**TEST HOLE LOGS** 

**EXPLANATION OF SYMBOLS AND TERMS** 

The symbols and terms used on the test hole logs to summarize the results of the field investigation and the laboratory testing are described on the following sheets.

Soils are classified and described according to their engineering properties and behaviour. The descriptions applied to the various soil units as shown on the logs follow the Unified Soil Classification system with slight modification to recognize inorganic clays to medium plasticity (CI). Such descriptions are judgmental in nature and may differ in detail from that actually encountered in the field. The descriptions noted in the logs from test holes are based solely on inspections of soil and rock samples recovered or cuttings observed. The actual nature of the materials between samples may vary.

Laboratory tests have been performed on the various samples noted, following standard testing procedures or protocol unless otherwise noted. The test results are intended to provide a general indication of some of the engineering properties of the material.

### ABBREVIATIONS

erii

w or MC	Moisture content (ASTM D2216)	PP	Pocket Penetrometer
$W_{\mbox{\tiny P}} \mbox{ or } \mbox{\rm PL}$	Plastic limit (ASTM D4318)	γ	Unit weight
$W_{L}$ or LL	Liquid limit (ASTM D4318)	γd	Dry unit weight
I <sub>P</sub> or PI	Plasticity Index	ρ	Density
NP	Non-plastic soil	ρd	Dry density
SH	Shelby tube sample	qu	Unconfined compressive strength
AU	Auger sample	Cu	Undrained shear strength
В	Bulk Sample	SO <sub>4</sub>	Concentration of water-soluble sulphates
UD	Undisturbed Sample	TCR	Total Core Recovery
RC	Rock Core Sample	RQD	Rock Quality Index
SPT	Standard Penetration Test	SCR	Solid Core Recovery
VST	Vane Shear Test	FI	Fracture Index

	SIZE RANG	ES OF SOIL COMPONENTS							
	Component	Size Range							
		mm (US Sieve)							
	Boulders	Over 300 (12 inch)							
	Cobbles	75 (3 inch) to 300 (12 inch)							
	Gravel:								
	Coarse	19 (3/4 inch) to 75 (3 inch)							
	Fine	5 (#4) to 19 (3/4 inch)							
	Sand:								
	Coarse	2 (#10) to 5 (#4)							
	Medium	0.4 (#40) to 2 (#10)							
1	Fine	0.08 (#200) to 0.4 (#40)							
	Clay and Silt	Less than 0.08 (#200)							

SECONDAR	Y CONSTITUENTS
Term	Percentage
and	35% - 50%
y/ey	20% - 35%
some	10% - 20%
trace	0-10%

na Lta,

	CONSIS	TENCY OF FI	NE GRAINED SOILS							
Term	Undrained Shear Strength (kPa)	SPT N	Description							
Very soft	< 12	< 2	Easily penetrated with fist							
Soft	12 – 25	2-4	Easily penetrated with thumb							
Firm	25 – 50	4 – 8	Moderate effort to penetrate with thumb							
Stiff	50 - 100	8 - 15	Great effort to indent with thumb							
Very Stiff	100 - 200	15 - 30	Easily indented with thumbnail							
Hard	> 200	> 30	Effort required to indent with thumbnail							

DENSIT	DENSITY OF COARSE GRAINED SOILS													
Term	SPT N	Approx. Relative Density (%)												
Very loose	0-4	0 - 15												
Loose	4 - 10	15 – 35												
Compact	10 - 30	35 - 65												
Dense	30 – 50	65 – 85												
Very Dense	> 50	85 - 100												

Proud of Our Past.... Building the Future

**EXPLANATION OF SYMBOLS AND TERMS** 

**TEST HOLE LOGS** 

### **UNIFIED SOIL CLASSIFICATION SYSTEM (MODIFIED)**

	MAJOR DIVI	SION	GROUP SYMBOL	TYPICAL DESCRIPTION	LABORATORY CLASSIFICATION CRITERIA					
	HIGHLY ORGANI	C SOILS	РТ	Peat and other highly organic soils	Strong colour or o text	odor and fibrous ure				
4 75 µm	ALF THE TION .75 mm	CLEAN GRAVELS (LESS THAN 5%	GW	Well-graded gravels, gravel-sand mixtures	C <sub>U</sub> =D <sub>60</sub> /D <sub>10</sub> >4	$C_{C}=(D_{30})^{2}/D_{10} \times D_{60}$ 1 to 3				
K THAN	AVELS AN H/ E FRAC HAN 4	FINES)	GP	Poorly graded gravels, gravel-sand mixtures	S Not meeting all above requiremen					
SOILS ARGER	GR NRE TH DARSE GER TH	GRAVELS WITH	GM	Silty gravels, gravel-sand-silt mixtures	Atterberg limits belo	w "A" line or PI < 4				
AINED GHT L	MC CC LAR	THAN 12% FINES)	GC	Clayey gravels, gravel-sand-clay mixtures	Atterberg limits abo	ve "A" line or PI > 7				
ARSE-GR/ .F BY WEI	LF THE TION 75 mm	CLEAN SANDS (LESS THAN 5%	SW	Well-graded sands, gravelly sands	C <sub>U</sub> =D <sub>60</sub> /D <sub>10</sub> >6	$C_{C}=(D_{30})^2/D_{10} \times D_{60}$ 1 to 3				
CO,	NDS AN HA FRAC	FINES)	SP	Poorly graded sands or gravelly sands	Not meeting all ab	ove requirements				
ЗЕ ТНА	S/ RE TH. DARSE GER TH	SANDS WITH	SM	Silty sands, sand-silt mixtures	Atterberg limits belo	w "A" line or PI < 4				
IOM	MO CC	THAN 12% FINES)	SC	Clayey sands, sand-clay mixtures	Atterberg limits above "A" line or					
LLER	S BELOW "A" LIN	ILTS IE ON PLASTICITY	ML	Inorganic silts and very fine sands, rock flour, silty sands of slight plasticity	LL < 50					
r smal	CHART; NEGLI COI	GIBLE ORGANIC	МН	Inorganic silts, micaceous or diatomaceous, fine sandy or silty soils	LL > 50					
o soils veigh <sup>-</sup> µm	CI	LAYS	CL	Inorganic clays of low plasticity, gravelly, sandy, or silty clays	LL < 30					
AINEC F BY V AN 75	ABOVE "A" LIN CHART; NEGLI	E ON PLASTICITY GIBLE ORGANIC	CI	Inorganic clays of medium plasticity, silty clays	30 < LL < 50	SEE PLASTICITY CHART BELOW				
INE-GF N HAL TH/	CO	NTENT	СН	Inorganic clays of high plasticity	LL > 50					
F JRE THA	ORGANIC SI BELOW "A" LIN	LTS AND CLAYS IE ON PLASTICITY	LL < 50							
WC	CH	IART	ОН	Organic clays of high plasticity	LL > 50					



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CLIENT		Eastern Irrigation District	District I			DJECT	NAME	5	Snake Lake Reservoir Expansion					
PROJECT	<b>NUMBER</b>		1560-193-00				DJECT	LOCATION		NE 1/4 32-19-16				
DATE STA	ARTED	03/23/2022	COMPLETED	03/2	3/2022	_ GRO	DUND	ELEVATION	778.84m	N 5612599.300 E	414320.100			
DRILLING	CONTRACTO	DR	Chilako Drilling Service	s Lto	ł.	GR0	DUND	WATER ELEVAT	TION / DEPT	н				
DRILLING	METHOD		6" SSA			DAT	E GRO	OUND WATER F	RECORDED					
Depth (m) SOIL SYMBOL		Soil Descriptio	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LI</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID s/300 mm 30 40 300 400 I (KPa)	REMARKS	Standpipe/ Instrument Elevation (m)			
san bro	ALE (Weather npletely wea	ered), clay and thered, dark g	d silt, trace sand, reyish brown, moist,	= = T	AU1 AU2 SPT1	31	9.2 11.7	•	•		778			
	n plastic, ext stals suspec	remely weak, t white sulpha	blocky, gypsum te inclusions	▲ = =	AU3 AU4		16.1 17.5	•		2.7 m - LL = 56.3%	777-			
-3	.1 m - becom	ing oxidation	staining	X	SPT1	36	17.0		•	PL = 19.7% PI = 36.6% 2.7 m - Sand = 1.0% Silt = 38.2%				
	./ m - trace y	ellowish oxida	ation staining	- -	AU6 SPT3	54	16.6	•		Clay = 60.8%	775-			
5.	.5 m - becom ttling .8 m - some t	ing light brow fine stratificati	n and dark grey on	-= -= ▼	AU7 AU8	70	16.1 15.0	•			773–			
-7 SIL -7 to c -6.	TSTONE, cla damp, mediu .7 m - becom E	ayey, sandy, li m plastic, extr ing dark grey End of Borehole	ght grey to white, dry emely weak, fissured 	=	AU9	78	11.0	•	1	6.5 m - SPT refusal; 50 blows for 5" <u>6.7 m - LL = 41.3%</u> PL = 13.3% PI = 28.0% 6.7 m - Sand = 23.9% Silt = 44.1% Clay = 32.0%	772–			
– Not Tar ber	tes: get depth of ntonite chips.	10 m not achi	eved. No sloughing or	see	epage er	ncount	ered.	Borehole back	iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	Logged By: Reviewed By:	C. Braun T. Curtis			



С	CLIENT Eastern Irrigation Disc						PROJECT NAME						Snake Lake Reservoir Expansion				
PI	ROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATI	ION				NE 1/4 32-19-16			
D	ATE	STARTED	03/22/2022	_ COMPLETED	)3/2	2/2022	GR0	DUND	ELEVAT	ION	_	784.1	l1m	N_5612602.400 E	4137	24.000	
D	RILL	ING CONTRACT	OR	Chilako Drilling Services	s Lto	1.	GR0	DUND	WATER	ELEV	/ATIO	N / DE	PTH	l			
D	RILL	ING METHOD		6" SSA			DAT	E GRO	OUND W	ATER	REC	ORD	ED				
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	(X) (X) (X) (X) (X) (X) (X) (X)						REMARKS	Standnine/	Elevation (m)	
	Soil       Description         O       CLAY FILL, trace sand, trace silt, trace rounded gravel up to 15 mm, moist, stiff, high plastic, brown with some oxidation staining, light brown and dark grey mottling        2.5 m - trace suspect white sulphates        3.8 m - trace root hairs        2.5 m - trace root hairs        2.5 m - trace suspect white sulphates        3.8 m - trace root hairs        2.5 m - trace suspect white sulphates        3.8 m - trace root hairs        3.8 m - trace grained sand lenses up to 20 mm        5.3 m - trace gypsum crystals        6 m - becoming oxidation staining         End of Borehole @6.6 m					AU1 AU2 SPT1 AU3 AU4 SPT2 AU5 AU6 SPT3 AU7 AU8	22 16 19	11.7 13.8 23.2 19.0 13.8 18.6 17.1 14.9				• • • • • • • • • • • • • • • • • • •		2.1 m - LL = 50.4% PL = 15.8% PI = 34.6%		784– 783– 782– 781– 780– 778– 778– 777– 777– 777– 777– 777	
		Notes:					I	1	1				1		I	<u> </u>	
16/11/2022	Target depth of 6.6 m achieved. No sloughing up chips.						. Borel	nole b	ackfilled	d with	ı beni	tonite	•   	Logged By: Reviewed By:	C. Br T. Cu	aun	



(	CLIENT Eastern Irrigation Dis						_ PR	OJECT	NAME		Sr	Snake Lake Reservoir Expansion					
F	PROJ	ECT NUMBER		1560-193-00			_ PR	OJECT	LOCATION			NE 1/4 32-19-16					
[	DATE	STARTED	03/22/2022	COMPLETED	03/2	2/2022	GR	OUND	ELEVATION	784	.06m	N_5612601.300 E	4138	23.000			
[	ORILL	ING CONTRACT	OR	Chilako Drilling Service	es Lto	d.	GR	OUND	WATER ELE	VATION / D	EPTH						
]	DRILL	ING METHOD		6" SSA		1	DA1		OUND WATEF	R RECORE	DED						
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE</li> <li>PLASTIC</li> <li>SPT (N) Bit 10 20</li> <li>100 200</li> <li>POCKET F</li> </ul>	E CONTENT - LIQUID lows/300 mm <u>30 40</u> 9 300 400 PEN (kPa)	) ) 0	REMARKS	Standpipe	Instrumen Elevation (m)			
		CLAY FILL, and plastic, brown v suspect white s	d silt, trace sar with some oxid sulphate inclus	nd, moist, stiff, high lation staining, some ions	-	AU1		13.5	•								
				The second secon	AU2 SPT1	27	13.8	•	-	1 ( 1	I.2 m - Organic Content = 3.7% I.2 m - Sand = 9.2% Silt = 48.1%						
-2		2.1 m - moist	-	AU3		18.1	●▲	<u> </u>	2	Clay = 42.7% 2.1 m - LL = 58.4% PL = 15.6% PI = 42.8%		782					
-3			X	SPT2	17	21.1	•			11 42.07		781-					
4		SHALE (Weath weathered, dar	nered), clay an k brown with s	d silt, completely	- =	AU5		20.9	•	•				780-			
-	· · · · ·	specks, moist, 4.7 m - trace	medium plastie suspect white	c, extremely weak sulphates	=   	AU6 SPT3	26	20.2	•	-				-			
5  	· · · · ·				-	AU4		16.2	•					779			
6	·				=	AU8		15.6	•					778			
- - - - - 7	·· <u>·</u> ·	6.3 m - trace	gypsum crysta End of Borehole	@6.6 m										777-			
														776-			
-														-			
9														775			
		Notes:						<u></u>		[							
16/11/2022	Target depth of 6.6 m achieved. No seepage or s bentonite chips.						rved. I	Boreh	ole backfilled	d with	L	_ogged By: Reviewed By:	C. Bra T. Cui	un			
L																	



