUBULATA	AWL-LEAF MUDWORT		ш		G4G5	S1
LINUM INTERCURSUM	SANDPLAIN FLAX		ы		G4	S1
LISTERA AUSTRALIS	SOUTHERN TWAYBLADE			LP	G4	52
MELANTHIUM VIRGINICUM	VIRGINIA BUNCHFLOWER		ы		GS	S1
MICRANTHEMUM MICRANTHEMOIDES	NUTTALL'S MUDWORT		ы		GH	SH
MUHLENBERGIA TORREYANA	PINE BARREN SMOKE GRASS			LP	G3	83
MYRIOPHYLLUM TENELLUM	SLENDER WATER-MILFOIL		ш		GS	S1
NELUMBO LUTEA	AMERICAN LOTUS		ш		G4	SI
NUPHAR MICROPHYLLUM	SMALL YELLOW POND-LILY		64		GST4T5	SH
ONOSMODIUM VIRGINIANUM	VIRGINIA FALSE-GROMWELL		м		64	S1
PLANTAGO PUSILLA	DWARF PLANTAIN		м		GS	SH
PLATANTHERA FLAVA VAR FLAVA	SOUTHERN REIN ORCHID		ш		G4T47Q	SI
PLUCHEA FOETIDA	STINKING FLEABANE		ш		GSTS	S1
POLYGALA INCARNATA	PINK MILKWORT		ы		GS	SH
PRUNUS ANGUSTIFOLIA	CHICKASAW PLUM		ы		GST4TS	82
PUCCINELLIA FASCICULATA	SALTMARSH ALKALI GRASS				3365	82
PYCNANTHEMUM CLINOPODIOIDES	BASIL MOUNTAIN-MINT		ы		G2	S1
RHYNCHOSPORA GLOBULARIS	COARSE GRASS-LIKE BEAKED-RUSH		D2		GSP	S1
RHYNCHOSPORA INUNDATA	SLENDER HORNED-RUSH			LP	6364	25
RHYNCHOSPORA KNIESKERNII	KNIESKERN'S BEAKED-RUSH	LT	ш	LP	G1	SI
RHYNCHOSPORA PALLIDA	PALE BEAKED-RUSH				G3	83

CAMDEN COUNTY
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL	STATE	REGIONAL	GRANK	SRANK
		STATUS	STATUS	STATUS		
SAGITTARIA TERES	SLENDER ARROWHEAD		140		63	SI
SCHEUCHZERIA PALUSTRIS	ARROW-GRASS		М		GSTS	SH
SCHIZAEA PUSILLA	CURLY GRASS FERN			LP	G3	83
SCHWALBEA AMERICANA	CHAFFSEED	LE	ш	LP	G2	SI
SCIRPUS LONGII	LONG'S WOOLGRASS		ы	LP	GZ	82
SCIRPUS MARITIMUS	SALTMARSH BULRUSH		ы		GS	SH
SPIRANTHES ODORATA	FRAGRANT LADIES'-TRESSES				GS	22
STELLARIA PUBERA	STAR CHICKWEED		£Q.		GP	SH
THASPIUM BARBINODE	HAIRY-JOINT MEADOW-PARSNIP				GS	SX
VERBENA SIMPLEX	NARROW-LEAF VERVAIN		m		GS	S1
VULPIA ELLIOTEA	SQUIRREL-TAIL SIX-WEEKS GRASS		ы		GS	SH
XYRIS FIMBRIATA	FRINGED YELLOW-EYED-GRASS		m		GS	S1

17 Records Processed

# DEPARTEDATION OF THE ARMY PHILADELPHIA LEGIS OF COPPS OF ENGINEERS WANAMAKER BUILDING, 100 PENN SQUARE EST PHILADELPHIA, PENNSYLVANIA 19107-3390

FEB 1 5 2005

Regulatory Branch Application Section II

SUBJECT:

CENAP-OP-R-199802102-35 (JD)

I-295 Direct Connection

Mr. Nick Caiazza
Project Manager
New Jersey Department of Transportation
Bureau of Environmental Project Support
1035 Parkway Avenue
P.O. Box 600
Trenton, New Jersey 08625-0600

Dear Mr. Caiazza:

The plans identified on the following page depict the extent of Federal jurisdiction on the subject property. The basis of our determination of jurisdiction is also provided (Enclosure 1).

Pursuant to Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act, a Department of the Army permit is required for work or structures in navigable waters of the United States and the discharge of dredged or fill material into waters of the United States including adjacent and isolated wetlands. Any proposal to perform the above activities within the area of Federal jurisdiction requires the prior approval of this office.

This delineation/determination has been conducted to identify the limits of the Corps Clean Water Act jurisdiction for the particular site identified in this request. This delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are U.S. Department of Agriculture (USDA) program participants, or anticipate participating in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

This letter is valid for a period of five (5) years. However, this wetland determination is issued in accordance with current Federal regulations and is based upon the existing site conditions and information provided by you in your application. This office reserves the right to reevaluate and modify the jurisdictional determination at any time should the existing site conditions or Federal regulations change, or should the information provided by you trave to be false, incomplete or inaccurate.

FEB 17 2005

In accordance with the U.S. Army Corps of Engineers Administrative Appeal Process, you may accept or appeal the approved jurisdiction determination. For further information in this regard, please refer to the Notification of Administrative Appeal Options and Process and Request for Appeal form (Enclosure 2).

If you should have any questions regarding this matter, please contact me at (215) 656-5822 or write to the above address.

Sincerely,

Michael H.	Hayduk
Biologist	

SUBJECT PROPERTY: I-295/I-76/Route 42 Direct Connection project, Borough of Bellmawr, Borough of Mount Ephram, and City of Gloucester, Camden County, New Jersey.

SURVEY DESCRIPTION: Plans entitled "Wetlands Delineation, Index Sheet", dated June 2004, last revised January 26, 2005, prepared by Dewberry-Goodkind Inc., and "Wetlands Delineation, Sheets 1 through 6", dated November 9, 2004, last revised/signed November 10, 2004, prepared by Dewberry-Goodkind Inc.

\*

COMMENTS: Site visits with DG Inc. on October 17, 2003 & December 3, 2003. Aerial photo review on November 26, 2003.

**Enclosures** 

Copies Furnished:

William McLaughlin, NJDEP, LURP

Brian Sayre

Dewberry-Goodkind Inc.

299 Webro Road Parsippany, New Jersey 07054-2800 PROJ. MANAGEMENT

9734288509

Fax:609-530-5397

8 2005 15:40 Mar

P. 02



State of New Jersey

Department of Environmental Protection

Bradley M. Camphell Commissional

Richard J. Codey Acting Governor

Land Use Regulation Program P.O. Box 439, Tremon, NJ 08625-0439 Fax # (609) 292-8115 Fax # (609) 777-3656 www.state.nj.us/landusc

NJ Department of Transportation 1035 Parkway Avenue P.O. Box 600 Trenton, NJ 08625-0600

FEB 0 9 2005

Attention: Nicholas Calazza

RE:

I-295 / I-76 / Route 42 Direct Connection

Letter of Interpretation/Line Verification and Jurisdicational Determination 0400-04-0002.1 LOI 040001

File No.

Applicant:

NJDOT Trenton, NJ 08625

### Dear Nick Calazza:

This letter is in response to your request of July 12, 2004 for a Letter of Interpretation to verify the jurisdictional boundary of the freshwater wetlands and waters on the referenced property.

in accordance with agreements between the State of New Jersey Department of Environmental Protection, the U.S. Army Corps of Engineers Philadelphia and New York Districts, and the U.S. Environmental Protection Agency, the NJDEP, Land Use Regulation Program is the lead agency for establishing the extent of State and Federally regulated wetlands and open waters in those areas assumed by the State of New Jersey. The USERA and/or USACOE retain the right to reevaluate and modify the jurisdictional determination at any time should the information prove to be incomplete or inaccurate. Portions of the subject wetlands are not subject to assumption and therefore remain jointly regulated by the State and the U.S. Army Corps of Engineers, Philadelphia District.

Based upon the information submitted, and upon site inspections conducted on October 31 and December 3, 2003 and May 5, 2004, the Land Use Regulation Program has determined that the wetlands and waters boundary line(s) as shown on the six (6) plan sheets entitled: "I-295 / I-76 / Route 42 Direct Connection Borough of Bellmawr, Borough of Mount Ephraim and City of Gloucester, Camden County". signed by George Soule, dated 11/19/04 and one (1) Index Sheet signed by Arthur J. Schappell Jr. and dated 1/26/05, are accurate as shown.

