

PIEZOMETER ENVILCOV00315AH.GPJ COFFEY.GDT 25.6.08

ENVILCOV00315AH Office Job No.: Valad Property Group 20.5.2008 Date started:

Borehole No.

Sheet

**BH10/MW8** 

2 of 2

20.5.2008 Principal: Date completed:

Rore	ehole	e Lo	oca	tior	n: <b>Ken</b> i	nards	Sel	f Sto	rage				Cł	necked	by:	BS	
drill n	node	el & 1	moı	ıntir	ng:Truck m	ounted d	rill rig		Eas	ting: 2	230.7552 slop	e: -90	10°		R.L.	Surface:	10.35
hole									Nor	thing: 9	98.8424 bea	ng:			datu	ım:	
dril		j in	for	ma	tion	,			ma	terial	substance			1			
method	v penetration	toddiis	noddne	water	notes samples, tests, etc	well details	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or partic colour, secondary and mi	or compor	nents.	moisture condition	consistency/ density index		structure and ional observations
ADT					E						FILL: GRAVELLY SAND: fine thrown to dark brown. Gravel is grained. Some cobbles. Some glass, timber, cloth, wire. Organiandfill odour.  FILL: GRAVELLY SAND: fine the grey to brown. Gravel is fine grained brown. Refusal onto FILL material. Borehole terminated at 12.5m	medium to in, porcella ic decompo	coarse ain, metal, iosition, grained,	Wp	L		
meth AS AD RR W CT DT B V T TBX *bit si e.g.		by s	auge rolle was cabl diatu blan V bit TC t	er dr r/tric hbor e too ube k bit t bit ex	ol	→ or w	ration 4 no rar	resistance aging to usal water lev shown	il ·	notes, s U <sub>50</sub> D N N N* NC P Bs R E PIID WS PZ ALT	samples, tests undisturbed sample 50mm diamete disturbed sample standard penetration test (SPT) SPT - sample recovered SPT with solid cone pressure meter bulk sample refusal environmental sample PID measurement water sample piezometer air lift test	r soil d				consiste VS S F St VSt H Fb VL L MD D VD	very soft soft firm stiff very stiff hard friable very loose loose medium dense dense very dense



ESA 630-726 Princess Highway Tempe

Project:

ENVILCOV00315AH Office Job No.:

Borehole No.

Logged by:

Sheet

MW10

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NC

Valad Property Group 28.5.2008 Date started:

28.5.2008 Principal: Date completed:

_				on: <b>ATE</b>								ecked	-	BS
l				ing:Truck m	ounted d	rill rig			sting:	slope:	-90°			. Surface:
_	diame			ation					thing:	bearing:			datı	um:
method	2 penetration	upport		notes samples, tests, etc	well details	RL	depth metres	aphic log	classification symbol	material soil type: plasticity or particle cha	racteristics, mponents.	moisture condition	consistency/ density index	structure and additional observations
АРТВТ				E			-			FILL: GRAVELLY SAND: fine to media brown to dark brown. Gravel is median brown to dark brown.	ium grained, m grained, pale	М	L	PID: 0.9
							<u>1</u> -			SANDY CLAY: low plasticity, pale bro grey.		D	L	RESIDUAL PID: 0.7
Air Blade		**		E			- 2 - -			<b>GRAVELLY SAND:</b> fine to medium gr with some pale brown. Gravel is fine to grained,		D	L	PID: 0.7 PID: 0.7
							3_ 			Becoming darker grey.		M		
							5   6   1			Becoming lighter grey to pale brown.				
							7 - -	0		Borehole terminated at 7m				
AS AD RR W CT DT B V T TB)	shown	a ro d b V T T by su	uger oblier/tr vashbo able to iatube lank b bit C bit ubex	ool :	or wa	ration 4 no ranger refu	vater lev shown ow	el	notes, s U <sub>50</sub> D N N* Nc P Bs R E PID WS PZ ALT	undisturbed sample 50mm diameter disturbed sample standard penetration test (SPT) SPT - sample recovered SPT with solid cone pressure meter bulk sample refusal environmental sample PID measurement	classification syml soil description based on unified cla system  moisture D dry M moist W wet Wp plastic limit W <sub>L</sub> liquid limit			consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense



ENVILCOV00315AH Office Job No.: Valad Property Group 27.5.2008 Date started:

Borehole No.