C		іт	Eastern Irrigation District			_ PRO	DJECT	NAME Snake La	Snake Lake Reservoir Expansion							
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION N	NE 1/4 32-19-16						
C	DATE	STARTED	03/22/2022	_ COMPLETED	)3/2	2/2022	_ GR	OUND	ELEVATION N	<u>n N 5612599.800</u> E 41392						
[	RILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	OUND	WATER ELEVATION / DEPTH	780.48 m 3.	.01 m					
[	RILL	ING METHOD		6" SSA			_ DAT	E GR	OUND WATER RECORDED	09/15/2022						
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>⊢ PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>▲ POCKET PEN (kPa)</li> </ul>	REMARKS	Elevation (m)					
-	>>	CLAY FILL, son medium plastic	ne sand, som . light brown.	e silt, dry, firm, oxide specks												
-	$\bigotimes$	·····	,		-	AU1		8.9			783-					
_1	$\bigotimes$															
	>>				=	AU2		10.7	•		782-					
-	$\otimes$				X	SPT1	15									
-2	$\otimes$	2.1 m - moisture increasing 2.2 m - light brown and dark grey mottling				AU3		19.4	L● ▲ 2.1 m -	LL = 47.8%						
	$\bigotimes$	2.2 m - light brown and dark grey mottling								PL = 14% PI = 33.8%	781-					
-3	$\otimes$	2.7 m - trace suspect white sulphates				AU3.2		23.0	• •	•						
	$\bigotimes$				X	SPT2	13			⊥ ▼						
_	$\widetilde{\gamma}$	CLAY, some silf	t, trace fine gr	ained sand, very	-	AU5		24.7		_ <b>_</b>	780					
-4		moist, soft, fissi silt lenses	ured, medium	plastic, dark brown,						•						
	Ц		dark red oxida	tion staining	╞═	AU6		22.2	<b>4</b> .3 m -	LL = 34.0%	779-					
	$\langle$	CLAY TILL, son angular gravel,	ne fine graine moist, soft to	d sand, trace fine firm, blocky, medium	Y	SPT3	11			PI = 21.0%						
-5	$\langle$	plastic, multicol	oured with ox	idation staining,		AU7		20.4	•	-						
-		SHALE (Weath	ered), clay an	d silt, completely	-						778-					
-6	· · · · ·	extremely weak	tied dark brow k, blocky	vn, moist, nign plastic,	=	AU8		17.6	• •	•						
										•						
		E	End of Borehole	e @6.6 m	1											
7											-					
-											776-					
-8											-					
-											775					
-9											-					
									//4							
-																
		Notes:														
		Target depth of standpipe insta	6.6 m achiev lled to 6.6 m.	ed. No seepage or slou Borehole backfilled wit	ighi h be	ing obse entonite	rved u chips.	pon c and s	ompletion. 50 mm and.	Loggod Dyr						
									Logged	еd Bv <sup>.</sup> <u>С.е</u>	Curtis					
16/11/2022										<u> </u>						



CLIE	CLIENT Eastern Irrigation Dis						PROJECT NAME					Snake Lake Reservoir Expansion						
PRC	DJE	ECT NUMBER		1560-193-00			PR0	DJECT	LOCA	ATION			1	NE 1/4 32-2	9-16			
DAT	Έ	STARTED	03/22/2022	COMPLETED	03/2	2/2022	GR0	DUND	ELEV	ATION	I _7	82.64m	N	5612598.4	00 E	41	4021.0	000
DRII	LLI	ING CONTRACT	OR	Chilako Drilling Service	s Lto	1	GR	DUND	WATE	R ELI	EVATION	/ DEPT	н					
DRII	LLI	ING METHOD		6" SSA			DAT	E GRO	DUND	WAT	ER RECO	RDED						
Depth (m) SOIL SYMBOL			Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M ⊢ P ■ SF 1 10 ▲ P0	OISTU PLASTIC PT (N) 0 2 00 20 00 20 00 20	RE CONTE C - LIQUID Blows/300 r 0 30 0 300 . PEN (kPa)	NT nm 40 400		REMAR	ĸs		Standpipe/ Instrument	Elevation (m)
	Soil Description         CLAY FILL, some sand, trace silt, dry, stiff, medium plastic, light brown with red oxidation staining, trace suspect white sulphate inclusions         CLAY TILL, sandy, some silt, moist, very stiff, blocky, medium plastic, brown with oxidation specks, trace suspect white sulphate inclusions 2 m - moisture increasing         SHALE (Weathered), and silt, clayey, trace sand, completely weathered, dark brown with oxidation staining, moist, medium plastic, extremely weak, blocky trace suspect white sulphates 3.8 m - brown and dark grey mottling        5.8 m - becoming greyish brown         End of Borehole @6.6 m					AU1 AU2 SPT1 AU3 AU4 SPT2 AU5 AU6 SPT3	29 76 70	8.5 9.8 13.6 13.6 14.5 14.4					4.3 m -	- LL = 41. PL = 17. PI = 24. - Sand = 7 Silt = 59. Clay = 3	9% 3% 3% 7.2% 3.4%			782 781 780 779 777 777 777 777 777 777 777 777 77
													-					
I		Notes <sup>.</sup>					L											
16/11/2022	-	Target depth of bentonite chips	Jghi	ng obse	rved. E	Boreh	ole ba	ackfill	ed with		Logge Reviev	d By: ved By:		<u> </u>	<u>3raun</u> Curtis			



(	CLIE	NT	Eastern Irrigation Distric	trict			PROJECT NAME						Snake Lake Reservoir Expansion						
1	PROJ	IECT NUMBER		1560-193-00			_ PR	OJECT	LOCA	TION	_			NE 1/4 32-19-16					
'	DATE	STARTED	03/22/2022	COMPLETED	03/2	2/2022	GR	OUND	ELEV	ATION	ι.	781	.54m	N	5612596.90	00 E	414	119.9	00
1	DRILI	LING CONTRACT	ror	Chilako Drilling Servic	es Lt	d.	GR	OUND	WATE	R ELE	EVATI	ON / E	DEPTI	H					
I		LING METHOD		6" SSA	-		_ DA	TE GRO	DUND	WATE	ER RE	CORI	DED						
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>M<sup>1</sup></li> <li>⊢ P</li> <li>I</li> <li>I</li> <li>I</li> <li>I</li> <li>P</li> </ul>	DISTU LASTIC PT (N) I D 20 0 20 DCKET	RE CO C - LIQ Blows/3 0 30 _ PEN (	NTEN <sup></sup> UID 300 mn 0 40 10 40 kPa)	n D 0		REMAR	KS	č	standpipe/ Instrument	Elevation (m)
- - - - - - - - - - - - - -		CLAY FILL, an damp, stiff, me staining, trace	d silt, some sa dium plastic, l suspect white	and, trace gravel, prown with oxidation sulphate inclusions	æ	AU1		9.4	•										781-
					-	AU2		7.3	•	-		1		1.2 m -	LL = 38.7 PL = 13.5	7% 5%			780-
-2	·	SHALE (Weatl completely we plastic_extrem	hered), clay ar athered, dark elv weak, bloc	nd silt, trace sand, brown, moist, high ky, some suspect		SPT1	22	13.4		•	•			1.2 m - 1.2 m -	PI = 25.2 Gravel = Sand = 1	2% 12.1% 7.8%			-
	· ·	white sulphate	inclusions					15.1		•				0.7 m	Silt = $43.$ Clay = $26$	3% 5.8%			779-
-3	· · · · ·				T	SPT2	35	10.1		-				2.7 m - 2.7 m - 2.7 m -	SAR: 9.8 pH: 4.4	13/111			-
	· · · · · ·					AU5		15.8		•				2.7 m -	LL = 52.3 PL = 19.9 PL = 32.4	3% 9% 1%			778-
-4	·				-	AU6		15.8		•									-
- - 5	· · · · · ·	4.8 m - 50 m	m layer of ligh	t grey shale	X	SPT3	58												777-
	· · · · · · · · · · · · · · · · · · ·	5.3 m - beco	ming brown to	light grey mottling	-	AU7		15.4		•									776-
6	· ·				-	AU8		15.9		•									-
	· · · · ·	6.2 m - some	e oxidation stai	ning	_X	SPT4	78												775-
- 7 -			End of Borenok	, @0.0 m															-
																			774-
-8																			-
Ē																			773-
-9																			-
Ē																			772—
-																			
		Notes:	f C C	od No slavskimme			المعا	Derry	ale <sup>t</sup>		od'	th							
		bentonite chips	i o.6 m achiev S.	ea. No sioughing or s	eepa	ige obse	rved.	Boren	die Da	ICKTIII	ea wi	IN		Logged	d By:		<u>C. B</u>	raun	
16/11/2022	2													Review	/ed By:		Т. C	urtis	



		NT		Eastern Irrigation District			_ PRO	DJECT	NAM	1E		5	Snake l	Lake Reservoir E	Expans	ion	
1	PROJ	IECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	ATION	_			NE 1/4 32-19-1	6		
1	DATE	STARTED	03/23/2022	COMPLETED 0	03/2	3/2022	_ GRO	DUND	ELE\	/ATION	_ ۱	778.26m	N	5612595.700	E_	41422	0.000
1	ORILI	ING CONTRACT	OR	Chilako Drilling Service	s Lto	1.	GR0	DUND	WAT	ER ELE	EVATIO	ON / DEPT	н	776.21 m		2.05 1	<u>n</u>
1	ORILL	ING METHOD		6" SSA			DAT	E GR	DUNE	D WATE	ER RE	CORDED		09/15	5/2022		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M 	10ISTU PLASTIC PT (N) I 10 20 200 20 2000 20	RE COM C - LIQU Blows/3 0 300 PEN (k	NTENT IID 00 mm <u>40</u> 0 400 Pa)		REMARKS		Standpipe/	Elevation (m)
-		CLAY TILL, sor angular gravel.	ne fine graine trace silt. moi	d sand, trace fine st. stiff. medium													778-
		plastic, brown v	with oxidation	specks, sand pockets	-	AU1		15.8		•							-
-1																	
-	$\geq$				=	AU2		19.3		•							777
Ē		SHALE (Weath	ered), clay an	d silt, completely	X	SPT1	30										-
<u>-</u> 2	·	weathered, ligh high plastic, ex	it brown to dai tremely weak	rk grey mottling, moist, to hard soil, blocky,		AU3		18.4		•							770
	· · ·	suspect white s	sulphate inclus	sions													//6
Ē,	· · — ·	-			æ	AU4		19.4		•							
	·				X	SPT2	39						1				775—
	·	3.3 m - trace	gypsum crysta	als		A. 1.5		45.0									-
-4	· _ · · · ·					AU5		15.9		•							
	·				-	AU6		16.9		•			4.3 m	n - EC: 9.7 dS/r	m		774
-	·				V	0.070	50						4.3 m 4.3 m	n - SAR: 13.8 n - pH: 4.2			
5	·	SILTSTONE. c	lavev. sandv. r	medium weathered.		5P13	50	50					4.6 m	n - Dispersivity	1		
-		light brown, dry	, low plastic, v	very weak	1	AU7		5.9					5.2 m	1 - LL = 29.3%			773-
-		. <u>t.o m - gypsun</u>	End of Borehole	e @5.2 m										PL = 12.8% PI = 16.5%			
6 -													5.2 m	n - Sand = 28.9 Silt = 47 9%	1%		772-
F -														Clay = 23.29	%		
-7																	-
																	771-
-																	
8																	-
																	770
																	-
-9																	769
-																	
Ē																	
		Notes:															
		Target depth of sand and bento	<sup>:</sup> 10 m not ach onite chips. 50	ieved. No seepage or s mm standpipe installe	slou d to	ghing ol 5.2 m.	oserve	d. Boi	ehol	e bacł	kfilled	with	Logg	ed By:	(	<u>C. Brai</u>	ın
16/11/2022	!												Revie	ewed By:		T. Curt	is
L																	



PROJECT NUMBER       1560-193-00       PROJECT LOCATION       NE 1/4 32-19-16         DATE STARTED       03/23/2022       COMPLETED       03/23/2022       GROUND ELEVATION       779.44m       N _ 5612597.900       E _ 41.         DRILLING CONTRACTOR       Chilako Drilling Services Ltd.       GROUND WATER ELEVATION / DEPTH	4420.100
DATE STARTED       03/23/2022       COMPLETED       03/23/2022       GROUND ELEVATION       779.44m       N       5612597.900       E       41         DRILLING CONTRACTOR       Chilako Drilling Services Ltd.       GROUND WATER ELEVATION / DEPTH	4420.100
DRILLING CONTRACTORChilako Drilling Services LtdGROUND WATER ELEVATION / DEPTH	
DRILLING METHOD 6" SSA DATE GROUND WATER RECORDED	
Homology     Soil     Soil     Soil     Soil     Soil     Moisture content       Description     add reg     add reg     add reg     add reg     add reg     add reg	Standpipe/ Instrument Elevation (m)
CLAY TILL, silty, some fine grained sand, trace subangular gravel up to 35 mm, moist, stiff, high plastic, oxide staining, sand pockets, suspect white sulphate inclusions	779–
■ AU2 11.1 ■ 1.2 m - LL = 52.0%	
PL = 16.1% PL = 35.9%	778-
-2 SHALE (Weathered), clay and silt, completely	-
weathered, mottled, greyish brown with oxidation specks, moist, high plastic, extremely weak, blocky Silt = 33.7%	777-
and the subsect rock in SPT1 and the subsect	-
SPT2 61	776-
-4	
	775–
5 SPT3 78	-
■ AU7 16.3 ■	774
■ AU8 16.1 ●	-
	773-
6.6 m - SPT refusal; 50 ■ AU9 blows for 5"	
6.7 m - EC: 9.9 dS/m 6.7 m - SAR: 14.2	
	772-
8 1 m - SPT refusal: 50	
End of Borehole @8.1 m blows for 6"	771-
	770-
	-
Notes:	I
Target depth of 8.1 m achieved. No seepage or sloughing observed. Borehole backfilled with	
Logged By: <u>C. F</u>	Braun
16/11/2022 Reviewed By: <u>T. (</u>	Jurtis



CLIENT	Eastern Irrigation Distric	t		_ PRO	OJECT	NAME	Snake Lake Reservoir Expan	sion
PROJECT NUM	BER1560-193-00			_ PRO	OJECT		NE 1/4 32-19-16	
DATE STARTED	03/23/2022 COMPLETED	03/23/	/2022	_ GR	OUND	ELEVATION779.03r	n N 5612595.831 E	414522.511
DRILLING CONT	RACTOR Chilako Drilling Service	es Ltd.		GR	OUND	WATER ELEVATION / DEP	TH774.05 m	4.98 m
DRILLING METH	10D 6" SSA			DAT	E GR	OUND WATER RECORDED	10/12/202	2
Depth (m) SOIL SYMBOL	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>POCKET PEN (kPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TIL angular of low to me specks, s	L, some fine grained sand, some fine ravel up to 20 mm, trace silt, damp, stiff, edium plastic, brown with oxidation suspect white sulphate inclusions	-	AU1 AU2		9.6 9.4	•		778
SHALE ( weathere blocky, tr 	Weathered), clay and silt, completely d, dark brown with oxidation specks, h plastic, extremely weak to hard soil, ace suspect white sulphate inclusions becoming greyish brown	± ± ▼	AU3 AU4	62	16.2 16.1	•	2.1 m - EC: 8.3 dS/m 2.1 m - SAR: 11.1 2.1 m - pH: 4.8 2.1 m - LL = 52.1% PL = 19.6% PL = 32.5%	776
-4	some gypsum crystals inclusions up to 10		AU5 AU6	02	16.0 15.2	•	3 m - Dispersivity Classification = ND3 3.7 m - LL = 49.6% PL = 17.2% PI = 32.4%	775
5 BENTON soft, orga SHALE (	ITE (200 mm layer), moist, high plastic, nic (see photo), trace gypsum crystals Weathered), clay and silt, completely d, dark brown with oxidation specks,		SPT3 AU7 SH1 AU8	39	36.0	•		774
6 in the second	In plastic, extremely weak to hard soil, ace suspect white sulphate inclusions	X	SPT4	89	17.0			773-
	becoming brownish dark grey	=	AU10		17.0	•		772-
BHALE, s weathere medium t \$tratified,	silty, clayey, trace fine grained sand, highly d, light grey with oxidation specs, damp, o high plastic, extremely weak, finely marine End of Borehole @8.1 m		SPT5	50			-	771-
							_	
Notes: Target de and bent	pth of 8.1 m achieved. No sloughing or se onite chips. Standpipe installed to 8.1 m.	eepag	e obsei	rved. I	Boreh	ole backfilled with sand	Logged By: Reviewed By:	C. Braun T. Curtis