Any activities regulated under the Freshwater Wetlands Protection Act proposed within the wetlands or transition areas or the deposition of any fill material into any water area, will require a permit from this office unless exempted under the Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq., and implementing rules, N.J.A.C. 7:7A. A copy of this plan, together with the information upon which this boundary determination is based, has been made part of the Program's public records

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PROJ. MANAGEMENT

Fax:609-530-5387

Mar 8 2005 15:41

P. 03

1-295 / 1-76 / Route 42 Direct Connection Page 2 - File No.: 0400-04-0002.1 LOI 040001

Pursuant to the Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A-1 et seg., you are entitled to rely upon this jurisdictional determination for a period of five years from the date of this letter.

The freshwater wetlands and waters boundary line(s), as determined in this letter, must be shown on any future site development plans. The line(s) should be labeled with the above LURP file number and the following note:

"Freshwater Wetlands/Waters Boundary Line as verified by NJDEP."

In addition, the Department has determined that wetlands on the subject property are of intermediate resource value and have a standard transition area or buffer required adjacent to these wetlands of fifty (50) feet, with the exceptions listed below. This intermediate resource value classification is based on the determination that the wetlands are associated with tributantes to Big Timber Creek or Little Timber Creek, which are FW-2 waters as listed in the "Classification of New Jersey Waters As Related to Their Sultability For Trout," December, 1996. This classification may affect the requirements for an Individual Wetlands Permit (see N.J.A.C. 7:7A-3), the types of Statewide General Permits available for the wetlands portion of this property (see N.J.A.C. 7:7A-9) and the modification available through a transition area waiver (see N.J.A.C. 7:7A-7). Please refer to the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et. seq.) and implementing rules for additional information.

#### Wetland Area

#### Shoet W-1

TC1 thru TC19
AI1 thru AI7
TB1-17 thru TB34-49
TD8 thru TD18
EC7-1 thru EC7-8
TE21 thru TE23

Programa

TD1 thru TD 21

#### Sneet W-2

C1 thru C9
EC7-1 thru EC7-8
TE1 thru TE36
TF1-43 thru TF83-89
D1 thru D10
E1 thru E5
P1 thru P8
AJ1 thru AJ4
N1 thru N7
M1 thru M4
K10 thru K11
OW1 thru OW12

#### Sheet W-3

TF42 thru TF89 &TF76B OW1 thru OW12 U1 thru U7 K1 thru K21 Q1 thru Q6 J1 thru J4

## Resource Classification

Intermediate w/State Open Water Intermediate Intermediate w/State Open Water Intermediate w/State Open Water Ordinary Intermediate w/State Open Water

## Intermediate w/State Open Water

Ordinary Ordinary

## Intermediate w/State Open Water

Intermediate w/State Open Water Intermediate Intermediate Ordinary Ordinary Ordinary Ordinary Ordinary

Ordinary State Open Water

Intermediate w/State Open Water State Open Water

otate Open vvater Intermediate w/State Open Water

Intermediate Intermediate Intermediate

P. 04

PROJ. MANAGEMENT

Fax:609-530-5387

Mar 8 2005 15:42

1-295 / 1-76 / Route 42 Direct Connection Page 3 - File No.: 0400-04-0002.1 LOI 040001

> R1 thru R6 11 thru 110 \$1 thru \$4 T1 thru T4 V1 thru V12 AF1-12 thru AE1-7 Y1 thru Y3 W1 thru W5 X1 thru X3 Z1-6, AA1-8, AAA1-3 thru AB-D

Ordinary Intermediate Ordinary Ordinary Intermediate

Intermediate w/State Open Water Intermediate w/State Open Water Intermediate w/State Open Water Intermediate w/State Open Water Intermediate w/State Open Water

Sheet W-4

TB15 thru TB33 TD4 thru TD 18 C1 thru C12

H1 thru H6

Intermediate w/State Open Water Intermediate w/State Open Water Ordinary

Sheet W-5

TA1-4 thru TA21-27 S1A1 thru S1A21 D1-31 thru B1-4, B48-61 B4 thru B27 C1 thru C8 B1 thru 64 (Wetland B) Area HW

Intermediate w/State Open Water Intermediate w/State Open Water Intermediate w/State Open Water Upland intermediate Ordinary State Open Water Ordinary

Sheet W-6

TA3 thru TA27, S1A13-16 Wetland A

Intermediate w/State Open Water Ordinary

It should be noted that this determination of wetland classification is based on the best Information presently available to the Department. The classification is subject to change if this information is no longer accurate, or as additional information is made available to the Department, including, but not limited to, information supplied by the applicant.

The coastal wetlands (1970) upper wetlands boundary, mean-high-water, and spring-high-water lines appear accurate as shown on the above-referenced plans. Impacts to coastal wetlands and intertidal/subtidal shallows are subject to mitigation in accordance with the constal rules (see N.J.A.C. 7:7E) applicable to Waterfront Development and Coastal Wetlands Permits. Areas subject to review pursuant to the coastal rules for waterfront development extend at least 100 feet and no more than 500 feet landward of the mean-high-water line as depicted, in accordance with N.J.A.C. 7:7-2.3(a)3.

This letter in no way legalizes any fill, which may have been placed, and does not waive any Tidelands ownership that the State of New Jersey may have in these propertie or authorizes other regulated activities, which may have occurred on-site. Also this determination does not affect your responsibility to obtain any local, State, or Federal permits which may be required.

Please note any remediation activities proposed within the designated wetlands and/or transition area will require the review and written approval from the Land Use Regulation Program prior to commencement of any regulated activities,

PROJ. MANAGEMENT

Fax:609-530-5387

Mar 8 2005 15:42

P. 05

I-295 / I-76 / Route 42 Direct Connection Page 4 File No.: 0400-04-0002.1 LOI 040001

In accordance with N.J.A.C. 7:7A-12.7, any person who is aggrieved by this decision may request a hearing within 30 days of the decision date by writing to: New Jersey Department of Environmental Protection, Office of Legal Affairs, Attention: Adjudicatory Hearing Requests, P.O. Box 402, Trenton, NJ 08625-0402. This request must include a completed copy of the Administrative Hearing Request Checklist.

Should you have any questions or need additional information regarding this letter, please contact William Mc Laughlin of our staff by mail at the above address, telephone (609-954-0195), or email (william mclaughlin@dep.state.nj.us). Be sure to indicate the Program's file number in all communication.

Sincerely,

Robert N. Cubberiey
Environmental Scientist 1
Land Use Regulation Program

WMcL state

C:

Michael Hayduk, ACOE Philadelphia District Office

Township of Bellmawr Clerk Township of Mt. Ephraim Clerk Gloucester City Clerk

Min att

Township of Bellmawr Construction Official
Township of Mt. Ephraim Construction Official
Gloucester City Construction Official

From-9734288509

## APPENDIX E Site Photographs



Photo Plate 1: View looking downstream (west) from Bell Road Bridge.



Photo Plate 2: View looking upstream (east) from Bell Road Bridge.

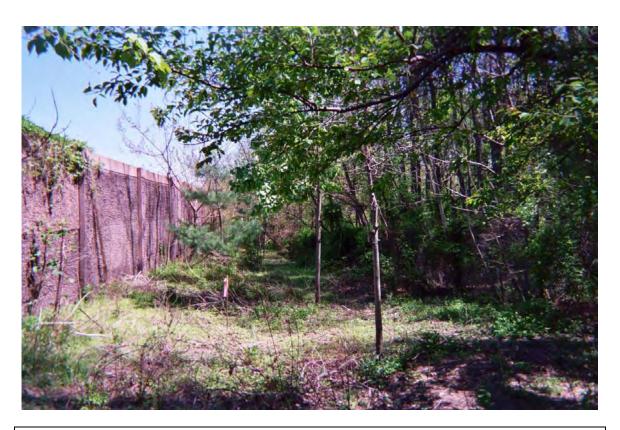


Photo Plate 3: View looking east toward Wetland V data point behind noise barrier.



Photo Plate 4: View looking east from AF-1 just beyond inlet. Note drop inlet.



Photo Plate 5: View looking southwest toward Wetland AF from AE-2.



Photo Plate 6: View looking south from Wetland Z Upland Data Point.