Sheet

**MW11** 

1 of 2

27.5.2008 Principal: Date completed:

				n: <b>ATE</b>		drill -	ia	Eas	tina:	elane:	-90°	ecked		BS Surface:
			ounti	ng:Truck m	ounted	urill f	ıy		thing:	slope:	-90			. Surface:
	diame		rma	ition					thing:	bearing: bearing:			datı	um:
method	5 penetration	support	water	notes samples, tests, etc	well details	s RI	depth _ metres	aphic log	classification symbol	material soil type: plasticity or particle cha		moisture condition	consistency/ density index	structure and additional observations
ADTDT				E + DUP 6, 6a			- - - 1			CONCRETE FILL: SANDY GRAVELLY CLAYJow grey to dark brown. Gravel is medium brown to grey. Some brick fragments gravels.  FILL: GRAVELLY SILTY CLAYmedi	grained, red and roadbase	M	S	PID: 0.7
				E			- - - 2			brown to dark brown. Gravels are fine brown to brown. Some crushed brick in the brown to brown.	grain, pale			PID: 0.4 PID: 0.4
						$\otimes$	_			SILTY CLAY: medium plasticity, pale	brown to	М	S	RESIDUAL
				E			3 3 - -			GRAVELLY SAND: fine to medium graph brown to brown. Gravel is medium grapale brown.	rained, pale	D	L	PID: 0.7
Alf Blade							4 - - 5 - - - 6			Becoming darker colour, more grey to	) brown.	M	L	PID: 0.5
							- - - 7 - - - - 8					W	L	
AS AD RR W CT DT B V T TBX	hod (shown b	au ro wa dia bla V Tu Tu y su	iger diller/tri ashbo able to atube ank bi bit C bit ubex	re ool	pene 1 2 wate	r 10/1/9 on dat	N n	il e	notes, s U <sub>50</sub> D N N* Nc P Bs R E PID WS PZ ALT	undisturbed sample 50mm diameter disturbed sample standard penetration test (SPT) SPT - sample recovered SPT with solid cone pressure meter bulk sample refusal environmental sample PID measurement	classification symb soil description based on unified clas system  moisture D dry M moist W wet Wp plastic limit W_ liquid limit			consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense



ENVILCOV00315AH Office Job No.: Valad Property Group

Borehole No.

Date started:

Sheet

MW11

27.5.2008

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27.5.2008 Principal: Date completed:

NC Project: ESA 630-726 Princess Highway Tempe Logged by:

Bo	rehol	e L	oca	tion	: <b>ATE</b>	co						С	hecked	l by:	BS
drill	mode	el &	mou	ıntin	g:Truck mo	ounted dr	ill rig		Eas	ting:	slope:	-90°		R.L.	. Surface:
_	dian									thing:	bearing	g:		datı	um:
dr	illing	_	fori	mat	ion				ma		substance		1		
method	2 penetration	- 13	noddns		notes samples, tests, etc	well details	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle colour, secondary and mino	e characteristics, or components.	moisture condition	consistency/ density index	structure and additional observations
Air Blade								- - 9 - - - 10			GRAVELLY SAND: fine to mediun brown to brown. Gravel is mediun pale brown. (continued)  Borehole terminated at 10m	m grained, pale n grained, grey to	W	L	-
								- - - 1 <u>1</u>			porenoie tenninated at 1011				_
								- - 1 <u>2</u>							-
								- 1 <u>3</u> -							
								- 1 <u>4</u> -							
								1 <u>5</u> - -							
AS AD RR W CT DT B V T	showr	n by	auge rolle wash cable diatu blan V bit TC b	er dril r/trico hbore e tool ube k bit : oit ex	one e	suppoid C cas  penetr 1 2 3  water  10 on  wa wa wa wa	ation 4 no rar ref /1/98 date:	water lev shown flow	il e	notes, s U <sub>50</sub> D N N* Nc P Bs R E PID WS PZ ALT	amples, tests undisturbed sample 50mm diameter disturbed sample standard penetration test (SPT) SPT - sample recovered SPT with solid cone pressure meter bulk sample refusal environmental sample PID measurement water sample piezometer air lift test	classification synsoil description based on unified c system  moisture D dry M moist W wet Wp plastic limit W_L liquid limit			consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense



ENVILCOV00315AH Office Job No.: Valad Property Group 27.5.2008 Date started:

Borehole No.

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MW12

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27.5.2008 Principal: Date completed:

				n: <b>ATE</b>		rill ric		Fac	sting:	elene:	-90°	necked		<b>BS</b>
	diamet		ounti	ng. muck M	ounteu a	ımııg			thing:	slope:				Surface:
	ling i		rma	ition						bearing: substance			dati	um:
nethod	2 penetration	support	water	notes samples, tests, etc	well details	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle c	haracteristics, components.	moisture condition	consistency/ density index	structure and additional observations
Alf Biade				E E			1 2 3 - - - - - - - - - - - - - - - - - -			FILL: GRAVELLY SANDY CLAYS pale brown to grey mottled brown. Som shale fragments.  FILL: GRAVELLY SANDY CLAYS brown to grey mottled dark brown. medium grained, red to brown to gre ironstone fragments.  SILTY CLAY: medium plasticity, pa mottled brown to red.  GRAVELLY SAND: fine to medium brown to grey. Gravel is fine to med brown to grey. Some grey shale an fragments.  Ironstone, red to brown, moderate s	ow plasticity, Gravel is fine to we plasticity, Gravel is fine to wey. Some  le brown to grey  grained, pale dium grained, pale d ironstone	M M	S	PID: 0.8  PID: 0.8  PID: 0.8  RESIDUAL PID: 0.7
nethous S.D. B.R. V. T. T. T. B.X. Doit sh	od	au rol wa ca dia bla V TO	ger d ller/tri ashbo ble to atube ank bi bit bit bit bit	re ool	<del>-</del> or	ration 3 4 no rar ref	water leve shown	el	notes, s U <sub>50</sub> D N N* Nc P Bs R R E PIID WS PZ	amples, tests undisturbed sample 50mm diameter disturbed sample standard penetration test (SPT) SPT - sample recovered SPT with solid cone pressure meter bulk sample refusal environmental sample PID measurement water sample piezometer	classification sym soil description based on unified cla system  moisture D dry M moist W wet Wp plastic limit W_L liquid limit			consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense



Principal:

ENVILCOV00315AH Office Job No.:

Borehole No.

Date completed:

Sheet

**MW12** 

27.5.2008

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Valad Property Group 27.5.2008 Date started:

В	ore	hol	e L	ocat	ion: <b>ATE</b>	CO						С	hecked	by:	BS	
dr	ill n	node	el &	nou	nting:Truck m	nounted dr	ill rig		Eas	ting:	slope:	-90°		R.L.	Surface:	
ho	ole (	dian	nete	:					Nor	thing:	bearing	j:		datu	ım:	
d	lirk	linç	j in	orn	nation				ma	terial	substance					
method	- 1	benetration	- 13	water	notes samples, tests, etc	well details	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle colour, secondary and minor	components.	moisture condition	consistency/ density index		ucture and al observations
Air Blade								-			GRAVELLY SAND:fine to mediun brown to grey. Gravel is fine to me brown to grey. Some grey shale al fragments. (continued) Becoming darker brown to grey sh	edium grained, pale nd ironstone	D	L		- -
								9 -			Borehole terminated at 8.7m					- - -
								1 <u>0</u>								- - - - -
								- 1 <u>1</u> -								- - - -
								- 1 <u>2</u> -								- - - -
								- 1 <u>3</u> - -								- - - -
								- 1 <u>4</u> - -								- - - -
								1 <u>5</u> - -								- - - -
GEO 5.10 Issue 3 Rev.0	D R / T T		n by s	auge oller	bit t	<del>▼</del> on	ration 4 no rar ref /1/98 date	resistance aging to usal water leve shown	il •	notes, s U <sub>50</sub> D N N* Nc P Bs R E PID WS PZ ALT	amples, tests undisturbed sample 50mm diameter disturbed sample standard penetration test (SPT) SPT - sample recovered SPT with solid cone pressure meter bulk sample refusal environmental sample PID measurement water sample piezometer air lift test	classification syn soil description based on unified cl system  moisture D dry M moist W wet Wp plastic limit W <sub>L</sub> liquid limit			consistency VS S F St VSt H Fb VL L MD D VD	very soft soft firm stiff very stiff hard friable very loose loose medium dense dense very dense