### BOREHOLE No : 22BH108E

# an **Englobe** company

C	LIE	T		Eastern Irrigation District			_ PRO	OJECT	NAME	Sr	ake Lake Reservoir I	Expans	ion	
F	ROJ	IECT NUMBER		1560-193-00			_ PRO	OJECT	LOCATION		NE 1/4 32-19-1	6		
0	DATE	STARTED	03/20/2022	COMPLETED	)3/2	0/2022	_ GRO	OUND	ELEVATION	778.90m	N_5612595.400	E_	414568.9	900
C	RILI	ING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	OUND	WATER ELEVAT	ION / DEPTH				
0	RILI	ING METHOD		6" SSA			DAT	E GR	OUND WATER RI	ECORDED				
Depth (m)	SOIL SYMBOL	TOPSOIL silbu	Soil Descripti	on noist loose light	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows/ 10 20 3</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	DNTENT QUID 300 mm 30 40 00 400 (KPa)	REMARKS		Standpipe/ Instrument	Elevation (m)
-1		TOPSOIL, silty prown, trace ro GRAVEL, silty, well graded, m CLAY TILL, silt plastic, brown w white sulphate SHALE (Weath weathered, bro high plastic, ve suspect white s BENTONITE (7 SHALE (Weath weathered, bro extremely weat	, some sand, r ot hairs and o trace sand, tra oist, red and b y, some sand, with oxidation inclusions inclusio	noist, loose, light rganics ace clay, sub-angular, rown moist, stiff, medium mottling, suspect d silt, highly tion specks, moist, y, gypsum crystals, ions nyer) d silt, highly hoist, high plastic, @6.1 m										778- 777- 776- 7775- 7774- 7773- 7772- 7771- 7770-
-														769-
		Notes: Exploratory bot 22BH108. Loca bentonite chips	rehole in atten ated approxima . No samples	npt to delineate lateral ately 50 m east of bore retrieved.	exte hol	ent of be e 22BH1	ntonite 08. B	e Laye loreho	er encounter in l ble backfilled wit	borehole <sup>th</sup> L	ogged By: Reviewed Bv:		J. Boyd T. Curtis	
16/11/2022										•				



### BOREHOLE No : 22BH108W

CI	LIEN	IT		Eastern Irrigation Distric	t		_ PRO	JECT	NAME	Sn	ake Lake Reservoir E	xpansio	n
PF	ROJ	ECT NUMBER		1560-193-00			_ PRO	JECT	LOCATION		NE 1/4 32-19-16	6	
D	ATE	STARTED	03/20/2022	COMPLETED	03/20	0/2022	_ GRO	DUND	ELEVATION	779.76m	N_5612599.600	E _4	14472.000
DI	RILL	ING CONTRACT	OR	Chilako Drilling Service	es Ltd	l.	GR0	DUND	WATER ELEVA	TION / DEPTH			
DI	RILL	ING METHOD		6" SSA			_ DAT	E GR	OUND WATER	RECORDED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE (</li> <li>PLASTIC - L</li> <li>SPT (N) Blow</li> <li>10</li> <li>200</li> <li>POCKET PE</li> </ul>	CONTENT IQUID /s/300 mm 30 40 300 400 N (/kPa)	REMARKS		Standpipe/ Instrument Elevation (m)
		CLAY TILL, silty very soft, media staining, suspe 2 m - becomin SHALE (Weath weathered, mo staining, moist, blocky, suspect 3.7 m - trace oxidation speck	y, some sand, um plastic, bro ct white sulpha ered), clay an ttled brown wit high plastic, e white sulphat oxide specks, s	trace gravel, damp, wwn, some oxidation ate inclusions d silt, highly th some oxidation extremely weak, e inclusions greyish brown with oxide specks @6.1 m									779 7778 7778 7777 7776 7776 7776 7776 7
		Notes:							<u> </u>				
16/11/2022		Exploratory bor 22BH108. Loca bentonite chips	ehole in attem ated approxima . No samples	npt to delineate lateral ately 50 m west of bo retrieved.	exte ehol	ent of be e 22BH	ntonite 108. B	e laye oreho	r encountered le backfilled w	in borehole ⁄ith L R	ogged By: Reviewed By:	J. T.	Boyd Curtis



CLIE	NT		Eastern Irrigation District	t		_ PRO	OJECT	NAME	5	Snake Lake Reservoir Expans	sion	
PRO	JECT NUMBER		1560-193-00			_ PRO	OJECT	LOCATION		NE 1/4 32-19-16		
DATI	E STARTED	03/23/2022		03/2	3/2022	GR	OUND	ELEVATION	778.63m	N 5612595.100 E	414620.	100
DRIL	LING CONTRACT	OR	Chilako Drilling Service	es Lto	ł.	GR	OUND	WATER ELEVAT	ION / DEPT	н		
DRIL	LING METHOD		6" SSA			DAT	E GRO	OUND WATER R	ECORDED			
Depth (m) SOIL SYMBOL		Soil Descript	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CI</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 20 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID /300 mm 30 40 /00 400 (kPa)	REMARKS	Standpipe/ Instrument	Elevation (m)
	CLAY TILL, so subangular gra plastic, brown, white sulphate SHALE (Weath grained sand, o with dark grey moist, high pla	me fine graine ivel up to 45 n some oxidatio inclusions mered), clay ar completely we mottling and c stic, extremely suspect white	d sand, trace Im, dry, stiff, medium In staining, suspect d silt, trace fine athered, light brown xidation staining, weak, blocky sulphates		AU1 AU2 SPT1 AU3 AU4	26	7.9 7.8 16.2	•		1.2 m - LL = 46.4% PL = 15.5% PI = 30.9%		778
	2.7 m - some 3.1 m - trace	light brown to	dark grey varving isions		AU4 SPT2 AU5 AU6 SPT3 AU7	45 50	16.4	•	•	3 m - Dispersivity Classification = ND3 3.7 m - EC: 8.9 dS/m 3.7 m - SAR: 13.6 3.7 m - pH: 7.5		775
6	5.3 m - trace	gypsum crysta	als inclusions	- 	AU8	50	15.0	•				773-
-7	SHALE, clay a weathered, ligh weak, fissured	nd silt, trace s at whitish grey. End of Borehole	and, medium dry, high plastic, 9 @6.7 m		AU9		18.7			6.6 m - SPT refusal; 50 blows for 4" 6.6 m - LL = 60.4% PL = 20% PI = 40.4% 6.6 m - Sand = 4.3% Silt = 41.1% Clay = 54.6% 6.7 m - Auger refusal		772 771 770 770 769
16/11/2022	Notes: Target depth of bentonite chips	f 9.0 m not acł s.	nieved. No sloughing c	or se	epage c	bserve	ed. Bo	rehole backfille	ed with	Logged By: Reviewed By:	<u>C. Braun</u> T. Curtis	1



CLIE	ΕN	т		Eastern Irrigation District			_ PRO	DJECT	NAM	IE	_		S	nake Lake	Reservoir	Expan	sion		
PRO	JJE	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	ATION	_			NE	1/4 32-19-	16			
DAT	ΓE	STARTED	03/23/2022		03/2	3/2022	_ GRO	DUND	ELE\	/ATION	1 _	779	.32m	N56	12593.700	_ E _	414	720.1	00
DRI	ILLI	ING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR0	DUND	WATI	ER ELI	EVATIO	ON / E	DEPTH	ł					
DRI	ILLI	ING METHOD		6" SSA			DAT	E GR	DUNE	) WATI	ER RE	COR	DED						
Depth (m) SOIL SYMBOL			Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S 1 ▲ P	10ISTU PLASTI PT (N) 10 20 00 20 20 20 20 20	RE CO C - LIQI Blows/3 0 30 7 PEN (I	NTENT JID 500 mm 50 40 kPa)	Г D 0	I	REMARKS	8	Standarino/	Instrument	Elevation (m)
			, brown, some sulphate inclus fine angular g up to 30 mm ed cobbled up	e sin, dry, stin, e oxidation staining, sions gravel up 6 mm, some o to 110 mm	= = =	AU1 AU2		4.7 5.5	•	F—		1		1.2 m - L F	L = 39.4% PL = 14.2%				779
-2						AU3	20	10.1 12.5		•					1 20.2 /				
-3		SHALE (Weath weathered, darl staining, moist, blocky 3.1 m - traces	d silt, completely wn with some oxidatior extremely weak, sulphates		SPT2 AU5	71	14.6		•									776	
5		race oxidation	specks	, war brown motaling,	-	AU6 SPT3 AU7	78	15.6		•									775
6		5.5 m - no SP sloughing	T blows belov	v 5.1 m due to	-	AU8		18.5		•									773
7					æ	AU9		13.2		•									-
			End of Borehole	e @7.6 m	_	AU10		14.1		•									771
9																			770
16/11/2022	 - 	Notes: Target depth of Borehole backfi	8.1 m not ach illed with bent	nieved. Minor sloughin conite chips.	g up	on com	pletion	, no s	eepa	ige ob	serve	d.		Logged I Reviewe	Зу: d By:		<u>С. В</u> г Т. Сі	aun urtis	



	IEN.	IT		Eastern Irrigation Distric			_ PRO	OJECT		1E	_		Snake	Lake Rese	ervoir Exp	ansion	1	
PR	ROJI	ECT NUMBER		1560-193-00			_ PRO	OJECT	r loc	ATION	I _			NE 1/4 3	2-19-16			
DA	ΛTE	STARTED	03/22/2022	COMPLETED	03/22	2/2022	_ GR	OUND	ELE	VATION	۰ ۱	779.6	0m I	<u>561259</u> 2	2.300 E	41	4820.1	00
DR	RILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd	l.	GR	OUND	WAT	ER EL	EVATIO	ON / DE	PTH		· -			
DR	RILL	ING METHOD		6" SSA			_ DA1	TE GR		) WATI	ER RE	CORDE	ED					
Depth (m)	SOIL SYMBOL		Soil Descriptio	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLASTI SPT (N) 10 20 POCKET	RE COI C - LIQU Blows/3 0 30 7 PEN (F	NTENT JID 00 mm 0 40 0 400 (Pa)		REMA	ARKS		Standpipe/ Instrument	Elevation (m)
		CLAY TILL, sor trace cobbles u medium plastic trace suspect v 2.5 m - no SF SHALE (Weath weathered, dar moist, high plas suspect white s	ne sand, some p to 150 mm, , brown, some white sulphate PT blows due to rered), clay and k brown with c stic, extremely sulphate inclus	e subrounded gravel, dry, stiff, low to oxidation staining, inclusions o sloughing d silt, completely ixidation specks, weak, blocky, trace ions		AU1 AU2 AU5 AU6		<ul> <li>≤</li> <li>6.3</li> <li>7.3</li> <li>15.6</li> <li>15.2</li> </ul>		• •			4.3 4.3 4.3	m - EC: 7. m - SAR: m - pH: 5. m - LL = 5 PL = 1 PI = 3	3 dS/m 10.1 2 4.0% 7.2% 36.8%			779 778 7777 7776 7775 7774 7773 7772 7772
, , , , , , , , , , , , , , , , , , ,																		770
		Notes:																
16/11/2022		Target depth of seepage encou	8.2 m not ach intered. Boreh	ieved. Substantial slo ole backfilled with ber	ughi Itonii	ng caus te chips	ed au	ger re	fusal	at 5.5	5 m. N	0	Log Rev	ged By: iewed By:	_	C. I T. (	<u>Braun</u> Curtis	



CLIEI	NT		Eastern Irrigation Distric	t		_ PR	OJECT	NAME	S	nake Lake Reservoir Expa	nsion
PRO	JECT NUMBER		1560-193-00			_ PR	OJECT	LOCATION		NE 1/4 32-19-16	
DATE	STARTED	03/22/2022	COMPLETED	03/2	2/2022	GR	OUND	ELEVATION	778.43m	N_5612590.900 E	414920.100
DRIL	LING CONTRACT	OR	Chilako Drilling Service	es Lto	1.	GR	OUND	WATER ELEVA	TION / DEPTH	ł	
DRIL	LING METHOD		6" SSA			DAT	re Gro	OUND WATER F	RECORDED		
Depth (m) SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LI</li> <li>SPT (N) Blow:</li> <li>10 20</li> <li>100 200</li> <li>POCKET PEN</li> </ul>	CONTENT QUID \$/300 mm 30 40 300 400 \$ (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
	CLAY TILL, and medium plastic oxidation stainin SHALE (Weath weathered, dar specks, dry to c some suspect v	d silt, sandy, d , orangish bro ng k brown with s damp, high pla white sulphate	ry to damp, stiff, wn with some d silt, highly ome oxidation stic, extremely weak, inclusions		AU1 AU2 SPT1 SH1 AU3 AU4	29	<ul><li>6.5</li><li>7.2</li><li>11.8</li><li>12.0</li></ul>	•		0.6 m - Organic Content = 1.9% 0.6 m - Sand = 20.1% Silt = 55.4% Clay = 24.5%	778
	specks, dry to da some suspect wh			-	SPT2 SH2 AU5 AU6 SPT3	60 77	17.8 18.0	•			775
	5.3 m - light b	rown and grey	r mottling	=	AU7		19.9	•			773–
-7	6.3 m - becon	ning blocky			AU8 SPT4 AU9 AU10	43	21.0 20.4 20.0		•		772-
-8	SHALE, clay ar	nd silt, some s	and, highly	X	SPT5	55				0.0 11 - 00.7%	
9	weathered, ligh extremely weak 8.5 m - becon	It bluish grey, o k, horizontally ning some fine	damp, high plastic, finely fissured, marine grained sand	-  X	AU12 SPT6	50	13.9	•		PL = 17.8% PL = 17.8% PI = 45.9% 8.2 m - Sand = 17.0% Silt = 43.9% Clay = 39.1% 8.8 m - EC: 1.6 dS/m	770
	-	End of Borehole	<u>@9.9 m</u>	-	AU14					8.8 m - SAR: 18.4 8.8 m - pH: 9.0	
16/11/2022	Notes: Target depth of	10.8 m not re	ached. Minor sloughir	ng. B	orehole	backf	illed w	ith bentonite c	hips.	Logged By:	C. Braun T. Curtis