Photo Plate 7: View looking upstream from sanitary sewer line toward Wetlands AA and AB



Photo Plate 8: View looking downstream from sanitary sewer line toward Wetlands Z and AC.



Photo Plate 9: Wetland K. Note skunk cabbage up slope along seep line.

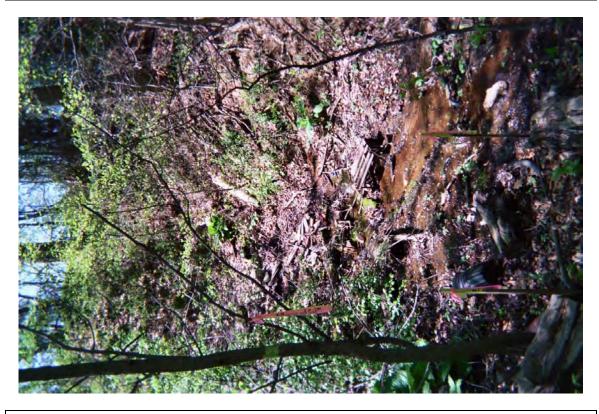


Photo Plate 10: Wetland K looking toward cemetery. Seep/spring along far side.



Photo Plate 11: Open Water behind residential dwelling on Lowell Avenue.



Photo Plate 12: View of wetland data point behind residential dwelling on Lowell Avenue. Note jewelweed is the dominant forbe.



Photo Plate 13: View looking east along the I 295 north corridor at Wetland P.



Photo Plate 14: Photograph of landfilled materials (glass, plastics, concrete, etc.) near TF-17.

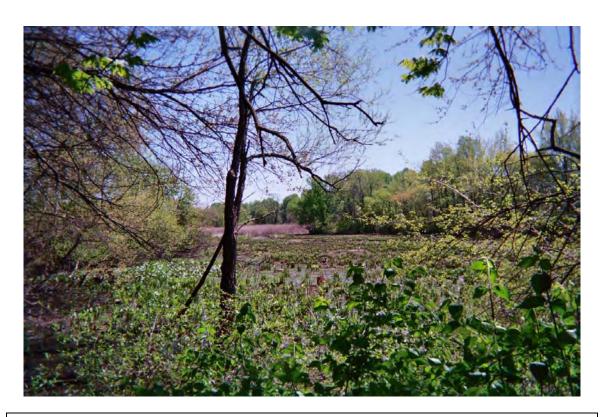


Photo Plate 15: Photograph of TF tidal wetland mud flat from TF-17.



Photo Plate 16: Photograph of Wetland N from the edge of the I-295 highway.



Photo Plate 17: View of the Upland Data Point 1 for Wetland TF. Data point at edge of Shining Star Park.



Photo Plate 18: View of the Wetland Data Point 1 for Wetland TF. Note wild rice beyond data point.



Photo Plate 19: View of the Upland Data Point 4 for Wetland TE. Note phragmites is an opportunistic species.



Photo Plate 20: View looking southeast from the Wetland Data Point 4 for Wetland TE.



Photo Plate 21: View looking west from Wetland TE station 8.



Photo Plate 22: View looking northwest from Wetland TE Data Point 1.



Photo Plate 23: View looking upstream from TB 49 at West Kings Highway Bridge.



Photo Plate 24: View of Wetland Data Point 1 for Wetland TB.



Photo Plate 25: View looking southwest near the culvert on Al Joe's curve.



Photo Plate 26: View looking downstream from the culvert at Al Joe's curve.



Photo Plate 27: View of Wetland Data Point 3 for Wetland TD.



Photo Plate 28: View of Upland Data Point 3 for Wetland TD



Photo Plate 29: Inlet in the southeast corner of Wetland TD.



Photo Plate 30: View looking toward Wetland TC from West Kings Highway.



Photo Plate 31: View looking toward wetland TC from West Kings Highway.



Photo Plate 32: View looking toward Wetland Data Point 1 for Wetland AI.



Photo Plate 33: View of upland area to the north of Wetland B.



Photo Plate 34: View of Wetland Data Point for Wetland H.



Photo Plate 35: View looking toward the storm water inlet pipes into Wetland H.



Photo Plate 36: View looking downstream from wetland point S-1 A-21.



Photo Plate 37: View looking across stream corridor of Stream S-1. Note mature stand of hardwoods.



Photo Plate 38: View looking downstream from Stream 1 Data Point 12.



Photo Plate 39: View of inlet pipes conveying flow (Waters of the U.S. in Culvert) under Bellmawr Park. Note severe scouring of stream bank and structure.



Photo Plate 40: View looking upstream from culvert at Creek Road.



Photo Plate 41: View looking downstream toward Creek Road from Wetland TA station TA-17.

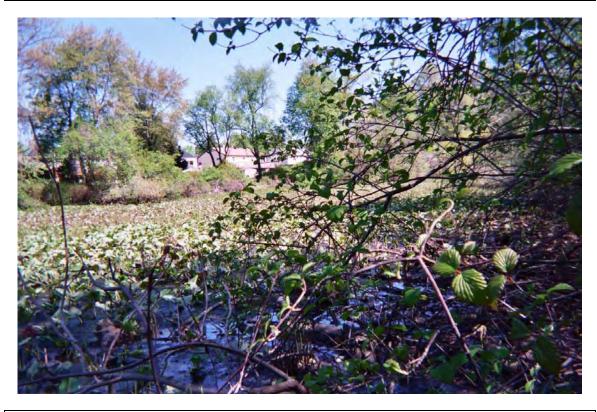


Photo Plate 42: View looking upstream from Wetland TA station TA-17



Photo Plate 43: TA Wetland. Note diversity of wetland species present.



Photo Plate 44: View of radio tower and open field adjacent to I-295 southbound near Creek Road.

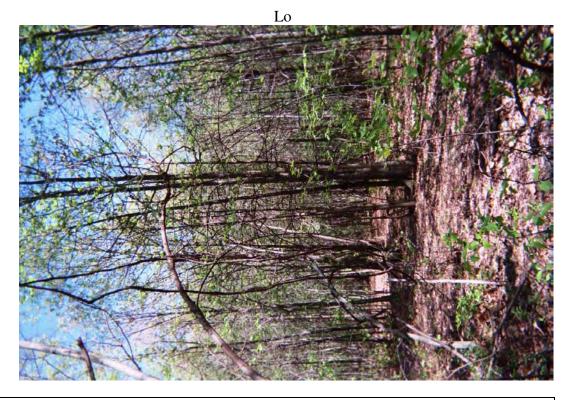


Photo Plate 45: View of area near Upland Reference Point for Wetland TA and wetland S-1-A.



Photo Plate 46: View of Wetland A an Isolated Ordinary Wetland



Photo Plate 47: View of Drainage Pipes beneath Essex Avenue, at Delineation Points Dew-1 and B-61, looking East.



Photo Plate 48: Little Timber Creek pass below I-295 on Northside of Al Jo's Curve.



Photo Plate 49: Bell Road, downstream side.



Photo Plate 50: Bell Road, downstream side.



Photo Plate 51: Bell Road, downstream side.

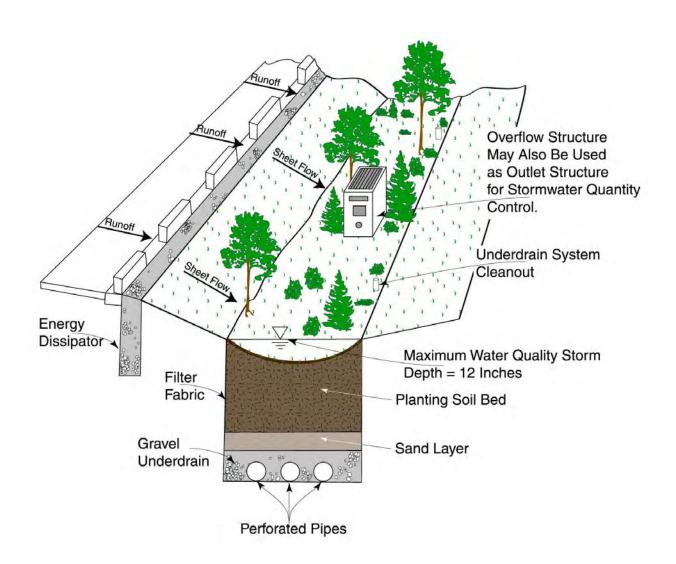


Photo Plate 52: Drain behind Bellmawr Baseball field downstream side of I-295.