ENVILCOV00315AH Office Job No.: Valad Property Group 29.5.2008 Date started:

Borehole No.

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**MW13** 

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29.5.2008 Principal: Date completed:

			tion: 🖊			1			-4:			hecked		BS
			ınting:Trເ	ck mo	ounted o	irill rig			sting:	slope:				Surface:
ole diam			mation						rthing:	bearin substance	g:		dat	um:
1 penetration	- 1	-	not samp tests	les,	well details	RL	depth metres	aphic log	classification symbol	material soil type: plasticity or particle colour, secondary and mino	characteristics, r components.	moisture condition	consistency/ density index	structure and additional observations
			E+C 11				1			CONCRETE FILL: SANDY GRAVEL:coarse g dark brown. Sand is fine to mediu to dark brown. FILI: GRAVELLY SILTY CLAY: brown mottled grey to dark grey.  SILTY CLAY: medium plasticity, the brown to grey.  SILTY CLAY: low to medium plast to red mottled grey.  GRAVELLY SAND: fine to medium pale brown. Gravel is fine grained brown.	m grained, brown ow plasticity, Gravel is fine brown mottled pale ticity, pale brown	M D D	S S	PID: 1.1  RESIDUAL PID: 0.9  PID: 0.8  PID: 0.7
ethod S C R T T S S X it shown g.	n by :	auge rolle was cabl diatu blan V bit TC to	k bit : bit ex	*	### 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	tration 3 4 no rai	resistance nging to fusal water lev shown	il e	notes, s U <sub>50</sub> D N N* Nc P Bs R E PID WS PZ ALT	amples, tests undisturbed sample 50mm diameter disturbed sample standard penetration test (SPT) SPT - sample recovered SPT with solid cone pressure meter bulk sample refusal environmental sample PID measurement water sample piezometer air lift test	classification sym soil description based on unified cl system  moisture D dry M moist W wet Wp plastic limit W <sub>L</sub> liquid limit			consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense



Borehole Location: ATECO

**ENVILCOV00315AH** Office Job No.: Valad Property Group Date started: 29.5.2008

Borehole No.

Checked by:

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**MW13** 

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BS

Date completed: 29.5.2008 Principal:

ESA 630-726 Princess Highway Tempe NC Project: Logged by:

drill model & mounting:Truck mounted drill rig Easting: slope: R.L. Surface: hole diameter: Northina bearing: datum drilling information material substance penetratior classification symbol consistency/ density index notes material <u>6</u> structure and samples moisture condition graphic I additional observations support method tests, etc soil type: plasticity or particle characteristics, depth well RI colour, secondary and minor components. 123 GRAVELLY SAND: fine to medium grained, grey to pale brown. Gravel is fine grained, grey to pale brown. (continued) Ą 9 Borehole terminated at 9m 1<u>0</u> 11 1<u>3</u> 1<u>4</u> 1<u>5</u> 16 method notes, samples, tests classification symbols and consistency/density index auger screwing\* undisturbed sample 50mm diamete VS AS C casing soil description very soft disturbed sample standard penetration test (SPT) SPT - sample recovered AD auger drilling based on unified classification soft Issue 3 Rev.0 RR roller/tricone penetration W CT DT washbore St stiff no resistance No SPT with solid cone cable tool VSt very stiff moisture ranging to pressure meter diatube hard dry Bs R bulk sample blank bit moist Fb friable B V T GEO 5.10 refusal V bit w wet V١ very loose 10/1/98 water level E PID

environmental sample

PID measurement

water sample

piezometer

WS PZ

Wp

plastic limit

. liquid limit

loose

dense

very dense

medium dense

MD

VD

TC bit

Tubex

ADT

TBX

e.g.