		MP		an <b>Englob</b> o	e cor	mpar	۱y					BOR	EHOLE No :	<b>22E</b>	<b>3H1</b> AGE 2	12 2 OF 2
				Eastern Irrigation Di	strict		PR			F		c	Snake Lake Reservoir	Expansio	n	
	PROJ	ECT NUMBER		1560-193-00	31101		PRO	DJECT	LOCA				NE 1/4 32-19	-16		
	DATE	STARTED	03/22/2022	COMPLETED	03/2	2/2022	GR0	OUND	ELEV	ATION	1	778.43m	N 5612590.900	) E 4	14920. <sup>-</sup>	100
	DRILL	_ING CONTRAC	TOR	— Chilako Drilling Se	rvices Lte	d.	 GR0	OUND	WATE	R ELI	EVATIO	N / DEPT	— — — — — — — — — — — — — — — — — — —			
	DRILL	ING METHOD		6" SSA			DAT	TE GR	OUND	WAT	ER REC	ORDED				
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H P ■ SI 1( ▲ P!	OISTU PLASTIC PT (N) 0 2 00 20 OCKET	RE CON C - LIQUI Blows/30 0 30 7 PEN (kg	TENT D 0 mm <u>40</u> 2a)	REMARK	S	Standpipe/ Instrument	Elevation (m)
													9.1 m - Dispersivit Classification = NI	y 24		768- - 767- - 766- - 765- - 764- - 763- - 762- - 761- - 7661- -
		Notes: Target depth o	f 10.8 m not re	eached. Minor slou	ghing. E	 Borehole	backfi	illed w	vith be	entoni	te chip	s.			Broum	759-
16/11/202	2												Reviewed By:		Curtis	,



	CLIE	NT		Eastern Irrigation District			_ PR	OJECT	NAME	Ξ		S	Snake La	ike Reservoir E	Expans	sion	
	PRO	JECT NUMBER		1560-193-00			_ PR	OJECT	LOCA	TION			١	NE 1/4 32-19-1	6		
	DATE	E STARTED	03/22/2022	COMPLETED	03/2	2/2022	_ GR	OUND	ELEV	ATION		777.01m	<u> </u>	5612588.800	E_	415020.	400
	DRIL	LING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	OUND	WATE	RELE	VATIO	N / DEPT	н				
	DRIL	LING METHOD		6" SSA			DA	TE GR	OUND	WATE	R REC	ORDED					
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M <sup>4</sup> ⊢ P ■ SF 10 ▲ PC	OISTUR LASTIC PT (N) B 0 20 00 200 DCKET	E CON - LIQUI lows/30 <u>30</u> 0 300 PEN (kF	FENT D 0 mm <u>40</u> 400 2a)	-	REMARKS		Standpipe/ Instrument	Elevation (m)
- - - - - - - - - - - - - - - - - - -		15 mm, trace f plastic, brown suspect white s	me silt, trace n ine grained sa with some oxic sulphate inclus	anded graver up to nd, dry, stiff, medium lation staining, trace ions	=	AU1 AU2		9.3 9.6	•	•							776
-2					X	SPT1	26				•						775-
		SHALE (Weath grained sand, o reddish brown	nered), clay an completely we with oxidation	d silt, trace fine athered, mottled dark staining, damp,	- 	AU3 AU4		13.8 14.8		•							
-3	· · · · · · · · · · · · · · · · · · ·	medium plastic 3 m - thickly l light yellowish l	c, extremely we aminated betw brown	eak, blocky /een dark brown and	X	SPT2 AU5	35	14.8		•		•					//4—  
-4		4.2 m - trace	suspect white	sulphates	-	AU6		14.9		•							773-
- 	·	4.7 m - trace	gypsum crysta	als up to 6 mm	×	SPT3 AU7	50	14.0		•			5.2 m -	- EC: 8.2 dS/	m		772-
- - - - - - - - - - - - - - - - - - -	· · · · · · · · · · · · · · · · · · ·	5.9 m - becor	ming trace oxio	lation specks	=	AU8		15.0		•			5.2 m - 5.2 m - 5.2 m -	• SAR: 12.2 • pH: 4.2 • LL = 54.5% PL = 16.3%			
	·	•				SPT4	84	26.7			•			PI = 38.2%			
- -7 -	·	•			-	AU10		12.4		•							770-
	·	-			X	SPT	50						•				
	·	8.2 m - becor	ming greyish b	rown	-	AU11		16.9		ŀ●			8.2 m -	· LL = 63.5% PL = 14%			769
- - - - - - -		9 m - becomi	ed	The second secon	AU12 SPT6	55	16.8		•			8.2 m -	PI = 49.5% Sand = 6.19 Silt = 38.1% Clay = 55.86	%		768	
	· · · · ·	9.8 m - light k	prown to grey i	nottling	=	AU13		17.3		•			-				
		Notes:															
		Target depth or bentonite chips	f 12.7 m not ao s.	hieved. Minor sloughi	ng. I	No seep	age. E	Boreho	ole ba	ckfilled	d with		Logge	d By:	(	<u>C. Braur</u>	<u>1</u>
16/11/2022	2												Reviev	veu by:			•

	CLIEN	NT		Eastern Irrigation Di	strict			_ PRO	DJECT	NAM	E	_		Snake Lake Reservoir Expar	ision	
	PROJ	ECT NUMBER		1560-193-00				_ PRO	DJECT	LOC	ATION	_		NE 1/4 32-19-16		
	DATE	STARTED	03/22/2022	COMPLETED	03/	/22/20	022	_ GRO	DUND	ELEV	ATION	1	777.01r	nN_5612588.800E	415020.4	400
	DRILL	ING CONTRACT	OR	Chilako Drilling Se	rvices L	.td.		GR	DUND	WATE	ER ELE	EVATI	ON / DEPT	Ή		
	DRILL	ING METHOD		6" SSA				DAT	E GR	OUND	WATE	ER RE	CORDED			
Depth (m)	SOIL SYMBOL		Soi Descrip	l otion	Comple Tune	odiliple lype	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S 1 1 A P	IOISTUI PLASTIC PT (N) I 10 20 00 20 OCKET	RE CO C - LIQ Blows/3 0 30 7 PEN (	NTENT UID 300 mm 0 40 00 400 (kPa)	REMARKS	Standpipe/ Instrument	Elevation
-		SHALE (Weath grained sand, or reddish brown medium plastic	nered), clay a completely w with oxidatio c, extremely v	and silt, trace fine reathered, mottled d n staining, damp, weak, blocky	ark		U14 PT7	50	16.1		•					
		SHALE, some weathered, ligh extremely wea	silt, trace fine nt bluish grey <u>k, finely fissu</u> End of Borehol	e grained sand, high /, damp, medium pla Ired le @11.4 m	astic,	A	U15	50	16.0		•			11.4 m - Auger refusal		766-
																765
-13																764 <sup>.</sup>
																763 <sup>.</sup>
- 15																762
																761·
17																760
														-		759
-19																758 <sup>.</sup>
- - - - - -														-		



	CLIE	NT		Eastern Irrigation District			_ PRO	OJECT	NAM	E	_		Sn	ake Lal	ke Reservoir E	Expans	ion		
	PROJ	IECT NUMBER		1560-193-00			_ PRO	OJECT	LOC	ATION	_			N	E 1/4 32-19-1	6			
	DATE	STARTED	03/22/2022	_ COMPLETED	03/2	2/2022	_ GR	OUND	ELEV	ATION	Ι.	777	7.22m	_ N_5	612585.700	_ E _	41511	9.80	0
	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	1.	GR	OUND	WATE	ER ELE	EVATI	ON / [	DEPTH		770.81 m		6.41	m	
	DRILI	LING METHOD		6" SSA			DAT	TE GRO	DUNE	) wate	ER RE	CORI	DED		09/1	5/2022			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S 11 ▲ P	10ISTU PLASTIC PT (N) I 10 2 00 20 00 20 00 20	RE CO C - LIQ Blows/3 00 30 7 PEN (	UID 300 mn 0 40 00 40 kPa)	Г n 0 00		REMARKS		Standpipe/		Elevation (m)
- - - - - - - - - -		CLAY TILL, sar mm, trace silt, o brown with som white sulphate	ndy, some rour damp, stiff, low ne oxidation st inclusions	nded gravel up to 35 / to medium plastic, aining, trace suspect	-	AU1		7.7	•								I	7	777
Ē					=	AU2		9.5										7	776
-	2				X	SPT1	25				-								1.1.1
2 						AU3		12.7		•									775
-		2.3 m - moistı	ure increasing																
3		2.7 m - trace cobbles up to 75 mm				AU4		11.1		•									
	2	SHALE (Weathered), clay and silt, highly				SPT2	36											7	774-
	· · · · · · · · · · · · · · · · · · ·	SHALE (Weathered), clay and silt, highly weathered, dark brown with oxidation specks, moist, high plastic, extremely weak, suspect whi sulphate inclusions				AU5		17.8		•									
	·		0113		-	AU6		17.8		•								7	773-
-	·				Y	SPT3	43												
5 	·	4.8 m - trace	gypsum crysta	lls				16 1						2 m -	11 - 54 5%			-	772-
-	·	-			-	707		10.1		•				.2 111 -	PL = 17.7%				
6	·				=	AU8		15.6		٠					PI = 36.8%	1			
	· ·	-			Y	SPT4	86									Ţ	F 🛛	7	771
-	·	- - -				AU9		20.2								-	=		1.1
-7	· _ · ·							-											770
-	·	-			₽	AU10		12.9		•			7	6 m		-			-70
L,	· · · · ·	7.6 m - trace mm	gypsum crysta	I inclusions up to 20		SPT5	50						•7	.6 m -	SAR: 13.3				1111
-		8.2 m - becon	ning grevish b	rown		AU11		13.1	[	•			7	.6 m -	рН: 6.8			1	769-
	·																		1.1.1
-9	· _ · ·					AU12		13.4		•			8	.8 m -	LL = 68.4% PL = 14.5%				
-		SHALE, silty, highly weathered, light bluish grey				SPT6	86								PI = 53.9%			7	768-
		with some oxidation staining, damp, medium plastic, extremely weak, thinly laminated, marine End of Borehole @9.8 m											9 b	.6 m - <del>lows f</del> e	SPT refusal	l; 50			
		Notoci									9	.8 m -	Auger refus	al					
		Target depth of bentonite chips	12.7 m not ac . and sand. 50	hieved. Minor sloughi ) mm slotted standpipe	ng u e ins	pon con talled to	npletio a dep	on. Boi oth of 9	rehol 9.8 m	e bacl ı.	kfilled	l with	I	ogged	Bv:	C	), Bra	un	
	_												F	Review	ed By:		<u>Г. C</u> ur	tis	
16/11/202	2														,				