Photo Plate 53: Drain behind Bellmawr Baseball field downstream side of I-295.

# **APPENDIX F Bioretention Basin Schematic Figure**



## <u>Typical Section of Bioretention Basin</u> Not to Scale

Source: NJDEP New Jersey Stormwater Best Management Practices Manual, April 2004

# **APPENDIX G Potential Wetland Mitigation Sites Search**

### TECHNICAL MEMORANDUM

TO: Nick Caiazza - NJDOT E-Team Leader

FROM: Brian A. Sayre - Dewberry-Goodkind, Inc.

DATE: October 11, 2005 – rev. January 2006

**RE:** I-295/I-76/Route 42 Direct Connection

**Summary of Potential Wetland Mitigation Sites Search** 

#### Introduction

As required by Executive Order 11990 and in accordance with Section 404(b)1 guidelines, wetland mitigation should include compensation for unavoidable losses. Further, the New Jersey Department of Environmental Protection (NJDEP) requires that wetlands impacted by the construction of roadways or other site development be mitigated as part of the project plan. Mitigation sites must be identified during the design of the project to ensure that suitable areas are available.

Generally, mitigation must be conducted in concert with the construction of the project to compensate for the loss of wetland functions and values. One potential option for mitigation is the creation of wetlands. Wetland creation as mitigation is generally required on a 2:1 basis, i.e. 2 acres of wetlands created for every 1 acre of wetland impacted. The 2:1 ratio was developed to ensure that equal functions and values of wetlands are replaced after the project area wetlands are impacted. Therefore, based on the estimated potential project area wetland impacts that range from approximately 1 to 4 acres (depending on the Alternative) associated with the I-295/I-76/Route 42 Direct Connection Project, a data review and field search was performed to identify potential wetland mitigation sites within the Little Timber Creek watershed and the surrounding areas. This site search was conducted in accordance with the mitigation site identification process, i.e. look first for potential sites within the project area (onsite) and then within the watershed. If necessary, then look for potential sites outside the watershed, but as close to the project area as possible. Three (3) onsite areas and one (1) offsite area were identified that are suitable to replace all of the functions and values of the wetlands that will be impacted by the project construction activities, as discussed below.

The site search identified three (3) onsite areas that are considered suitable for mitigation, as well as one (1) offsite area. These recommended sites are discussed below, as are the additional sites that were evaluated, but found not to be suitable. In total, thirty six (36) potential sites were identified and evaluated. The four (4) most promising Sites, onsite areas Nos. 1, 3, 5 and offsite area No. 36, are highlighted in the Findings section of this memorandum for convenience. The onsite areas (Sites 1 and 3) include the existing ramps of Al Jo's Curve, which could be removed depending on the alternative selected, and replaced with tidal wetlands. The third onsite area (Site 5) is located at Bell Road and involves the cleanout and restoration of the silt filled channel of Little Timber Creek. Site 36, the selected offsite area, is located in West Deptford and includes the GreenVest Main Ditch property, which is the property selected for the I-295/42

Missing Moves project. There is additional land on this property which would be suitable for mitigation for the needs of the Direct Connection project.

#### **Methods**

During April and May 2004 and June and July 2005, wetland specialists visited a total of thirty six (36) sites identified on the Runnemede, New Jersey, Camden, New Jersey, Woodbury, New Jersey-Pennsylvania, and Philadelphia, Pennsylvania, 7.5-minute U.S. Geological Survey (USGS) Quadrangle Maps. Many of these locations were selected for evaluation because they were depicted as disturbed and/or open land, which might provide viable sites for the construction and/or enhancement of wetlands for mitigation purposes related to the I-295/I-76/Route 42 Direct Connection Project. Other potential locations were identified through discussions with local municipal officials, as discussed below.

Prior to the site visits, five municipal offices were contacted in an attempt to identify properties that might provide potential mitigation land for acquisition. In addition, a review was conducted of aerial photographs and county soil data prepared by the Natural Resources Conservation Service (U.S. Department of Agriculture).

The municipal contacts included: Borough of Westville (Borough Administrator), Township of Deptford (Township Engineer), Borough of Brooklawn (Township Engineer), Borough of Bellmawr (Engineering/Sewer Department), and County of Camden (Director, Division of Environmental Affairs). The Borough of Westville indicated that there is land (an island) owned by the Borough located in the mouth of Big Timber Creek adjacent to the Delaware River. The Borough of Bellmawr suggested areas adjacent to the landfills located near the proposed Missing Moves project. The Township of Deptford and the Borough of Brooklawn provided no information on potential sites. The Camden County official also suggested the landfill areas near the proposed Missing Moves project.

#### **Findings**

The following is an overview of the thirty six (36) sites visited in the field and an initial evaluation of their potential for mitigation. The potential onsite mitigation areas that were evaluated are shown on Figure 24. All of the sites, both onsite and offsite, that were evaluated are shown on Figure 25. A detail of the sites reviewed in the immediate area of the proposed Direct Connection project, including the three (3) sites proposed for further evaluation in this area, is provided on Figure 26. Figures 26A through 26E illustrate the soil types, known contaminated sites, and NJDEP-mapped potential critical habitat cover types for the sites evaluated in the immediate area of the project. The onsite areas are discussed below first, followed by the offsite areas.

#### Onsite Potential Mitigation Areas Evaluated

#### Site 1

This site consists of the existing roadway and adjacent NJDOT right-of-way located within the western portion of Al Jo's curve on I-295 SB. According to the NJDEP Division of Coastal Resources map (Atlas Sheet No. 378-1878), this area of former tidelands was granted to the NJ State Highway Department on July 20, 1964. Mitigation in this area would consist of removal of the existing paved roadway and adjacent shoulders and slopes,

and creation of tidal wetlands, up to the approximate limits of the former tidelands lines on each side of Little Timber Creek, and upgradient of the delineated wetland lines. This site (as well as Site 3) would be available for mitigation if one of the Alternatives D, G2 or K is selected, i.e. those in which Al Jo's curve will be removed. Small portions of this site also would be available if either Alternative D1 or H1 is selected.

Since removal of this roadway ramp would restore tidal wetlands to the floodplain of Little Timber Creek (and increase flood storage) and ownership is not an issue, this area is considered suitable for mitigation given the selection of one of the Alternatives noted above. In addition, creation of wetlands in this area will replace the functions and values that will be impacted by construction of the new interchange, including storage of surface water, dissipation of energy, improvement of water quality and wetland habitat for many wildlife species.

The wetlands that could be created at this location would function as part of the existing, larger wetlands complex found in this portion of Little Timber Creek, which includes the existing natural tidal marsh adjacent to the Creek. This marsh contains stands of wild rice, *Zizania aquatica*, an important source of food for wildlife, which could be expanded into the mitigation area. Upon construction of this proposed mitigation area, there would be approximately 4.6 acres (including Sites 1 and 3) of additional open tidal water and wetlands along Little Timber Creek. In addition, the immediately adjacent upland area would be left undeveloped, and enhanced with a proposed public access trail and wetland viewing area. These site conditions will serve to enhance and protect the habitat of the created wetland and adjacent areas. This will result in improved wetland functions and values within the immediate project area, including habitat, water quality and vegetative diversity. Consideration of Site 1 as a potential mitigation site is recommended.

#### Site 2

This site is located along the west side ("infield area") of the eastern portion of Al Jo's curve, immediately upgradient of the wetlands delineation line and the NJDEP former tidelands line. Further, the site is located across Al Jo's curve from the end of Linden Avenue and the Mt. Ephraim girl's softball field. On July 20, 2005 the site was field inspected and found to be adjacent to the Little Timber Creek, partially wooded, with a fringe of existing wetlands. A storm drain beneath Al Jo's curve connects this area with a tidal stormwater ditch on the east side of the roadway, at the rear of the softball field. Observed vegetation within this site includes box elder, mulberry and elm trees. Depending on the selected roadway Alternative (i.e., if Al Jo's curve is removed), this site could be used in combination with Site 3 to allow for additional mitigation potential in this area, if needed. Although excavation of existing uplands would be required to create wetlands in this area, mitigation in this area would replace some of the functions and values that will be impacted by construction of the new interchange, including storage of surface water, improvement of water quality and wetland habitat for wildlife species.