\*bit shown by suffix

on date shown

water inflow

water outflow



water outflow

ADT

e.g.

PIEZOMETER ENVILCOV00315AH.GPJ COFFEY.GDT 25.6.08

**ENVILCOV00315AH** Office Job No.: Valad Property Group 28.5.2008 Date started:

Borehole No.

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**MW14** 

1 of 2

VD

very dense

28.5.2008 Principal: Date completed:

ESA 630-726 Princess Highway Tempe NC Project: Logged by:

Borehole Location: ATECO BS Checked by: drill model & mounting:Truck mounted drill rig Easting: slope: R L Surface: hole diameter: Northina bearing: datum drilling information material substance penetratior classification symbol consistency/ density index notes material <u>6</u> structure and samples moisture condition additional observations graphic support method tests, etc soil type: plasticity or particle characteristics, depth well RI colour, secondary and minor components. 123 FILL ADT FILLL: GRAVELLY SAND: fine to medium grained, D L brown to dark brown. Gravel is medium grained, red to dark brown. Some brick fragments. Μ S PID: 1.0 Е FILL: GRAVELLY SILTY CLAY:medium plasticity, brown mottled grey to dark brown. Gravel is fine grained, red to brown with some dark brown. 1 FILL: GRAVELLY SAND: fine to medium grained, ·Q PID: 0.9 Ε dark brown. Gravel is medium grained, orange to red to brown. Some brick fragments, some glass and S FILL: GRAVELLY SILTY CLAY:low to medium PID: 0.6 Ε plasticity, dark brown. Gravel is fine grained, brown to dark brown. 2 SILTY CLAY: low plasticity, orange to brown D RESIDUAL mottled dark grey PID: 0.5 Ε 3 SILTY CLAY: low plasticity, grey mottled red to М 4 PID: 0.7 GRAVELLY SAND: fine to medium grained, pale brown to grey. Gravel is fine to medium grained, pale brown to grey. Blade 5 Α̈́ 6 7 8 notes, samples, tests classification symbols and consistency/density index auger screwing\* N nil undisturbed sample 50mm diamete AS C casing soil description VS very soft disturbed sample standard penetration test (SPT) SPT - sample recovered AD auger drilling based on unified classification soft Issue 3 Rev.0 RR roller/tricone penetration W CT washbore St stiff no resistance No SPT with solid cone VSt very stiff cable too moisture ranging to pressure meter DT diatube dry hard Bs bulk sample B V blank bit moist Fb friable GEO 5.10 R refusal V hit W wet V١ very loose 10/1/98 water level environmental sample TC bit on date shown Wp plastic limit loose PID PID measurement TBX Tubex . liquid limit MD medium dense water sample water inflow \*bit shown by suffix PΖ piezometer



Project:

ESA 630-726 Princess Highway Tempe

Ineering Log - Piezometer Office Job No.: ENVILCOV00315AH

Borehole No.

Logged by:

Sheet

**MW14** 

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NC

Client: Valad Property Group Date started: 28.5.2008

Principal: Date completed: **28.5.2008** 

Borehole Location: ATECO Checked by: BS

	Bor	eho	le I	_00	atio	n: <b>ATE</b>	CO						C	Checked	l by:	BS	
	drill	mod	lel 8	m	ounti	ng:Truck m	ounted dr	ill rig		Eas	ting:	slope:	-90°		R.L	Surface:	
	hole	dia	met	er:						Nor	thing:	bearing	g:		datı	um:	
	dri	llin	g iı	ηfo	rma	ition				ma	terial	substance					
	method	1 penetration		support	water	notes samples, tests, etc	well details	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle colour, secondary and mino	or components.	moisture condition	consistency/ density index	structure and additional observations	
	Air Blade								- 9 - 10			<b>GRAVELLY SAND</b> :fine to mediun brown to grey. Gravel is fine to me brown to grey. (continued)	m grained, pale edium grained, pale	D	L		-
		:0003	$\dagger \dagger$	+			·· 🗖 ·			0		Borehole terminated at 10.5m					
									11								
:O 5.10 Issue 3 Rev.0	met AS AD RR W CT DT B V	hod		rol wa ca dia bla V I	ger of ler/tri ishbo ble to itube ink b	ool	suppo C cas penetr 1 2 3 water vater	ration 4 no ran refu	15 15 - 16 N n	el	notes, s U <sub>50</sub> D N N* NC P Bs R E PID	amples, tests undisturbed sample 50mm diameter disturbed sample standard penetration test (SPT) SPT - sample recovered SPT with solid cone pressure meter bulk sample refusal environmental sample PID measurement	classification system  consisted of system  consisted of the system  co	classification		consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose	- - - - - -
Form GEO	TBX *bit : e.g.	show	n by				► wa • wa	iter inf			WS PZ ALT	water sample piezometer air lift test	W <sub>∟</sub> liquid limit			MD medium dense D dense VD very dense	



ENVILCOV00315AH Office Job No.: Valad Property Group 27.5.2008 Date started:

Borehole No.

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MW15

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27.5.2008 Principal: Date completed:

				n: <b>ATE</b> ing:Truck m		rill ria		Fas	sting:	slope:	-90°	hecked		BS . Surface:
	diame		ount	ing. i ruok iii	ouritou ui	rig			thing:	•				
	illing		rma	ation						bearing substance	J.		dati	um.
method	2 penetration	support	water	notes samples, tests, etc	well details	RL	depth metres	aphic log	classification symbol	material soil type: plasticity or particle colour, secondary and minor	characteristics,	moisture condition	consistency/ density index	structure and additional observations
АРТФТ				E			- -			CONCRETE FILL: GRAVELLY SANDY CLAY dark brown to dark grey. Gravel is dark brown. Some concrete, brick	medium grained.	М	S	FILL PID: 0.9
				E			1 1							PID: 0.8
				E + DUPZ 7			- - - 2							PID: 0.8
				E			<u>-</u> -			FILL: SILTY CLAY:low to mediun to dark brown, some grey. Some f		М	S	PID: 0.8
							3			SILTY CLAY: medium plasticity, p	ale brown to red	М	Н	RESIDUAL
				E			- - -			mottled grey.				PID: 0.8
				E			<del>-</del> - -			SILTY CLAY: low plasticity, grey r brown.	nottled red to pale	М	L	PID: 0.7
		00000		E			<u>5</u>			GRAVELLY SAND: fine to mediun to brown, some grey. Gravel is fin	n grained, orange	D		PID: 0.7
Air Blade							- - - 6			grained, orange to brown, some g ironstone and grey shale fragmen	rev. Some			
							<u>-</u> - -			Becoming light brown to grey shal  Grey shale	e			
							7 -	o o o o				М		
							- - - 8	0 0						
met AS AD RR W CT DT B V	hod	ro wa ca di bla V		ore pool		ration 4 no rar ref	N n resistance nging to rusal water lev shown	il e	U <sub>50</sub> D N N* Nc P Bs R	amples, tests undisturbed sample 50mm diameter disturbed sample standard penetration test (SPT) SPT - sample recovered SPT with solid cone pressure meter bulk sample refusal environmental sample	classification sym soil description based on unified cl system  moisture D dry M moist W wet Wp plastic limit			consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose
твх	shown b	Tu by su	ubex		<b>▶</b> wa	ater inf	flow		PID WS PZ ALT	PID measurement water sample piezometer air lift test	W <sub>L</sub> liquid limit			MD medium dense D dense VD very dense