PROJECT VLAGER       162-193-00       NE 14 32-16-16         DATE STATED       023/1002       COMPLETS       023/1002       COMPLETS       152/19500       152/19500         DRILLING CONTRACTOR       Chaine Drilling Service Ltd.       GROUND WATER ELEVATION IDENT	(	CLIE	NT		Eastern Irrigation District			_ PR	OJECT	NAN	1E	_		Sna	ake Lak	e Reservoir	Expan	ision		
DATE STARTED         0.921/2022         COMPLETED         0.921/2022         0.921/2022         0.921/2022         0.921/2022         0.921/2022         0.921/2022         0.921/2022         0.921/2022         0.921/2022         0.921/2022         0.921/2022         0.921/2022         0.921/2022         0.921/2022         0.921/2022         0.921/2022         0.921/2022         0.921/2022         0.92		PRO	JECT NUMBER		1560-193-00			_ PR	OJECT	LOC	ATION	<u> </u>			N	E 1/4 32-19	-16			
DelLING CONTRACTOR       Childuo Dulling Services Lut       CONUND WATER ELEVATION / DEPT1         DRILLING METHOD       6' SSA       DATE GROUND WATER ELEVATION / DEPT1         DRILLING METHOD       6' SSA       DATE GROUND WATER ELEVATION / DEPT1         USA       Description       6' SSA       Main Second		DATE	STARTED	03/21/2022	COMPLETED 0	)3/2	1/2022	_ GR	OUND	ELE	VATION	۱ _	776.0	06m	_ N_5	612575.700	)_E_	4152	219.6	00
DRILLING METHOD       0:5SA       DATE GROUND WATER RECORDED         End of Bootplin       0:0ST (Source)       0:0ST (Source)       0:0ST (Source)       0:0ST (Source)         End of Bootplin       0:0ST (Source)		DRIL	LING CONTRACT	OR	Chilako Drilling Services	s Lto	d.	GR	OUND	WAT	ER EL	EVATIO	ON / DE	PTH						
under the second sec		DRIL	LING METHOD		6" SSA			DA	TE GRO	DUNI	D WATI	ER RE	CORD	ED						
CLAY ILL, some tine grained sand, trace rounded gradient plastic, vary stiff, brown with some oxidation staining, suspect white suphate inclusions           1         6.2         0           1         1.6 m - some sand and silt pockets         AU1         6.2         0           2         .1.6 m - some sand and silt pockets         AU1         13.0         0         0           2         .1.6 m - some sand and silt pockets         AU2         13.0         0         0         0           2         .1.6 m - some sand and silt pockets         AU3         13.0         0         0         0         0           2         .5 HALE (Weathered), clay and silt, highly weathered, dark prown motided with oxidation staining, most, high plasite, extremely weak, blocky         AU4         13.9         0 <td< td=""><td>Depth (m)</td><td>SOIL SYMBOL</td><td></td><td>Soil Descripti</td><td>on</td><td>Sample Type</td><td>Sample Number</td><td>SPT (N)</td><td>Moisture Content (%)</td><td></td><td>MOISTU PLASTI SPT (N) <u>10 2</u> 100 20 POCKET</td><td>RE CO C - LIQI Blows/3 0 30 7 PEN (I</td><td>NTENT UID 300 mm <u>) 40</u> 0 400 kPa)</td><td></td><td></td><td>REMARK</td><td>S</td><td>Standnine/</td><td>Instrument</td><td>Elevation (m)</td></td<>	Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLASTI SPT (N) <u>10 2</u> 100 20 POCKET	RE CO C - LIQI Blows/3 0 30 7 PEN (I	NTENT UID 300 mm <u>) 40</u> 0 400 kPa)			REMARK	S	Standnine/	Instrument	Elevation (m)
2       1.6 m - some sand and silt pockets       X       SPT1       43       13.0       •       •       774         3       SHALE (Weathered), clay and silt, highly       •       AU3       13.0       •       •       773         4       AU3       13.0       •       AU4       13.9       •       773         5       SHALE (Weathered), clay and silt, highly       •       AU4       13.9       •       773         6       SPT2       65       65       •       •       0       •       773         6       AU5       13.6       •       •       •       0       •       773         6       AU5       13.6       •       •       0       •       773         6       AU5       13.6       •       •       0       •       0       •       773         6       AU5       15.4       •       •       0       •       0	- - - - - - - - - - - - - - - - - - -		CLAY TILL, soi gravel up to 20 very stiff, brown suspect white s	me fine graine mm, trace silt n with some op sulphate inclus	d sand, trace rounded , dry, medium plastic, kidation staining, iions	<b>*</b>	AU1 AU2		6.2	•	•									775-
-2       -1.6 III - Sufficient and all supported is process       4       SP11       4.3       -7<	-		16 m	aand and ailt	nadiata	V	0074	40												-
SHALE (Weathered), clay and silt, highly weathered, dark brown motiled with oxidation stating, most, high plastic, extremely weak, blocky       13.0       13	2		1.0 III - SOIIIe	Sanu anu siit	POCKEIS		SPIT	43					•							774-
-3       weathered, dark brown motiled with oxidation blocky       -3       -3       -4       -4       -3       -4       -4       -3       -4       -3       -4       -3       -4       -4       -5       -3       -4       -4       -5       -4       -4       -5       -5       -6       -7       -4       -6       -7       -7       -4       -6       -7       -7       -6       -7       -7       -6       -7 </td <td>-</td> <td>·<u>··</u>·</td> <td>SHALE (Weath</td> <td>d silt, highly</td> <td>-</td> <td>AU3</td> <td></td> <td>13.0</td> <td></td> <td>•</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	-	· <u>··</u> ·	SHALE (Weath	d silt, highly	-	AU3		13.0		•										
3       blocky       2.6 m - trace suspect white sulphates       773         4       4       4       4       4       4         5       4       4       4       4       4         5       5       13.6       6       773         6       4       4       4       4       4         6       4       4       4       6       773         6       5       773       51       773       774         6       774       12.8       6       6       777         6       775       774       12.8       774       774         774       774       774       12.8       775       774         775       774       774       12.8       775       774         774       774       774       774       12.8       775         775       78       15.4       16.4       773 m - LL = 62.8%       776         776       78       78       73 m - LL = 62.8%       768       768         9.5       73 m - LL = 62.8%       9.9 m - Auger refusal; 50       13.7       9.9 m - Auger refusal; 50       100 ms for 3"         9.9	-	·	∃weathered, dar staining, moist,	ed with oxidation extremely weak,	-	AU4		13.9		•									-	
-4       -5       -5       -5       -5       -7       -4       -4       -5       -7       -4       -6       -7 <td< td=""><td>-3</td><td></td><td>blocky 2.6 m - trace</td><td>sulphates</td><td>▼</td><td>SDT2</td><td>65</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>773-</td></td<>	-3		blocky 2.6 m - trace	sulphates	▼	SDT2	65												773-	
4       AU5       13.6       •       177-         -6       AU6       14.0       •       14.0       •       177-         -6       AU6       14.0       •       14.0       •       177-         -6       AU7       12.8       •       •       •       •       •         -6       AU7       15.4       •       •       •       •       •       •         -7       AU8       16.4       •       •       •       •       •       •       •       •         -7       AU8       16.4       •	-	·	•				0112	00												_
AU6 AU6 AU7 AU7 AU7 AU7 AU7 AU7 AU7 AU7	E,	· · · ·	•			=	AU5		13.6		•									-
-5       -7.00       -7	-	· · · · ·	-				AUG		14 0		•									772—
-5       m - trace gypsum crystals       SPT3       51       12.8       -7       -7       12.8       -7       -7       -6       -7 <td>-</td> <td>· ·</td> <td>•</td> <td></td> <td></td> <td>V</td> <td>/.00</td> <td></td> <td>14.0</td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td>	-	· ·	•			V	/.00		14.0		-									-
-6       AU7       12.8       - </td <td>5</td> <td>· ·</td> <td>5 m - trace d</td> <td>neum cruetale</td> <td></td> <td>Å</td> <td>SPT3</td> <td>51</td> <td></td> <td>771-</td>	5	· ·	5 m - trace d	neum cruetale		Å	SPT3	51												771-
AU8 AU8 AU9	-	· · · · ·		poun oryotale		-	AU7		12.8		•									-
-6       -7 <td< td=""><td>Ē</td><td>· _ · ·</td><td></td><td></td><td></td><td>-</td><td>AU8</td><td></td><td>16.4</td><td></td><td>•</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td></td<>	Ē	· _ · ·				-	AU8		16.4		•									-
7       SP14       50       6.6 m - SPT refusal; 50         8       AU9       15.4       6.6 m - SPT refusal; 50         9       AU10       18.5       7.3 m - LL = 62.8%         PL = 17.3%       PL = 17.3%       PL = 45.5%         9       AU11       15.8       9.6 m - SPT refusal; 50         9       AU12       17.7       9.6 m - SPT refusal; 50         9       End of Borehole @9.9 m       AU13       13.7       9.6 m - SPT refusal; 50         Notes:       Target depth of 15.7 m not achieved. No seepage encountered. Minor sloughing observed upon completion. Borehole backfilled with bentonite chips.       Logged By:       C. Braun         18/11/2022       Keviewed By:       T. Curtis	6 -	·	•			V														770-
7       AU9       15.4       blows for 5"       769-         8       SHALE, silty, highly weathered, bluish grey with oxidation specks, moist, medium plastic, extremely weak, thinly laminated, marine       8       AU10       18.5       78       767-       9.6 m - SPT refusal; 50       767-       9.6 m - SPT refusal; 50       9.9 m - Auger refusal       767-       9.6	Ē	· <u>··</u> ·	•			<b>Å</b>	SP14	50						6	.6 m -	SPT refus	al: 50			-
AU10 AU10 AU11 AU11 AU11 AU11 AU11 AU11	-7					-	AU9		15.4		•			b	lows fo	or 5"	,			700
B       SHALE, silty, highly weathered, bluish grey with oxidation specks, moist, medium plastic, extremely weak, thinly laminated, marine       Y       SPT5       78       PL = 17.3%       PI = 45.5%         9       AU11       15.8       AU11       15.8       PI = 45.5%       768-         9       AU12       17.7       PI = 45.5%       768-       768-         9       End of Borehole @9.9 m       PI = 45.5%       768-       768-         9       End of Borehole @9.9 m       PI = 45.5%       9.6 m - SPT refusal; 50       768-         9.0 m - Auger refusal       9.9 m - Auger refusal       9.9 m - Auger refusal       767-         9.0 m - Auger refusal       9.9 m - Auger refusal       PI = 45.5%       768-         13.7       9.9 m - Auger refusal       PI = 45.5%       768-         9.6 m - SPT refusal; 50       blows for 3"       9.9 m - Auger refusal       767-         9.9 m - Auger refusal       9.9 m - Auger refusal       PI = 45.5%       768-         Reviewed By:       C. Braun         Reviewed By:       T. Curtis		·····	•			-	AU10		18.5		•			7	.3 m -	LL = 62.8%	6			769
8       SHALE, silty, highly weathered, bluish grey with oxidation specks, moist, medium plastic, extremely weak, thinly laminated, marine       AU11       15.8       Image: C. Braun completion. Borehole backfilled with bentonite chips.         9       Image: C. Braun completion. Borehole backfilled with bentonite chips.       Logged By: C. Braun completion. Borehole backfilled with bentonite chips.       C. Braun completion. Completion. Borehole backfilled with bentonite chips.			-			V	CDTF	70								PL = 17.39 PL = 45.59	6			-
9       AU11       15.8       AU11       9.6 m - SPT refusal; 50         9       AU12       17.7       9.6 m - SPT refusal; 50       9.6 m - SPT refusal; 50         9       End of Borehole @9.9 m       AU13       13.7       9.9 m - Auger refusal       16/11/2022         Notes:         Target depth of 15.7 m not achieved. No seepage encountered. Minor sloughing observed upon completion. Borehole backfilled with bentonite chips.       Logged By:       C. Braun         Reviewed By:       T. Curtis	8		SHALE, silty, h	ighly weathere ks, moist. med	ed, bluish grey with ium plastic, extremely		5715	10							I	U.U.	v			768-
9       AU12       17.7       9.6 m - SPT refusal; 50       9.6 m - SPT refusal; 50       9.6 m - SPT refusal; 50       9.9 m - Auger refusal       9.9 m - Auger refusal       9.9 m - Auger refusal       17.7         Notes:         Target depth of 15.7 m not achieved. No seepage encountered. Minor sloughing observed upon completion. Borehole backfilled with bentonite chips.         Logged By:       C. Braun         Reviewed By:       T. Curtis	Ē		weak, thinly lar	ninated, marin	le ,	-	AU11		15.8		•									-
9       Image: space of the sp	Ē.					-	AU12		17.7		•									-
Image: Serie of Borehole @9.9 m       AU13       13.7       9.6 m - SPT refusal; 50       Blows for 3"       Blow for 3"       Blows for 3"       Blows for 3" </td <td>-9</td> <td></td> <td></td> <td></td> <td></td> <td>V</td> <td>SDT6</td> <td>50</td> <td></td> <td>767</td>	-9					V	SDT6	50												767
Image: Box of Borehole @9.9 m       AU13       13.7       Image: Box of Box o	-		-				3510	50						9	.6 m -	SPT refus	al; 50			-
Notes:       Target depth of 15.7 m not achieved. No seepage encountered. Minor sloughing observed upon completion. Borehole backfilled with bentonite chips.       Logged By:       C. Braun         16/11/2022       Reviewed By:       T. Curtis	Ē			End of Borehole	@9.9 m		AU13		13.7		•			9	<u>lows fo</u> .9 m -	or 3" Auger refu	sal			=
Target depth of 15.7 m not achieved. No seepage encountered. Minor sloughing observed upon completion. Borehole backfilled with bentonite chips.       Logged By:       C. Braun         16/11/2022       Reviewed By:       T. Curtis	<u> </u>	I	Notes:				I			<u> </u>										
completion. Borehole backtilled with bentonite chips.     Logged By:     C. Braun       16/11/2022     Reviewed By:     T. Curtis			Target depth of	15.7 m not ac	chieved. No seepage e	nco	untered	. Mino	r slou	ghing	g obse	erved i	upon							
16/11/2022 Reviewed By: <u>T. Curtis</u>			completion. Bo	renoie backfill	ea with pentonite chips									L	ogged	By:		C. Br	<u>aun</u>	
	16/11/2022	2												R	Review	ed By:		T. Cu	ırtis	

# an **Englobe** company

	CLIE	NT		Eastern Irrigation District			_ PRO	DJECT	NAME				Snake Lake	e Reservoir E	xpansio	n	]
	PROJ	IECT NUMBER		1560-193-00			_ PRO	DJECT	LOCAT	ION			NE	E 1/4 32-19-16	6		
	DATE	STARTED	03/21/2022	COMPLETED	03/2	1/2022	_ GRO	DUND	ELEVAT	ΓΙΟΝ		774.92n	nN56	612565.400	E	15321.4	400
	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	DUND	WATER	ELE	/ATIOI	N / DEPT	н				
	DRILI	LING METHOD		6" SSA			DAT	E GRO	N DAUC	VATEF	REC	ORDED					
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOI</li> <li>⊢ PL4</li> <li>■ SPT</li> <li>10</li> <li>100</li> <li>POC</li> </ul>	STURE ASTIC - (N) Bio 200 200 CKET P	E CON LIQUI bws/300 <u>300</u> 200 EN (kF	TENT D 0 mm <u>40</u> 400 a)	-	REMARKS		Standpipe/ Instrument	Elevation (m)
-	V/	CLAY, some sil	lt, dry, stiff, me	dium plastic, light													
- - - - - - - -			Alde Specks		=	AU1		12.6	•								774
-		1.2 m - some	suspect white	sulphates	=	AU2		6.8	•								
-		SHALE (Weath	nered), clay an	d silt, trace sand,	X	SPT1	35					•					
-2	·	staining, orang	ish brown, mo	ist, high plastic,		AU3		16.6		•			2.1 m - L	L = 56.4%			113-
-	<u> </u>	extremely weal	k, blocky, mari gypsum crysta	ne als									F F	PL = 17% PI = 39.4%			-
						AU4		21.1		•			2.1 m - S	Sand = 1.2%	, D		772-
Ē						SPT2	63							Clay = 53.7%	6		-
F.	· _ · ·	-			AU5		13.3									-	
-4		-						10.0									771-
-		-			-	AU6		16.8		•							-
-	 	-			Y	SPT3	65										
-5	·	5 m - becomi	ng finely strati	fied				18 /		•							//0
		5.3 m - becor	ning dark brov	vn	-			10.4									-
-	· _ · ·				-	AU8		16.2		•							769-
	· _ · ·	6 m - SEEPA	GE im crystals, su	spect white sulphate	Y	SPT4	43										-
		inclusions	in orystals, se				-10	22.2					67m-F	=C <sup>.</sup> 9.4 dS/r	n		
-7		-				AU9		22.3					6.7 m - S	SAR: 15.2			768-
-	<u></u>	-			-	AU10		23.9		•			6.7 m - p 6.7 m - S	Sand = 1.1%	, D		-
-	· _ · ·	7.5 m - gypsı	um crystal inclu	usions up to 15 mm	V	SPT5	73							Silt = 45.4% Clav = 53.5%	6		-
-8							10	00.4						<b>,</b>			767
-	· ·	-				AU11		30.4									-
	·	-			=	AU12		22.8		•							766-
9 	· · · · · ·	9.1 m - becor	ning greyish			SDT6	64										
-		-				5010	04										
Ē	·	-			=	AU13		31.0			•						
		Notes:															
		Target depth of	f 18 m not ach	ieved. Seepage obser	ved	at a dep	oth of 6	6.0 m.	Minor s	sloug	hing						
		observed upon	completion. E	Borehole backfilled with	ı be	ntonite c	hips.			5	-		Logged I	By:	С	Braun	<u> </u>
16/11/2022	2												Reviewe	ed By:	T	Curtis	



IP

### BOREHOLE No: 22BH116

PAGE 2 0F 2

Standpipe/ Instrument

Elevation (m)