#### Site 3

This site consists of the existing roadway and adjacent NJDOT right-of-way located within the eastern approach of Al Jo's curve on I-295 SB. According to the NJDEP Division of Coastal Resources map (Atlas Sheet No. 378-1878), this area of former tidelands was

granted to the NJ State Highway Department on July 20, 1964. Mitigation in this area would consist of removal of the existing paved roadway and adjacent shoulders and slopes, and creation of tidal wetlands, up to the approximate limits of the former tidelands lines on each side of Little Timber Creek, and upgradient of the delineated wetland lines. This site (as well as Site 1) would be available for mitigation if one of the Alternatives D, G2 or K is selected, i.e. those in which Al Jo's curve will be removed. Small portions of this site also would be available if either Alternative D1 or H1 is selected.

Since removal of this roadway ramp would restore tidal wetlands to the floodplain of Little Timber Creek (and increase flood storage) and ownership is not an issue, this area is considered suitable for mitigation given the selection of one of the Alternatives noted above. In addition, creation of wetlands in this area will replace the functions and values that will be impacted by construction of the new interchange, including storage of surface water, dissipation of energy, improvement of water quality and wetland habitat for many wildlife species.

The wetlands that could be created at this location would function as part of the existing, larger wetlands complex found in this portion of Little Timber Creek, which includes the existing natural tidal marsh adjacent to the Creek. This marsh contains stands of wild rice, Zizania aquatica, an important source of food for wildlife, which could be expanded into the mitigation area. Upon construction of this proposed mitigation area, there would be approximately 4.6 acres (including Sites 1 and 3) of additional open tidal water and wetlands along Little Timber Creek. In addition, the immediately adjacent upland area would be left undeveloped, and enhanced with a proposed public access trail and wetland viewing area. These site conditions will serve to enhance and protect the habitat of the created wetland and adjacent areas. This will result in improved wetland functions and values within the immediate project area, including habitat, water quality and vegetative diversity. Consideration of Site 3 as a potential mitigation site is recommended.

#### Site 4

This site is located to the north of I-295 and Al Jo's Curve, on Little Timber Creek in Mount Ephraim, New Jersey. On April 20, 2004 this site was field inspected and found to be unsuitable for mitigation because there is a significant quantity of debris and solid waste from previous land-filling activities. This site would require investigation for potential groundwater and/or soil contamination. Additionally the site is partially wooded, which would require tree removal for any wetland mitigation activities. Consequently, based on these issues, this site is not recommended for consideration as a mitigation site.

#### Site 5

This site is located at and immediately west of Bell Road and includes the silt-filled channel of Little Timber Creek. During the Agency line check of the wetland delineation for the Direct Connection project, the NJDEP and USACOE representatives commented on the poor condition of the Creek channel in this area. The Creek channel, including the culvert beneath Bell Road, is clogged with sediment from upland erosion and runoff. There also are a significant number of trees, snags and debris in the streambed that block the flow of water downstream. The build-up of silt and obstructions result in increased flooding in the

near-stream areas because of the restricted flow of storm water. Consequently, enhancement of the open water channel and adjacent wetlands would improve the condition of the Creek and reduce the severity of flooding in the immediately adjacent areas. This potential mitigation option is available under any of the proposed Alternatives and appears to be an opportunity to enhance the hydraulic functions of the Creek in this area. Mitigation in this area will replace some of the functions and values that will be impacted by construction of the new interchange, including storage of surface water, dissipation of energy, improvement of water quality and wetland habitat for wildlife species.

#### Site 6

This site is located immediately east of Bell Road and adjacent to the northern shoreline of Little Timber Creek. Approximately 50% of this site is located within existing NJDOT right-of-way and the remainder is on private property. Red maple, box elder and sycamore trees are located along the banks of the Little Timber Creek, with locust and black cherry trees on the upland border. The remaining upland portion of this site contains maintained lawn and a recently filled area between the private drive and the Creek. Portions of this area are frequently flooded during high water conditions within the Creek. An abandoned house is also located within this area. According to the property owner, the home has been abandoned due to the frequent flooding. Depending on the selected roadway Alternative and the subsequent mitigation need, this site could be considered for additional mitigation potential. Mitigation in this area would replace some of the functions and values that will be impacted by the proposed interchange construction, including storage of surface water, dissipation of energy and improvement of water quality.

#### **Summary of Onsite Potential Mitigation Areas Evaluated**

Sites 1, 3 and 5 are the preferred onsite potential mitigation areas that were identified. These sites are considered suitable to satisfy the mitigation requirements of the Direct Connection project and replace the functions and values of the wetlands that will be impacted, depending on the alternative selected. Sites 1 and 3 consist of the portions of Al Jo's Curve that could be removed and used for mitigation if Alternative D, G2 or K is selected. Portions of Sites 1 and 3, and all of Site 5, could be used if Alternative D1 or H1 is selected, but additional mitigation area(s) would likely be required. Sites 2 and 6 consist of an upland area within Al Jo's Curve and a fill area to the north of Bell Road, respectively. These sites are small and not as desirable as Sites 1, 3 and 5. Site 4 is a large fill area adjacent to the eastern portion of Al Jo's Curve and contains large volumes of solid waste and debris. Site 4 also has the potential for soil and/or groundwater contamination and therefore, is not considered viable as a potential mitigation area at this time.

#### Offsite Potential Mitigation Areas Evaluated

#### Site 7

This large site is located east of Water Street (at the end of the street), south of the western extension of the Gloucester Branch of Conrail that leads to the terminal along the Delaware River, and northwest of the Little Timber Creek. On July 20, 2005 this site was field inspected and found to contain an old field area that is completely surrounding by fencing. The fencing contained signage stating "Warning – Do Not Enter – Dangerous Materials". Some of the area

consisted of existing wetlands with vegetation including phragmites, purple loosestrife, soft rush and sedges. Communication with the Director of the Camden County Division of Environmental Affairs indicated that a contamination cleanup had been conducted on the site, although it was believed that additional cleanup activities were needed. However, information on the NJDEP Known Contaminated Sites list indicates that the site is owned by the Gulf & Western Natural Resources Group and that a No Further Action approval had been granted for the entire site. Based on the observed signage, which indicates that removal of "dangerous materials" may be required and the existing wetlands, this site is not considered suitable for wetland mitigation at this time. If additional mitigation area is required for the Direct Connection project, based on the Alternative selected, further inquiry will be conducted into the viability of this site.

#### Site 8

This site is located south and east of Little Timber Creek and west of Broadway (County Route 551). On June 30, 2005 this site was field inspected and found to contain a building structure and piles of split firewood, indicating an operational wood cutting service. The site consists of former NJDEP tidal wetlands that have been filled in the past. The elevation of the site appears to be approximately 10 feet above the water level of Little Timber Creek, so extensive excavation would be required. According to the NJDEP Division of Coastal Resources maps (Atlas Sheet No. 378-1872), this area appears to have been granted to Thomas W. Synnott on April 26, 1905. Observed vegetation includes box elder, willow and catalpa trees, as well as ragweed. Based on the observed conditions at the site and the location, this site is potentially suitable for wetland mitigation, depending on the Alternative selected and the need for off-site mitigation areas. Further investigation into the prior use of this site would be required, as well as a determination of the amount of excavation required; therefore, this site is not recommended for consideration as a mitigation area at this time.

### Site 9

This site is located on the north shore of the Little Timber Creek in Gloucester City, east of the Conrail line, and bordering (south of) a power line right-of-way. On June 30, 2005 this site was field inspected and found to be unsuitable for mitigation because it contains large quantities of solid waste (bricks, concrete, pipes, wood, etc.), which indicates that the site has been used for dumping of construction materials. There also is a large area of existing wetlands on this site. The site consists of former NJDEP tidal wetlands that have been filled in the past. According to the NJDEP Division of Coastal Resources maps (Atlas Sheet No. 378-1872), this area appears to have been granted to the Board of Education of Gloucester City, on November 4, 1963. The trees, shrubs and vegetation observed at this site include catalpa, mulberry, walnut, box elder, white ash, sycamore, ragweed, impatiens, boneset, common hops vine, dogbane, polygonum, Japanese knotweed, silky dogwood, and phragmites. Based on the materials observed, there may be contamination issues to be addressed before any mitigation could be conducted. Based on the observed conditions, this site is considered unsuitable for wetland mitigation.

#### Site 10

This site is an island in the mudflats where Big Timber Creek enters the Delaware River, north of both Westville and Brooklawn, New Jersey. This area was suggested by the Borough of Westville. On April 20, 2004 this site was observed from the banks of Big Timber Creek, but was not physically inspected. Due to its isolated location, difficult access and likely use by many

species of wildlife, this is not a viable mitigation site. In addition, large portions of this island are likely to be classified as wetlands at the present time.

#### Site 11

This site is located southwest of the Jimmy Cerrone Memorial Field (Brooklawn Little League field) and immediately upgradient of the NJDEP tidal wetland line. On July 20, 2005 this site was field inspected and found to be unsuitable for mitigation because it already contains wetlands and mudflats, portions of which appear to be inundated at high tide.

#### Site 12

This site is located southwest of Route 130, north/northeast of Little Timber Creek, and southeast of the Budget Inn Motel. Access to this site is limited. On June 30, 2005 this site was field inspected and it was found to be located immediately adjacent to a stagnant lagoon with sagittaria and peltandra vegetation. According to the NJDEP Division of Coastal Resources maps (Atlas Sheet No. 378-1872), this area of former tidelands appears to have been granted to the Rose Haven Motel, Inc. on June 25, 1958. Observed vegetation at the site includes box elder, mulberry, locust, catalpa, sumac, poison ivy, honeysuckle, boneset, ragweed, dogbane, phragmites and multiflora rose. An underground natural gas line is located along the border of this site. Due to its limited access, existing wetlands and an underground natural gas line, this site is not considered suitable for wetland mitigation.

### Site 13

This site is located in Brooklawn, south of Route 130 and behind the Red Carpet Inn. On July 20, 2005 this site was field inspected and found to consist of densely vegetated (phragmites), disturbed land and open water. According to the NJDEP Division of Coastal Resources maps (Atlas Sheet No. 378-1872), former tidelands were located within portions of this area. There also are NJDEP-mapped wetlands within this area. There is limited tidal access from the Big Timber Creek to this area through a storm drain beneath Creek Road. Observed trees and vegetation includes locust, cherry, mulberry, sumac, elm, blackberry, sensitive fern, goldenrod, dogbane, pokeweed, Japanese honeysuckle, Virginia creeper and ragweed. There are dense phragmites stands that border the wetlands in the central portion of this area. This site has limited tidal access and appears to consist predominantly of existing wetland areas and so is not considered suitable for mitigation.

#### Site 14

This site is located north of I-295, west of Creek Road and east of Big Timber Creek in the Boroughs of Westville and Bellmawr, New Jersey. It is bounded by Big Timber Creek on the west, a tidal ditch on the south and a tributary that flows beneath Creek Road on the north. It is located partially within the NJDOT right-of-way, with the remainder owned by the Borough of Westville, Gloucester County. On April 20, 2004 this site was field inspected and found to be unsuitable for mitigation because it contains large volumes of solid waste (bricks, concrete, etc.) which indicates that the site was likely a construction materials landfill in the past. A review of the NJDEP tidelands maps indicates that this area consists of former tidelands that were filled at some time in the past. In addition, sampling results in the area of a ramp associated with the nearby proposed Missing Moves project along the southeastern edge of the site indicate that lead, zinc, various semi-volatile compounds, PCBs and asbestos are present in some locations in the

shallow soils. The concentrations of some of these compounds exceed one or more of the NJDEP Cleanup Criteria; therefore, this site is considered unsuitable for mitigation.

#### Site 15

This site is located immediately east of Exit 25B (I-295) and south of Hillside Avenue in Westville, New Jersey. It is bounded by the Big Timber Creek on the east, I-295 on the south and Hillside Avenue on the north and industrial property on the north and west. On May 7, 2004 this site was field inspected and found to be unsuitable for mitigation.

An existing below-grade, large diameter (approximately 48-inch) corrugated metal drainage pipe begins adjacent to the toe of slope of I-295 and channels a small watercourse underground approximately 700 linear feet to the east where it discharges directly into the Big Timber Creek. Some disturbed wetlands exist above the underground pipe. This site is considered unsuitable for mitigation due to the existing wetlands on the site, as well as the anticipated impacts to the site from the construction of the proposed Missing Moves project.

#### Site 16 A and B

This site consists of two separate areas located west of Almonesson Road and north of the New Jersey Turnpike. On May 7, 2004 an attempt was made to inspect this site; however, the site was inaccessible without consulting the landowner. The property is occupied by a religious organization (Friends of Israel) and the land is extensively landscaped; therefore, this site was considered to be unsuitable for potential mitigation.

#### Site 17

This site is located on the east side of State Route 42, approximately 1,000 feet north of its intersection with the New Jersey Turnpike in Bellmawr, New Jersey. Beaver Brook is adjacent to and south of this site. On April 20, 2004 this site was field inspected and found to be unsuitable for mitigation because it is limited in size and would require extensive (15 to 20 feet) excavation, as well as the removal of many trees.

#### Site 18

This site is located adjacent to (northwest of) the intersection of State Route 42 and the New Jersey Turnpike in Runnemede, New Jersey. On April 21, 2004 this site was field inspected and found to be unsuitable for mitigation because it is forested and has areas of existing wetlands onsite.

#### <u>Site 19</u>

This site is located approximately 1/4 mile west of the location where the New Jersey Turnpike crosses over Almonesson Road. On May 7, 2004 this site was field inspected and found to be unsuitable for mitigation because it already contains forested wetlands.

#### Site 20

This site is located approximately 300 yards southeast of the intersection of State Route 42 and the New Jersey Turnpike, on a peninsula between Big Timber Creek and Beaver Brook in Runnemede, New Jersey. On April 21, 2004 this site was field inspected and found to be unsuitable for mitigation because it is occupied by a developed Green Acres Park.

#### Site 21

This site is located immediately south of Site 19 across an unnamed tributary of Big Timber Creek. On May 7, 2004 this site was field inspected and found to be unsuitable for mitigation because it contains recently constructed townhouses.

### Site 22

This site is located northeast of the Clements Bridge Road and State Route 42 intersection in Woodbury, New Jersey. On May 7, 2004 this site was field inspected and found to be unsuitable for mitigation because it is occupied by a fenced-in landfill.

#### Site 23

This site is located at the end of Landing Road, east of State Route 42 in Gloucester Township, New Jersey. It is also immediately west of industrial facilities, including an empty manufacturing building (Genesis Supreme) and a municipal composting center. On May 6, 2004 this site was field inspected and found to be unsuitable for mitigation. This is a large site primarily consisting of disturbed, open and forested land located adjacent to (east of) the South Branch Big Timber Creek. USGS mapping indicates that this area was used previously as a gravel pit. The banks of the Creek are steep (approximately 25 feet from top of bank to creek); however, the center of the site is approximately ten feet lower than the top of the banks. Some disturbed wetlands were observed in the central portion of the site. Excavation for tidal wetland creation would require the removal of at least 15 feet of material. This would be necessary to allow tidal flow between the interior and the main channel of the South Branch Big Timber Creek. Due to the need for extensive excavation, this area is not considered suitable for mitigation.

#### Site 24

This site is located approximately 500 feet east of the Somerdale Road and Chews Landing Road intersection in Blackwood, New Jersey. On May 7, 2004 this site was field inspected and found to be unsuitable for mitigation because it is occupied by an open field and wooded lot identified by signage as Camden County Open Space.

#### Site 25

This site is located adjacent to (southeast of) State Route 55 in Sewell, New Jersey. On May 6, 2004 this site was field inspected and found to be unsuitable for mitigation since it consists of an existing landfill identified by signage as Kinsley's Landfill, Inc.

#### Site 26

This site is located east of Mount Pleasant Road, less than 500 feet northeast of the intersection with Egg Harbor Road in Sewell, New Jersey. On May 6, 2004 this site was field inspected and found to be unsuitable for mitigation because it is occupied by a recently constructed residential subdivision.

#### Site 27

This site is located on the east side of Peter Cheeseman Road approximately 1/2 mile south of its intersection with College Drive. This site is a forested site located southeast of the Catholic Youth Organization recreational center. On May 6, 2004 this site was field inspected and found

to be unsuitable for mitigation because a large portion consists of upland and wetland forest. Additionally, the wetland forest is considered high quality due to the diverse and specific types of vegetation observed.

#### Site 28

This site is located west of the Erial Road and Hickstown Road intersection on the boarder of Sicklerville and Blackwood, New Jersey. On May 6, 2004 this site was field inspected and found to be unsuitable for mitigation. This site is an existing landfill identified by signage as GEMS Landfill Phase II Project.