764

763

762

761

760

759

758

757

756

### CLIENT Eastern Irrigation District PROJECT NAME Snake Lake Reservoir Expansion PROJECT NUMBER 1560-193-00 PROJECT LOCATION NE 1/4 32-19-16 03/21/2022 774.92m N 5612565.400 E 415321.400 DATE STARTED 03/21/2022 COMPLETED GROUND ELEVATION DRILLING CONTRACTOR Chilako Drilling Services Ltd. **GROUND WATER ELEVATION / DEPTH** DRILLING METHOD DATE GROUND WATER RECORDED 6" SSA (%) Sample Number SOIL SYMBOL Moisture Content Sample Type MOISTURE CONTENT SPT (N) Depth (m) Soil H PLASTIC - LIQUID REMARKS Description SPT (N) Blows/300 mm 10 20 30 40 100 200 300 400 POCKET PEN (kPa) SHALE (Weathered), clay and silt, trace sand, completely weathered, mottled with some oxidation -==| AU14 16.5 . staining, orangish brown, moist, high plastic, extremely weak, blocky, marine SPT7 69 ...10.7 m - becoming finely stratified SHALE, silty, medium weathered, light bluish grey, AU15 21.6 damp, medium to high plastic, very weak, thinly laminated, marine AU16 27.6 -SPT8 50 12.7 m - SPT refusal; End of Borehole @12.7 m 50 blows for 1"

Not

Notes:		
Target depth of 18 m not achieved. Seepage observed at a depth of 6.0 m. Minor sloughing		
observed upon completion. Borenole backfilled with bentonite chips.	Logged By:	C. Braun
	Reviewed By:	T. Curtis

-11

-12

13

-14

·15

-16

-17

18

19



.	CLIEI	NT		Eastern Irrigation District			_ PR	OJECT	NAM	E	_		S	Snake Lake Reservoir Expan	sion		
	PRO	JECT NUMBER		1560-193-00			_ PR	OJECT	LOC	ATION	_			NE 1/4 32-19-16			
1	DATE	STARTED	03/21/2022	COMPLETED 0	3/2	1/2022	_ GR	OUND	ELEV	ATION	1	773	3.86m	N 5612553.000 E	4154	19.7	00
	DRILI	LING CONTRACT	OR	Chilako Drilling Services	: Ltc	l	GR	OUND	WATE	ER ELI	EVATI	ON / [	DEPTI	H 770.60 m	3.26	6 m	
	DRILI	LING METHOD		6" SSA			_ DAT	TE GR	DUNE	WATE	ER RE	COR	DED	10/12/202	2		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S 11 ▲ P	IOISTU PLASTIO PT (N) 0 20 00 20 00 20 00 20	RE CC C - LIG Blows/ 0 30 7 PEN	0NTEN 101D 300 mr 0 4 00 40 (kPa)	T n 0 00	REMARKS	Standpipe/	Instrument	Elevation (m)
- - - - - - - - -		CLAY, some sil plastic, greenis white sulphate	lt, trace sand, i sh brown, oxida inclusions	noist, stiff, medium ation specks, suspect	-	AU1		16.5		•	•						773
					-= 	AU2		15.7		•		<b>A</b>					
-2		2 m - becomi	ng high plastic	, dark brown	Ă	SPT1	22	19 7		H				2 1 m - 11 = 53 7%			772
								18.0		•				PL = 17.1% PI = 36.6%			
-3	SHALE (Weathered), clay and silt, some fine					SPT2	22	10.0							_		771
	SHALE (Weathered), clay and silt, some fine grained sand, highly weathered, mottled dark greyish brown, damp, high plastic, extremely we blocky					AU5		19.4		e					Ŧ		770-
	· · · · · · · · · · · · · · · · · · ·	4.2 m - some	gypsum cryst	als	-	AU6		17.7		•							
-	··		tion staining		X	SPT3	46										769-
	· · · · ·				-	AU7		17.4		•							
6	·	6 m - becomi	ng greyish bro	wn	= ▼	AU8	68	17.2		•							768-
<u>-</u> -	· · · · · ·							17.2									111
7	·	6.7 m - becor	ming trace oxic	lation staining	-	AU40		47.4									767
						SPT5 SH1	54			•							766
	· · · · · ·	8.2 m - trace	als and suspect white		AU11		17.5		•								
-9						AU12	69	19.7		•	•			8.8 m - Sand = 8.3% Silt = 50.0% Clav = 41 7%			765
-  - - -	sandstone fragments, highly weathered, bluish grey, moist, high plastic, very weak, finely stratifie marine					AU13	00	10.9		•				9.6 m - SPT refusal; 50 blows for 2" 9.8 m - Auger refusal			764
		Notes:												1	1		
16/11/2022	2	Target depth of completion. Bo a depth of 10.1	f 21 m not ach prehole backfill m. Well prote	eved. No seepage enc ed with sand and bento ctor installed.	our	tered. N ∋ chips.	/linor s 50 mn	slough n slott	ing o ed sta	bserv andpi	ed up pe in:	oon stalle	d to	Logged By: Reviewed By:	<u>C. Bra</u> <u>T. Cu</u>	aun rtis	

					or	nnar						BC	DR	EHOLE No :	22B	<b>H1</b>	17
					501	праг	iy								P7	AGE Z	UF 2
	CLIEN	NT		Eastern Irrigation Distric	t		PRO	OJECT	NA	ME	_		S	Snake Lake Reservoir	Expansion	1	
	PROJ	IECT NUMBER		1560-193-00			PRO	OJECT	LO	CATION	1 _			NE 1/4 32-19-	-16		
	DATE	STARTED	03/21/2022	_ COMPLETED	03/2	1/2022	GR	OUND	ELE	VATIO	N _	773	.86m	N 5612553.000	E _ 41	15419.7	700
	DRILL	LING CONTRAC	TOR	Chilako Drilling Servic	es Lto	1.	GR	OUND	WAT	FER EL	EVATIO	D / NC	EPT	H 770.60 m	3	8.26 m	
		LING METHOD		6" SSA		1	DA1		OUN	D WAT	ER RE	CORE	DED	10/	12/2022	<b>N</b>	
Depth (m)	SOIL SYMBOL		Soil Descriptio	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	●  -   ■	MOISTU PLASTI SPT (N) <u>10 2</u> 100 20 POCKE	JRE CO IC - LIQI Blows/3 20 30 00 30 T PEN (1	NTENT JID 600 mm 0 40 80 40 80 40	- 1 ) 0	REMARK	S	Standpipe/ Instrument	Elevation (m)
		SHALE, and s sandstone frag grey, moist, hig marine	ilt, clayey, somo gments, highly gh plastic, very End of Borehole	e sand, trace weathered, bluish weak, finely stratified @10.1 m	i,						<u></u>	(Pa)		9.8 m - LL = 79.29 PL = 14.29 PI = 65.09 9.8 m - Sand = 22 Silt = 44.00 Clay = 33.	6 6 .3% % 7%		763
																	762
-13																	761
-14																	760
15																	759
-16																	750
-17																	/5/
-18																	756
-19																	755
_ 		Neter												-			754
16/11/2022	2	Notes: Target depth o completion. Bo a depth of 10.	f 21 m not achi orehole backfille 1 m. Well prote	eved. No seepage en ed with sand and ber ctor installed.	tonite	ntered. I e chips.	Vinor s 50 mn	slough n slott	ning ted s	observ tandpi	ved up ipe ins	on tallec	l to	Logged By: Reviewed By:	<u> </u>	Braun Curtis	I



C	CLIEN	NT		Eastern Irrigation Distric	t		PR(	OJECT	NAME		Snake Lake Reservoir Expar	ision	
F	PROJ	IECT NUMBER		1560-193-00			PR	OJECT	LOCATION		NE 1/4 32-19-16		
C	DATE	STARTED	08/29/2022	COMPLETED	08/2	9/2022	GR	OUND	ELEVATION	772.70m	N 5612540.300 E	415502.200	0
C	RILL	LING CONTRACT	OR	Val's Drilling			GR	OUND	WATER ELEVAT	TION / DEPT	н		
C	RILL	LING METHOD		6" SSA			DA	re gro	OUND WATER R	ECORDED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID 5/300 mm <u>30 40</u> 300 400 ((kPa)	REMARKS	Standpipe/ Instrument Flevation	(m)
-1	CLAY TILL, silty, trace sand lenses, moist, stiff, medium plastic, dark brown, some oxidation staining, trace gypsum crystals SHALE (Weathered), clay and silt, completely weathered, brown to dark grey mottling, trace oxidation staining, damp, high plastic, extremely weak to hard soil, blocky 2.3 m - becoming grey End of Borehole @3.5 m					AU1 AU2 SPT1 AU3 AU4 SH1	12	23.7 30.2 23.0 21.2			0.6 m - Organic Content = 7.8% 0.6 m - Sand = 15.3% Clay = 54.5% 1.2 m - EC: 18.6 dS/m 1.2 m - SAR: 29.5 1.2 m - pH: 5.6 1.2 m - LL = 70.3% PL = 16.7% PI = 53.6% 2.7 m - EC: 11.9 dS/m 2.7 m - SAR: 27.0 2.7 m - LL = 69.9% PL = 20.3% PI = 49.6%	7 7 7 7 7 7 7 7 7 7 7 7 7 7	7772 7771 7770 769 768 766 766 766
-											-	7	763— -
		Notes:											
		No seepage or	sloughing obs	served upon completion	on. B	Borehole	backfi	illed w	ith bentonite cł	hips.	Logged By:	C. Tams	
16/11/2022													



CLIENT		Eastern Irrigation District			PR	OJECT	NAME	_		S	3nake Lake Reservoir E	kpansio	n	
PROJECT NUMBER		1560-193-00			PR0	OJECT	LOCATIO	N _			NE 1/4 32-19-16	i		
DATE STARTED	08/30/2022	COMPLETED	08/3	0/2022	GR	OUND	ELEVATIO	ON	770	.84m	N 5612543.642	E _4	15622.6	643
DRILLING CONTRACT	TOR	Val's Drilling			GR	OUND	WATER E	LEVATI	ON / D	EPT	н			
DRILLING METHOD		6" SSA			DA	re gro	OUND WA	TER RE	CORE	DED				
Depth (m) SOIL SYMBOL	Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOIST</li> <li>⊢ PLAS<sup>*</sup></li> <li>SPT (N 10 100</li> <li>POCKI</li> </ul>	TURE CC TIC - LIQ I) Blows/ 20 3 200 30 ET PEN	UID 300 mm 0 40 00 40 (kPa)	- 1 0	REMARKS		Standpipe/ Instrument	Elevation (m)
4 CCC TOPSOIL SHALE (Weath extremely weather inclus sulphate inclus 	ered), clay ar athered, grey, k to hard soil, sions ming slightly d	d silt, residual soil, damp, high plastic, blocky, suspect white amp, ground up		AU1 AU2 SPT1 AU3 AU4 SH1 AU5 AU6 SPT2	14	16.7 17.3 11.1 13.4 12.8 13.3 14.4	• TOON				0.6 m - EC: 6.5 dS/n 0.6 m - SAR: 20.6 0.6 m - pH: 6.8 0.6 m - LL = 76.5% PL = 19.5% PI = 57.0% 1.2 m - Sand = 1.0% Silt = 46.6% Clay = 52.4% 3.7 m - EC: 4.7 dS/n 3.7 m - SAR: 21.9 3.7 m - pH: 7.6 3.7 m - LL = 87.9% PL = 16.1% PI = 71.8%	1 , , , , , , , , , , , , , , , , , , ,		770 769 768 767 766 765 765 764 763 763 762
											-			
Notes:														
No seepage or 16/11/2022	- sloughing ob	served upon completio	n. B	orehole	backfi	illed w	ith bento	nite ch	ips.		Logged By:	<u> </u>	Tams Curtis	



	CLIEI	NT		Eastern Irrigation Distric	t			OJECT	NAM	E	_		S	nake Lake Reservoir Expar	ision
F F	PRO	JECT NUMBER		1560-193-00			_ PR	OJECT	LOC	ATION				NE 1/4 32-19-16	
[ [	DATE	STARTED	03/21/2022	COMPLETED	03/2	1/2022	GR	OUND	ELEV	ATION	_ ۱	770	.78m	N 5612538.200 E	415720.000
			OR	Chilako Drilling Service	es Lto	d.	GR		WATE			DN/D	EPTI	H	
		LING METHOD		6" SSA	1	1	DA			) wate	ER RE	CORE	DED		
Depth (m)	SOIL SYMBOL		Soil Descriptio	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ SI 11 ▲ P	IOISTU PLASTIC PT (N) I 10 20 00 20 OCKET	RE CON C - LIQU Blows/3 0 300 7 PEN (H	NTENT JID 00 mm ) 40 0 40 (Pa)	<u> </u> D	REMARKS	Standpipe. Instrument Elevation
-	4 4 4 4	SAND, clayey, damp, loose, li inclusions, oxic	silty, well grade ght brown, sus le staining	ed, fine grained, pect white sulphate	-	AU1		6.5	•					0.6 m - Organic	
- 1		0.8 m - becor	ning dark redd	sh										Content = 1.1% 0.6 m - Sand = 56.1%	770-
		CLAY Till, sanc gravel up to 15 medium plastic gypsum crysta	CLAY Till, sandy, some silt, moist, trace rounder gravel up to 15 mm, moist, very stiff, low to medium plastic, multicoloured reddish brown, gypsum crystals oxide staining, suspect white sulphate inclusions SHALE (Weathered), clay and silt, trace sand, completely weathered, dark brown, damp, high				54	15.5		•		•		Silt = 20.6% Clay = 23.3%	769-
-	· ·	<ul> <li>suppate inclusions</li> <li>SHALE (Weathered), clay and silt, trace sand,</li> <li>completely weathered, dark brown, damp, high</li> </ul>				AU3		14.5		•					
	· · · · · ·	completely wea plastic, extreme 2.3 m - trace	rown, damp, high r fissured Is	-	AU4		14.3		•					768-	
-3	· · · ·	3.1 m - some up to 15 mm	sulphate inclusions	X	SPT2	46									
		3.7 m - some	oxide specks		=	AU5		18.6		•					767-
	· · · · · ·	4.5 m - becor	ming some oxic	lation staining	Ŧ	AU6 SPT3	68	18.9		•					766-
	· ·	5 m - becomi	ng dark brown			AU7		19.5		•					
- - - - - - - -	·	6 m - becomi	ng some block	y structure	Ŧ	AU8 SPT4	78	20.2							765-
7	· · · · ·	6.7 m - SEEF	AGE. Augered	samples below.	-	AU9		36.1				•		6.6 m - SPT refusal; 50 blows for 5"	764-
	· · · · · ·	-			=	AU10		36.9				•			
	· · · · ·	7.6 m - becor	ning very weal	ζ.		SPT5	61			_					763-
	· · · · ·	-			-	AU11		27.8			•				
9	· ·	-			=	AU12		23.1			•				762-
	· · · ·	SHALE, some	silt, highly wea	thered, bluish grey, finely stratified	┨	SPT6	86								
-		marine	-,,,	,,,	-	AU13		25.6			•			9.8 m - EC: 8.9 dS/m 9.8 m - SAR: 41.0	761-
	Notes:														
		Target depth of completion. Bo	f 27 m not achi rehole backfille	eved. Seepage encou ed with bentonite chip	untei s.	red at 6.	7 m. N	/linor s	lougł	hing u	ipon			Logged By:	C. Braun
16/11/2022	!													reviewea By:	i. Curtis