#### Site 29

This site is located approximately 1/2 mile north of the intersection of Orr Road and Sicklerville Road on the east side of Orr Road in Blackwood, New Jersey. On May 6, 2004 this site was field inspected and found to be unsuitable for mitigation. This site consists of forested land, which would require significant tree and soil removal as well as habitat disturbance.

#### Site 30

This site is located on the north side of Hickstown Road, west of its intersection with Peter Cheeseman Road in Sicklerville, New Jersey. On May 6, 2004 this site was field inspected and found to be unsuitable for mitigation because it is currently occupied by the Gloucester Township Community Park.

#### Site 31

This site is located in the area occupied by Raintree Drive in Sicklerville, New Jersey. On May 6, 2004 this site was field inspected and found to be unsuitable for mitigation because it is occupied by a recently constructed residential subdivision.

#### Site 32

This site is located approximately 1/4 mile east of the Sicklerville Road and Garwood Drive intersection in Sicklerville, New Jersey. On May 6, 2004 this site was field inspected and found to be unsuitable for mitigation because it is occupied by a recently constructed residential subdivision.

#### Site 33

This site is located approximately 1/2 mile east of the Sicklerville Road and Garwood Drive intersection in Sicklerville, New Jersey. On May 6, 2004 this site was field inspected and found to be unsuitable for mitigation because it is occupied by a recently constructed residential subdivision.

#### Site 34

This site is located in the area occupied by Monticello Drive and Charleston Drive in Sicklerville, New Jersey. On May 6, 2004 this site was field inspected and found to be unsuitable for mitigation because it is occupied by a recently constructed residential subdivision.

#### Site 35

This site is located approximately 3/4 mile east-northeast of the Sicklerville Road and Jarvis Road intersection in Sicklerville, New Jersey. On May 6, 2004 this site was field inspected and found to be unsuitable for mitigation because it is occupied by a recently constructed residential subdivision surrounding two sand quarry ponds/pits.

#### Site 36

Potential mitigation areas are located on an approximately 150-acre parcel (Block 328, Lot 5) located within West Deptford Township, Gloucester County, New Jersey. The specific location of the mitigation area within the property would have to be negotiated with the property owner, based on availability of land within the parcel and the specific needs of the Direct Connection project. However, the property contains areas that are currently occupied by successional and primarily invasive herbaceous and tree species that have colonized a former dredge spoil deposition area, as well as lower lying farmed areas that could be utilized for mitigation. The site is owned by GreenVest, LLC, and has an existing mitigation area that was created for New Jersey Transit Authority, which is approximately two years old. A portion of this property also has been proposed for use as mitigation in the I-295/Rte. 42 Missing Moves project. A Conceptual Mitigation Plan was submitted to the NJDEP and USACOE and it has recently been approved by the Agencies. In addition, the State Historic Preservation Office (SHPO) has recently agreed with the findings of a cultural resources investigation of the site that no significant historic or prehistoric cultural resources are present within the area of potential effects.

The GreenVest property is located within the same Hydrologic Unit Code (HUC) 11 Watershed as the Direct Connection project site. A tidal waterway, Main Ditch, is located within the property and drains to the Delaware River, providing a readily accessible tidal source. This property is large enough to potentially allow for replacement of all of the wetland systems that will be impacted at the Direct Connection project site, i.e. open tidal water, tidal wetlands and non-tidal wetlands. In addition, the functions and values of any created open tidal water and wetlands at the GreenVest site will be of higher quality than those that will be impacted at the Direct Connection project location, because they will not be subject to roadway and urban land runoff. The created wetlands will replace all of the functions and values impacted at the project site, including storage of surface water, dissipation of energy, replenishment of soil moisture and improvement of water quality. The mitigation site also will provide habitat for many wildlife species.

Any created wetlands at the GreenVest site will function as part of the existing, larger wetlands complex found in this area, which includes the adjacent New Jersey Transit mitigation area, the naturally developed tidal marsh lying to the southeast of the proposed mitigation location and the nearby Delaware River and adjacent wetlands. Also, as noted above, a Conceptual Mitigation Plan proposal for the I-295/Rte. 42 Missing Moves project has been approved by the NJDEP and USACOE. Upon construction of this proposed mitigation area, there will be approximately 6.5 acres of additional open tidal water and wetlands in the immediate proximity of any wetlands created for the Direct Connection project. Furthermore, the immediately adjacent upland area is expected to be left undeveloped, both on the GreenVest property, as well as on the neighboring properties.

All of these site conditions will serve to enhance and protect the habitat of any created wetland and surrounding areas. This will result in improved wetland functions and values within this HUC11 watershed, including habitat, water quality and vegetative diversity. Consideration of the GreenVest property as a potential mitigation site is recommended.

#### **Summary of Offsite Potential Mitigation Areas Evaluated**

Site 36 is the preferred offsite potential mitigation area that was identified. This site, the GreenVest Main Ditch site, contains adequate land, in conjunction with the preferred onsite areas identified, to satisfy the mitigation requirements of the Direct Connection project and replace the functions and values of the wetlands that will be impacted. The remaining offsite areas evaluated, Sites 7 through 35, are not considered suitable mitigation sites due to various reasons, including their existing uses as housing developments, landfills, or town open space areas. Other offsite areas contain large tracts of forested land or wetlands, making them unsuitable as potential mitigation areas.

#### **Conclusions and Recommendations**

Thirty-six sites were reviewed, four of which (Sites 1, 3, 5 and 36) are considered the most viable for mitigation purposes related to the I-295/I-76/Route 42 Direct Connection Project, depending on the Alternative selected. Site 2, located adjacent to Site 3, also could potentially be used for mitigation, depending on the Alternative selected, and if this additional mitigation area is needed. Likewise, Site 6, adjacent to the Little Timber Creek, would be suitable for mitigation given the need for this additional area.

The four (4) preferred sites include:

- the existing roadway and adjacent slopes in the NJDOT right-of-way located within the western portion of Al Jo's curve on I-295 SB (Site 1) crossing Little Timber Creek, and;
- the existing roadway and adjacent slopes in the NJDOT right-of-way located within the eastern approach of Al Jo's curve on I-295 SB (Site 3) crossing Little Timber Creek, and;
- the silt-filled channel of Little Timber Creek in the area of Bell Road (Site 5), and:
- the GreenVest property in West Deptford, New Jersey, on Main Ditch (Site 36).

Sites 1, 3 and 5 above are the preferred onsite mitigation areas. They are suitable for use with Alternatives D, G2 and K, although additional mitigation area would likely be required for Alternative K. Small portions of Sites 1 and 3, as well as all of Site 5, could be used if either Alternative D1 or H1 is selected. These areas would likely not be adequate to satisfy the mitigation requirements of Alternative D1 or H1, but at least they would allow for some onsite mitigation. Site 36 is the preferred offsite mitigation area which could be used if additional mitigation area is required, based on project impacts.

The two (2) additional potential onsite mitigation areas include:

- a small upland area (Site 2) located along the west side ("infield area") of the eastern portion of Al Jo's curve, immediately upgradient of the wetlands delineation line and the NJDEP former tidelands line. The site is located across Al Jo's curve from the end of Linden Avenue and is adjacent to Little Timber Creek and Site 3, and;
- the filled floodplain area (Site 6) partially on private property on the northern bank of Little Timber Creek, to the east of Bell Road.

Photographs of the four (4) preferred mitigation sites, the two (2) additional potential sites, and selected photographs of several of the unsuitable sites visited, are provided in Attachment A.

Due to the highly disturbed nature of Sites 1 and 3, i.e. their use as state highways, and their former status as tidelands, no archaeological investigations are believed to be necessary, if they are ultimately chosen for mitigation purposes. Likewise, no archaeological investigations are believed to be necessary for Site 5 (Little Timber Creek channel), due to the large quantities of recently deposited silt and sediments that have built up in the stream channel.

A Cultural Resources Investigation was completed for a portion of Site 36 (the GreenVest site, in the area proposed for the I-295/Route 42 Missing Moves mitigation) in December 2005. The investigation found no significant historic or prehistoric cultural resources within the area of potential effects. An additional cultural resources investigation on the GreenVest property may be necessary for the I-295/I-76/Route 42 Direct Connection project depending on the specific portion of the property that is selected for mitigation. Due to the highly disturbed nature of potential Sites 2 and 6, it is believed that no archaeological investigations are necessary in these areas, should they be considered for use as mitigation areas.



**Photograph 1:** Site 3, with view to the southwest toward Big Timber Creek at Missing Moves wetland delineation point G-33. This site has been removed from further consideration due to the likely contamination issues in this landfill area.