	CLIEN	IT		Eastern Irrigation Distrie	ct		_ PRO	DJECT	NAM	E	_		S	Snake Lake Reservoir Expa	nsion	
	PROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	ATION	ı _			NE 1/4 32-19-16		
	DATE	STARTED	03/21/2022	COMPLETED	03/2	1/2022	_ GRO	DUND	ELEV	/ATION	۰ ۱	770.	.78m	N_5612538.200 E	415720.	000
	DRILL	ING CONTRACTO	OR	Chilako Drilling Servic	es Lte	d.	GR0	DUND	WATE	ER EL	EVATIO	D / NC	EPTI	Η		
	DRILL	ING METHOD		6" SSA			_ DAT	E GRO	DUNE	) WAT	ER RE	CORD	DED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S <u>1</u>	10ISTU PLASTI PT (N) 10 20 00 20	IRE CO C - LIQI Blows/3 20 30 00 30	NTENT JID 600 mm <u>) 40</u> 6 400 8 Pa)	)	REMARKS	Standpipe/ Instrument	Elevation
11		SHALE, some s damp, high plas marine	ilt, highly wea stic, very weal	athered, bluish grey, k, finely stratified,	Ŧ	AU14 SPT7	50	25.0		F	•			9.8 m - pH: 8.4 10.4 m - LL = 81.3% PL = 14.7% PI = 66.6%		760
12		E	nd of Borehole	@11.2 m										Silt = 62.7% Clay = 36.9% 10.7 m - Dispersivity Classification = D2 11.2 m - SPT / Auger refusal		759
13																758
14																757
15																755
16																754
17																753
18																752
19																751
																751



(		NT		Eastern Irrigation District			_ PRO	OJECT	NAM	E	_	:	Snake La	ake Reservoir E	xpansio	n	
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	OJECT	LOC	ATION	I _		١	NE 1/4 32-19-16	6		
[	DATE	STARTED	03/11/2022	COMPLETED	03/1	1/2022	_ GR	OUND	ELEV	ATIO	N	769.94n	nN	5612535.837	E _4	15820	.014
[	ORILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	OUND	WATE	ER EL	EVATI	ION / DEPT	н	767.63 m		2.31 m	<u> </u>
[	ORILL	ING METHOD		6" SSA			DAT	E GRO	DUNE	WAT	ER RE	ECORDED		09/15	/2022		
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S 1 1 ▲ P	IOISTU PLASTI PT (N) 00 2 00 2 0CKE	IRE CC C - LIG Blows/ 20 30 00 30 F PEN	ONTENT QUID 300 mm 30 40 00 400 (kPa)	_	REMARKS		Standpipe/	Elevation (m)
-	$\langle   \rangle$	CLAY, silty, dar	np, stiff, medi white sulphate	um plastic, brown,													-
	///				-	AU1		12.0		•		•					-
- 1	///																769-
-	<u> </u>	SHALE (Weath	iered), clay ar	nd silt, trace sand,	=	AU2		14.2		•		<b></b>					-
-	·	highly weather blocky high pla	ed, extremely astic dark bro	weak, moist, hard soil, wn with some	Y	SPT1	25										-
2	·	oxidation staini	ng, some sus	pect white sulphates				10 /									768-
	· <u>··</u> ·	2.4 m - moist	ure increasing		-	A03		19.4							T		-
-	· · · · ·	2.4 m - moist 2.7 m - becor	pect sulphates	-	AU4		21.4		ŀ	•		2.7 m -	- LL = 86.5%			-	
-3		31m-trace	als	▼	ODTO	22							PL = 18.7% PI = 67.8%			767—	
-	· · · · ·				5012	22				-		2.7 m -	- Sand = 0.4%	Ď		_	
_	· <u>··</u> ·	3.7 m - becor	ning trace oxi	de specks	=	AU5		20.7			•			Silt = 49.7% Clay = 49.9%	6		766-
-4	· · · ·																. 700-
-	·					AU6		17.9		•							
-	· <u>·</u> ··	4.8 m - becor	ning greyish b	rown	X	SPT3	54										765-
	·	5.1 m - SEEF	AGE			AU7		19.1		•							
	·																
6	· <u>···</u> ·				=	AU8		20.9			•						764-
_	· <u>··</u> ·					SPT4	52										-
	···																-
-7	·																763-
-	·																-
	· ·				Y	SPT5	57										
-8	·					A1 144		15.6		•							762—
-	·	8.2 m - suspe	ect salt crystal	s up to 50 mm		AUTI		15.0		•							-
	· ·				-	AU12		16.0		•							761-
-9	···		ad cilt traca c	and extremely	▼	0.070											-
-		weathered, ext	remely weak,	moist, grey, finely		SP16	80										-
-		fissured, hard s	soil, high plast	ic	=	AU13		17.1		•			9.8 m -	- LL = 80.5%			_
		Notes:												PL = 15.4%			
		Target depth of	27 m not ach	ieved. Artesian seepad	ie e	ncounte	red at	a dep	th of	5.1 m	n. Min	ior					
		sloughing obse	erved upon co	mpletion. Borehole ba	ckfil	led with	sand a	and be	enton	ite ch	ips. 5	50 mm	Logged	d By:	C.	Brau	n
16/11/2022		stanupipe insta	ιιεά το α αθρί	1 01 3.2 111.									Review	ved By:	T.	Curtis	s
	•																



PAGE 2 0F 2

C		IT		Eastern Irrigation Distri	ct		_ PR	OJECT	NAME	Snake Lake Reservoir E	Expansio	n	
F	PROJ	ECT NUMBER		1560-193-00			_ PR	OJECT		NE 1/4 32-19-1	6		
[	DATE	STARTED	03/11/2022	COMPLETED	03/1	1/2022	_ GR	OUND	ELEVATION 769.94r	m N 5612535.837	E_4	15820.0	)14
[	DRILL	ING CONTRACT	OR	Chilako Drilling Servio	ces Lto	d.	GR	OUND	WATER ELEVATION / DEP	TH 767.63 m		2.31 m	
Γ	DRILL	ING METHOD		6" SSA			_ DA	TE GR	OUND WATER RECORDED	09/1	5/2022		
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>POCKET PEN (kPa)</li> </ul>	REMARKS		Standpipe/ Instrument	Elevation (m)
-		SHALE, clay an weathered. ext	nd silt, trace s remelv weak.	and, extremely moist, grey, finely	-	AU14		16.4	•	PI = 65.1% 9.8 m - Sand = 0.89	6		
		fissured, hard s	soil, high plast	ic	ᆀ¯	AU14		10.4		Silt = 54.1%			
_ 11		E	nd of Borehole	@10.4 m						Clay = 45.1 10.4 m - Auger refu	% sal		759-
-													-
-													
-12													758-
-													
-13													757-
													-
													756-
-													
—15													755-
-													-
-													
-16													754-
_													
-													
_17													753
													-
- 10													752-
-													
-19													751-
													-
-										_			
		Notes:			-								
		Target depth of sloughing obse	27 m not ach rved upon co	ieved. Artesian seep mpletion. Borehole b	age e ackfil	ncounter led with s	red at sand	a dep and be	th of 5.1 m. Minor entonite chips. 50 mm	Logged By:	C.	Braun	
16/11/2022		stanupipe msta	ineu io a uepli	1 UI J.Z III.						Reviewed By:	T.	Curtis	

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CLIENT				PR	_ PROJECT NAME							Snake Lake Reservoir Expansion							
F	PROJ	ECT NUMBER		1560-193-00				PROJECT LOCATION							NE 1/4 32-19-16				
[	DATE	STARTED	08/30/2022	_ COMPLETED	)8/3	30/2022 GROUND ELEVATION 769.23					9.23m	N	561253	34.841	E_	415922.	009		
DRILLING CONTRACTOR Val's Drilling							GR	GROUND WATER ELEVATION / DE						н					
[	DRILLING METHOD 6" SSA						DA	TE GR	JUNE	D WAT	ER RE	ECOR	DED						
Depth (m)	SOIL SYMBOL	Soil Description				Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLASTI SPT (N) <u>10 2</u> 200 21 200CKE	IRE CC C - LIC Blows/ 20 3 00 30 7 PEN	0NTEN 101D 300 mi 10 4 (kPa)	T n 10 00		REM	IARKS		Standpipe/ Instrument	Elevation (m)
_			v slightly dam	n stiff medium													~///	769	
-		plastic, brown,	suspect white	sulphate inclusions	=	AU1		9.7		•				0.6 m Conter	m - Organic atent = 7 7%				
1		SHALE (Weathered), clay and silt, residual soil,			- _	A112		12.0						0.6  m - LL = 63.7%				768-	
-	· · · · ·	completely wea slightly damp, h	athered, browr nigh plastic, ex	n to light grey mottling, ktremely weak to hard		A02		12.0		•					PI = 49.4%			-	
2	· · · · ·	soil, blocky, sus trace gypsum c	spect white su crystals	lphate inclusions,		SH1								1.2 m 1.2 m	1.2 m - EC: 4.9 dS/m 1.2 m - SAR: 22.3				
-	·	2 m - becomii	oming some oxidation staining			AU3		15.7		•			•	1.2 m · 1.2 m ·	- pH: 8 - LL =	3.2 71.3%			767
-3					-=	AU4		14.0	 	•				1.2 m	PI = 58.5% 2 m - Sand = 7.7%	6			
-					X	SPT1	28	16.2		•	•				Silt = Clay	50.6% = 41.7°	%		766
	· · · · · ·	3.5 m - becoming damp		=	AU5		20.2		н	-			3.7 m ·	- LL =	108.7%	ó		-	
-4	·····					AU6		18.9		•				4.3 m ·	PI = Sand	90.6% 1 = 0.6%	6		765-
-	·····				Ţ	SPT2	33	17.0		•					Silt = Clav	53.4% = 46.0	%		-
-5			End of Borehole	e @5.1 m											-				764
_																			-
-6									 										-
-																			763-
_																			-
_/																			762-
-																			-
-8																			
-																			/61
9																			
-																			760-
-																			
		Notos:																	
		No seepage or	sloughing ob:	served upon completion	n.														
				· ·										Logge	d By:			C. Tams	;
16/11/2022														Review	ved By	y:		T. Curtis	<u>;                                    </u>



	CLIENT Eastern Irrigation District						PR	OJECT	NAM	1E	-		S	Snake Lake Reservoir Expansion					
	PROJECT NUMBER 1560-193-00						_ PR	PROJECT LOCATION							NE 1/4 32-19-16				_
1	DATE	STARTED	03/10/2022	COMPLETED	03/1	0/2022	22 GROUND ELEVATION 769.5					9.50m	N	5612529.496	_ E _	41601	9.889	_	
	DRILLING CONTRACTOR Chilako Drilling Services					d	GR	_GROUND WATER ELEVATION / DEF							'TH <u>766.99 m</u> 2.5			.51 m	
DRILLING METHOD 6" SSA							_ DA	_ DATE GROUND WATER RECORDER							10/1	2/2022			_
Depth (m)	SOIL SYMBOL	Soil Description				Sample Number	SPT (N)	(N) (N) (N) (N) (N) (N) (N) (N)							REMARKS			Elevation	(m)
- - - - - - - - - - - -		CLAY TILL, so trace fine angu stiff, medium p staining, trace trace gypsum o	<sup>7</sup> TILL, some fine grained sand, trace silt, fine angular gravel up to 10 mm, moist, very medium plastic, dark brown, some oxidation ing, trace suspect white sulphate inclusions, gypsum crystals					11.9		•			<b>A</b>					769	
Ē	$\leq$		arad) alay an	d oilt highly	=	AU2		15.0		•		•						760	-
-	··	weathered, mo	ttled brown, m	oist, high plastic,	X	SPT1	24											700	' <u>-</u>
-2 -	· <u>·</u> ··	extremely wea	k, trace oxide : e	specks, trace gypsum		AU3		19.4		н		+		2.1 n	n - LL = 92.0%				-
E	· · · ·	-													PL = 16.1% PI = 75.9%	, T	Z	767	/
-3	·					AU4		20.2		•	•		<b>_</b>						
-	· ·	suspect white s	ng blocky, bec sulphates	oming slity, trace	X	SPT2	26				•							766	
Ē	· · · ·	3.7 m - moist	ure decreasino	1	=	AU5		20.4			•							700	
F4 F	· · · · ·	•	·																-
	·	4.5 m - SEEF	AGE/Freewat	er		AU6	27	19.6				-						765	;
5 	· · · · ·	5.2 m - becor	ning dark brov	<i>i</i> n		SH1 AU7	57	20.5			•							764	1
	·	-			-	AU8		19.4		•								104	
6 	· <u>··</u> ·				V	SPT4	41												
_ _	· · · · · ·	6.3 m - suspe	ect salt crystals	s up to 20 mm				19.1										763	}
-7	· _ · ·	-			-	703		10.4											
-	·	•			=	AU10		16.6		•								762	
Ē		•			X	SPT5	36					-							-
	 					AU11		15.2		٠									-
	· · · · ·	- • - -																761	
-9		SHALE, some	silt, highly wea	athered, bluish grey,	=	AU12		14.5		•									
-		moist, medium	plastic, very v	eak, finely fissured,	X	SPT6	50						•					760	- - 
		9.6 m - SPT r	efusal at 9.6 n End of Borehole	1 @9.8 m															
		Notoo																	_
16/11/2022	2	Target depth of completion. Be depth of 6.6 m	f 27 m not ach brehole backfil	eved. Seepage encou led with sand and ben	ntei toni	red at a te chips.	depth 50 m	of 4.5 m star	m. N Idpip	/linor be inst	sloug alled	hing to a	upon	Logg Revie	led By: ewed By:	(	C. Brai	un iis	_