**Photograph 2:** Site 3, to the north of proposed Missing Moves Ramp A, looking to the west. Photograph shows dense vegetation in this former landfill area. This site has been removed from further consideration due to the likely contamination issues.

### PHOTO PLATE II



**Photograph 3**: Site 4, looking west toward Rte. 42. Photograph shows some of the many large diameter trees which would have to be removed. This site also would require extensive excavation. This site has been removed from further consideration for these reasons.



**Photograph 4**: Site 7, facing north along steep bank of South Branch Timber Creek. Potential mitigation area is behind the steep bank, to the east.

However, this site has been removed from further consideration due to the extensive excavation that would be required.

## PHOTO PLATE III



**Photograph 5**: Site 7, view to the east, showing drainage path from interior wetland area to the Creek. Photo taken from edge of South Branch Timber Creek. This site has been removed from further consideration due to the extensive excavation that would be required, as well as existing wetland areas.



**Photograph 6**: Site 8, facing east at Kinsley's Landfill. This site has been removed from further consideration due to likely contamination issues.

# I-295/I-76/ROUTE 42 DIRECT CONNECTION WETLAND MITIGATION SITE SEARCH PHOTO PLATE IV



**Photograph 7**: Site 12, facing east at entrance of GEMS Landfill Phase II Project. This site has been removed from further consideration due to likely contamination issues.



**Photograph 8**: Site 18, facing south at housing development in progress and water filled gravel pit. This site has been removed from further consideration due to the construction of housing.



**Photograph 9:** Site 19, facing northeast at preserved open space property. This site has been removed from further consideration due to the present land use, i.e. open space preservation.



**Photograph 10**: Site 21, facing northwest at discharge point of large diameter corrugated metal pipe at Big Timber Creek. Limited mitigation potential exists in removal of underground pipe and replacement with vegetated swale. However, due to the limited area available and anticipated impacts from the Missing Moves ramp construction, this area has been removed from further consideration.

## PHOTO PLATE VI



**Photograph 11:** Site 21, in drainage swale above large diameter underground corrugated metal pipe. Disturbed uplands and wetlands along I-295 southbound have potential for mitigation. However, due to the limited area available, this area has been removed from further consideration.



**Photograph 12:** Site 21, facing east at entry of large diameter underground corrugated metal pipe leading to Big Timber Creek. Limited mitigation

potential exists in removal of underground pipe. However, due to the limited area available, this area has been removed from further consideration.

### PHOTO PLATE VII



**Photograph 13**: Site 25 northwest corner, facing southeast, showing open land with herbaceous and scrub/shrub vegetation in area of former structures shown on USGS map, Figure 27. Some existing wetlands are present. This site has been removed from further consideration due to prior manufacturing use with likely contamination and existing wetland areas (also see Photograph 18).



**Photograph 14**: Site 25, looking south through fence that divides two portions of this site, at sign indicating presence of dangerous materials. This site has been removed from further consideration due to prior manufacturing use with likely contamination and existing wetland areas.

## PHOTO PLATE VIII



**Photograph 15**: Site 26, looking northwest at this former area of tidelands, currently occupied by a tree clearing service and block building. This site may be considered as a potential mitigation site, depending on the needs of the Direct Connection project.



**Photograph 16**: Site 26, looking north at this former area of tidelands, showing piles of firewood from its current use by a tree clearing service. This site may be considered as a potential mitigation site, depending on the needs of the Direct Connection project.

## PHOTO PLATE IX



**Photograph 17**: Site 26, looking northwest (downstream) along shoreline of Little Timber Creek, showing wooded fringe of this area. This site may be considered as a potential mitigation site, depending on the needs of the Direct Connection project.



**Photograph 18**: Site 27 (interior portion of Al Jo's Curve), looking northwest toward I-76 overpass. This area could be used for mitigation in conjunction with Site 33 and the removal of Al Jo's Curve, under Alternatives D, G2 or K.

### PHOTO PLATE X



**Photograph 19**: Site 28, looking east along northern shoreline of Little Timber Creek. This former tidelands area consists of construction debris fill material. This site has been removed from further consideration due to the potential for contamination, as well as a large area of existing wetlands.



**Photograph 20**: Site 28, looking north within the central portion of Site 28, showing example of construction debris fill materials (bricks, concrete, boards, etc.). This site has been removed from further consideration due to the potential for contamination, as well as a large area of existing wetlands.

## PHOTO PLATE XI



**Photograph 21**: Site 29, looking northwest at adjacent tidal lagoon. This site, an area of former tidelands, contains limited potential as a mitigation site due to its small size and area of existing wetlands, and so has been removed from further consideration at this time.



**Photograph 22**: Site 30, looking southwest at wooded area beyond baseball field. This area is heavily wooded and contains extensive existing wetlands, and so has been removed from further consideration as a mitigation site.

## I-295/I-76/ROUTE 42 DIRECT CONNECTION WETLAND MITIGATION SITE SEARCH PHOTO PLATE XII



**Photograph 23**: Site 30, looking southwest within wooded area, showing area of existing wetlands. This area has been removed from further consideration as a mitigation site due to extensive existing wetlands.



**Photograph 24**: Site 31, looking southwest at border of this site, showing area of phragmites dominated wetlands. This site has limited mitigation potential due to existing wetlands and restricted tidal access, and so has been removed from further consideration at this time.

## I-295/I-76/ROUTE 42 DIRECT CONNECTION WETLAND MITIGATION SITE SEARCH PHOTO PLATE XIII



Photograph 25: Site 31 (looking toward Site 31), looking northeast at tidal access (storm drain beneath Creek Road) downgradient of actual site. This site has limited mitigation potential due to existing wetlands and restricted tidal access, and so has been removed from further consideration at this time.



**Photograph 26**: Site 32, looking southwest in the western section of Al Jo's Curve, where Little Timber Creek flows beneath the roadway. This portion of I-295 could be removed and wetlands restored under Alternatives D, G2 or K.

## I-295/I-76/ROUTE 42 DIRECT CONNECTION WETLAND MITIGATION SITE SEARCH PHOTO PLATE XIV



**Photograph 27**: Site 33, looking northwest in the eastern section of Al Jo's Curve, where Little Timber Creek flows beneath the roadway. This portion of I-295 could be removed and wetlands restored under Alternatives D, G2 or K.



**Photograph 28**: Site 34, looking east at the area of recent fill material placed by the property owner, on the north side of Little Timber Creek. This fill material could be removed and wetlands created adjacent to the Creek.

## I-295/I-76/ROUTE 42 DIRECT CONNECTION WETLAND MITIGATION SITE SEARCH PHOTO PLATE XV



**Photograph 29**: Site 34, looking northeast from the south side of Little Timber Creek, at the recent fill material placed by the property owner. This fill material could be removed and wetlands created adjacent to the Creek.



**Photograph 30**: Site 35, looking northwest at the eastern end of the Bell Road culvert. The channel of Little Timber Creek contains large deposits of sand and silt which restrict its flow. Removal of the deposits would reduce flooding.

## I-295/I-76/ROUTE 42 DIRECT CONNECTION WETLAND MITIGATION SITE SEARCH PHOTO PLATE XVI



**Photograph 31**: Site 35, looking southeast at the western side of the Bell Road culvert, showing the silt and sand filled channel of Little Timber Creek. Removal of these silt deposits, snags and debris would allow the Creek to flow more freely, reducing flooding conditions. Adjacent wetlands also could be enhanced.



**Photograph 32**: Site 35, looking east at the silt and debris clogged channel of Little Timber Creek, to the west of Bell Road. Removal of these silt deposits, snags and debris would allow the Creek to flow more freely, reducing flooding conditions. Adjacent wetlands on the Creek banks also could be enhanced.

## I-295/I-76/ROUTE 42 DIRECT CONNECTION WETLAND MITIGATION SITE SEARCH PHOTO PLATE XVII



**Photograph 33**: Site 36, looking north across Main Ditch, the tidally flowed watercourse within the GreenVest site. Mitigation in the adjacent upland areas would allow for creation of both tidal and non-tidal wetlands.



**Photograph 34**: Site 36, looking west within a wooded portion of the GreenVest site. This area was previously filled with dredge spoils and contains invasive species, such as the Japanese stilt-grass and mile-a-minute vine seen in this photo. Mitigation in this area would allow for creation of both tidal and non-tidal wetlands.