(	CLIENT Eastern Irrigation District						_ PROJECT NAME							Snake Lake Reservoir Expansion					
F	PROJECT NUMBER 1560-193-00					PROJECT LOCATION													
[	DATE STARTED 03/09/2022 COMPLETED (					9/2022	22 GROUND ELEVATION						0.57m	N	5612528.800	E_	416119	.900	
[	LING CONTRACT	s Lto	1.	GR	OUND	WAT	ER EL	EVA	TION /	DEPT	Η								
[	DRILI	LING METHOD		6" SSA	-		_ DAT	DATE GROUND WATER RECORDED									- Is		
Depth (m)	SOIL SYMBOL		Sample Type	Sample Number	SPT (N)	(N) SPT (N) Blows/300 mm 10 20 30 40 100 200 300 400 A POCKET DEN (VD2)							REMARKS		Standpipe/ Instrument	Elevation (m)			
		CLAY TILL, tra angular gravel, brown, some o sulphate inclus	ce fine grained some silt, mc xidation spect ions	=	AU1		8.8	•	•								770-		
						AU2		9.9		•								769-	
		1.6 m - becor	ning sandy, m	edium grained	X	SPT1	13			•								-	
-2	$\square$	2 m - moistur	e increasing		=	AU3		21.8		H	•			2.1 m	- LL = 70.6%			-	
-	· · · ·	SHALE (Weath weathered, mo	ttled dark brov		ΔΠΛ		21 1							PL = 15.2% PI = 55.4%			768-		
-3	···	extremely weal inclusions	y weak, blocky, suspect white sulphate s trace gypsum crystals up to 10 mm					21.1			-							_	
-	·	3.2 m - trace					30												
	. <u></u> .				=	AU5		19.4			•							/0/	
-4	·····	-				AU 6		17.5										-	
_						AUO		17.5										766	
5	· <u>·</u> ·				$ \mathbf{X} $	SPT3	57											-	
-	··	5.3 m - SEEF	AGE at 5.3 m																
	· · · ·	-				AU8		35.0				•						765	
-6	· <u>··</u> ·					ODT 4	20												
-						5P14	39											764-	
-7		6.7 m - some	oxidation stai	ning		AU9		17.3		•				6.7 m	- Sand = 0.09 Silt = 58.5%	% 5		-	
-	·····	-			-	AU10		17.3		•					Clay = 41.5	%		-	
-		7.5 m - grey s	shale inclusior	IS	Y	SPT5	81											763-	
	···	-				AU 111		177		-								-	
	· <u>··</u> ··	-				AUTI		11.1										762-	
- - - 9	· _ · ·	-			-	AU12		11.6		•								-	
	·····				Y	SPT6	85												
-		SHALE, silty, n plastic, extrem	nedium weathered, grey, damp, hig ely weak, thinly laminated. finelv	ered, grey, damp, high y laminated, finely														761-	
		stratified, marir	1e			AU13		15.1		•				-9.8 m - LL = 96.0% PL = 16.1%					
		Notes:																	
		Target depth of upon completion	f 27 m not ach on. Borehole b	ieved. Seepage obser ackfilled with bentonite	ved e chi	at a dep ps.	oth of 5	5.3 m.	No s	slougl	ning	obser	ved	Logac	d By:	,	C Brow	n	
														Review	ved Bv:		T. Curti	<u> </u>	
16/11/2022																	0. 10		

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### BOREHOLE No : 22BH124

PAGE 2 0F 2

CLIENT				_ PROJECT NAME							Snake Lake Reservoir Expansion							
1	PROJ	IECT NUMBER		1560-193-00			_ PRO	PROJECT LOCATION						NE 1/4 32-19-16				
DATE STARTED03/09/2022 COMPLETED0					03/0	9/2022	_ GR0	GROUND ELEVATION 770.5						N_5612528.800 E	416119	.900		
DRILLING CONTRACTOR Chilako Drilling Services					es Lto	ł.	GROUND WATER ELEVATION / DE						DEPTH	۱				
DRILLING METHOD 6" SSA							_ DAT	E GR	OUNI	D WAT	FER R	ECOR	DED					
Depth (m)	SOIL SYMBOL		Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTI PLAST SPT (N) 10 100 2 POCKE	URE C( IC - LIC ) Blows 20 3 200 3 T PEN	ONTEN QUID /300 m 30 4 (kPa)	IT m 40 00	REMARKS	Standpipe/ Instrument	Elevation (m)				
-			End of Borehole	@10.0 m										PI = 79.9%		-		
-11 -12 -13 -14 -15 																760 759 758 757 756 755 754 753 752 751		
		Notes:							_									
16/11/2022	1	Target depth o upon completio	f 27 m not ach on. Borehole b	ieved. Seepage obse ackfilled with bentoni	erved te chi	at a dep ps.	th of 5	5.3 m.	No s	slougl	hing c	observ	ved	Logged By:	C. Brau T. Curti	<u>n</u> s		
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PROJECT NUMBER         1560-193-00         PROJECT LOCATION         NE 1/4 32-19-16           DATE STARTED         03/09/2022         COMPLETED         03/09/2022         GROUND ELEVATION         769.91m         N 5612526.500	E 416220.000
DATE STARTED03/09/2022 COMPLETED03/09/2022 GROUND ELEVATION769.91m N5612526.500	E 416220.000
DRILLING CONTRACTORChilako Drilling Services LtdGROUND WATER ELEVATION / DEPTH	
DRILLING METHOD 6" SSA DATE GROUND WATER RECORDED	
Height in the second	Standpipe/ Instrument Elevation (m)
CLAY TILL, some sand, moist, stiff, medium	
SHALE (Weathered), clay and silt, trace sand, highly weathered, mottled brown, oxide specks, damp, bigh plastic, extremely weak, trace suspect	769-
white sulphate inclusions	
F → →	
=_2	768–
	-
	767-
	-
AU5 21.5	766-
	-
$\begin{bmatrix} & & & & \\ \hline \\ \hline$	765–
■	-
■ AU8 20.0 ●	764-
	-
= 7000	763-
<b>a</b> AU10 <b>b</b> $16.2$ <b>b</b> $6.7 \text{ m} \cdot \text{Sand} = 0.3\%$	-
Silt = 64.5%	762-
■ AU11 ■ 16.9 ●	
	-
E AU8   19.9 ●	761-
SPT6 76	-
weathered, bluish grey, damp, high plastic, very weak, finely stratified, marine	760-
Notes:	
Target depth of 27 m not achieved. Seepage observed at a depth of 5.2 m. Minor sloughing	
observed upon completion. Borehole backfilled with bentonite chips. Logged By:	C. Braun
16/11/2022 Reviewed By:	T. Curtis



PAGE 2 0F 2

(	CLIE	NT		Eastern Irrigation Distri	ct		PR	OJECT		1E			Sr	iake Lake Reservoir Expansi	on
F	PRO	IECT NUMBER		1560-193-00			PR	OJECT	LOC	ATION	ı _			NE 1/4 32-19-16	
[	DATE	STARTED	03/09/2022	COMPLETED	03/0	9/2022	GR	OUND	ELE	/ATIO	N _	769.9	1m	N 5612526.500 E	416220.000
[	DRILI	LING CONTRACT	OR	Chilako Drilling Servio	ces Lt	d.	GR	OUND	WAT	ER EL	EVATIC	ON / DE	PTH		
[	DRILI	LING METHOD		6" SSA			DA	TE GR	OUNI	D WAT	ER RE	CORDE	D		
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLASTI SPT (N) <u>10 2</u> 2000 20	IRE CON C - LIQU Blows/3 20 30 00 300 F PEN (k	NTENT JID 00 mm 0 40 0 400 (Pa)		REMARKS	Standpipe/ Instrument Elevation (m)
		SHALE, clay a weathered, blu weak, finely str	nd silt, some s ish grey, dam ratified, marine	sand, highly p, high plastic, very ə	E V	AU14	66	15.3		•			-1	0.4 m - LL = 85.8% PL = 15% PI = 70.8%	759
11 11 12 12 13 14 15 16 17 18 19 19			End of Borehole	e @11.2 m		SPT7	66						<u>1</u>	PI = 70.8% <u>0.4 m - Sand = 10.7%</u> Silt = 44.5% Clay = 44.8%	759 758 757 756 755 755 754 754 754 754 754 754 754 755
		Notes:								<u>.</u>	. i	i			130-
16/11/2022		Target depth or observed upon	f 27 m not ach i completion. E	ieved. Seepage obse 3orehole backfilled wi	erved th be	at a dep ntonite o	oth of { chips.	5.2 m.	Mino	or slou	ıghing		L	.ogged By: <u>C</u> Reviewed By: <u>T</u>	. Braun



	CLIEI	NT		Eastern Irrigation District			_ PR	OJECT	NAM	E		5	Snake La	ake Reservoir	Expans	ion		
	PRO	IECT NUMBER		1560-193-00			_ PR	OJECT	LOCA	ATION			1	NE 1/4 32-19-	16			
	DATE	STARTED	03/09/2022	_ COMPLETED	03/0	9/2022	GR	OUND	ELEV	ATION		770.31m	N	5612524.400	_ E _	4163	20.00	0
l	DRILI	LING CONTRACTO	OR	Chilako Drilling Service	s Lto	ł.	GR	OUND	WATE	RELE	VATIO	N / DEPT	н	766.95 m		3.36	m	
l	DRILI	LING METHOD		6" SSA			DA	TE GRO	DUND	WATE	R REC	ORDED		10/1	12/2022			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H P ■ SF 10 ▲ P0	OISTUF LASTIC PT (N) E 0 20 00 20 DCKET	RE CON - LIQU Blows/30 0 300 PEN (kl	TENT ID 0 mm <u>40</u> 2a)		REMARKS	6	Standpipe/		Elevation (m)
		SAND, trace sil moist, compact	t, well graded , brown, susp	, medium grained, ect white sulphate														770-
-		inclusions	•	·	-	AU1		4.2	•									111
E 1																		1.1.1
-	<u>^</u>	SHALE (Weath	ered), clav ar	d silt. trace sand.		AU2		5.2	•									769
		completely wea	thered, greyis	sh brown, some	X	SPT1	33				1	•						
	· <u>· · · ·</u> ·	weak to hard so	pil, blocky, tra	ce suspect white	=	AU3		18.1		٠								768-
-	· _ · · ·	sulphates				AI 14		17 9		•								
-3								17.0										1.1.1
-	·	3.1 m - trace i	ronstone incli	JSIONS	<b>Å</b>	SPT2	23				•				=		1	767-
	· · · ·	3.6 m - trace ç	gypsum crysta	als	-	AU5		19.6		•								
-4	·	-						21.0								-		766-
	·	4.3 m - trace o mm	gypsum crysta	als inclusions up to 8		A06		21.0										
-5	· <u>··</u> ·	4.5 m - SEEP	AGE avpsum crysta	als inclusions up to 20	X	SPT3	33					•				-		1.1
-		mm 5 2 m - becom	and dark brow	wp	-	AU7		23.9			•							765
-	·		ing dark brow	VII	-	AU8		20.9					58m	-11 = 70.4%	'n	-		1.1.1
6 -	·	-				0.000								PL = 20.3%	, 0 2			
E -		]				SP14	30						5.8 m ·	- Sand = 0.4	°%			'64 - -
-7					=	AU9		18.1		•				Slit = 50.2% Clay = 49.4	% 1%			.
E	·				-	AU10		15.9		•								763
Ē	· · · ·				Y	SPT5	56											111
8	·					AU111		177										111
	· _ · ·	-				AUTI		17.7										762
-	·				-	AU12		15.0		•								
Ĕ		SHALE, some s moist, high plas	silt, highly wea stic, extremely	athered, light grey, v weak, fissured,	Y	SPT6	50						•					761—
-		marine	End of Borehole	@9.6 m									9.6 m	- SPT/ auge	r			111
È													reiusa	i. SU DIOWS TO	UI 3			-
		Notes:																
		Target depth of completion. Bor	27 m not ach ehole backfill	ieved. Seepage encou ed with sand and bent	nter onite	ed at 4. e chips	5 m. N 50 mn	/linor s n stan	lough dpipe	ning ol insta	bserve lled to	ed upon 6.6 m.	10000	d Dv:	,	- D		
		,				-F 21			1 1 9				Review	u by. ved By:		J. Bra	iun rtis	—
16/11/2022	2													. 34 Dy.		ວິນ		



C	CLIEN	T		Eastern Irrigation District			_ PRO	DJECT	NAM	1E	_		S	Snake La	ike Reser	voir Exp	ansion		
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	ATION	_ ۱			١	NE 1/4 32-	-19-16			
0	DATE	STARTED	03/09/2022	COMPLETED	)3/0	9/2022	_ GRO	DUND	ELE\	/ATIO	N .	77(	).32m	N	5612510.	400 E	41	6337.0	000
0	DRILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	ł.	GR0	DUND	WAT	ER EL	EVATI	ON / [	DEPT	н					
0	DRILL	ING METHOD		6" SSA			DAT	E GRO	DUNE	D WAT	ER RE	COR	DED						
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M 	//OISTL PLASTI 6PT (N) 10 2 00 2 20CKE	JRE CC IC - LIQ Blows/: 20 3 00 30 T PEN (	NTEN UID 300 mr 0 4 00 40 ′kPa)	T n 0 00		REMA	RKS		Standpipe/ Instrument	Elevation (m)
-		SAND FILL, so grained, damp,	me silt, trace o , loose, brown	clay, well graded, fine , coal specks				1.0											770-
1		CLAY TILL trac	ce fine grainer	I sand trace	=	AU1		4.6	•										-
		subrounded gra medium plastic	nm, moist, stiff, xidation specks,	₹	AU2	20	12.2		•									769-	
2	 	SHALE (Weath	d silt, trace sand, oxidation specks,	▲ =	AU3	20	11.7		•										
		moist, medium hard soil, block white sulphate	e, extremely weak to stals and suspect	-	AU4		26.8			•								/00	
-3				X	SPT2	44												767-	
	· · · · ·					AU5		20.4			•			3.7 m -	Sand =	1.0% 5.7%			-
	·				-	AU6		20.2			•				Clay =	53.3%			766-
5		4.6 m - suspe	ect ironstone ir	nclusions	X	SPT3	44	19.8			•			F 0 m	A	- <b>f</b> 1			
-			End of Borehole	@5.2 m		101		10.0						<del>5.2 m -</del>	• Auger f	eiusai			765-
6 6																			
-																			764
7 																			763-
-																			-
																			762
-																			
9																			-
_																			761-
-																			-
																			-
		Notes:			L	I			<u> </u>					1					I
		Target depth of with bentonite of	i 27 m not ach chips.	ieved. Minor sloughing	ob	served u	pon c	omple	tion.	Borel	hole b	ackfi	lled	Logge	d By:		C. I	<u> 3raun</u>	1
16/11/2022														Reviev	ved By:	_	T. (	Curtis	



CLIE	ENT			Eastern Irrigation District				DJECT	NAME	S	nake Lake Reservoir Expa	nsion	
PRC	JECT	NUMBER		1560-193-00			_ PRO	DJECT			NE 1/4 32-19-16		
DAT	E STA	RTED	03/09/2022	COMPLETED 0	)3/0	9/2022	_ GRO	DUND	ELEVATION 7	70.00m	N 5612534.400 E	416349.	000
DRIL	LLING	CONTRACT	OR	Chilako Drilling Services	s Lto	ł.	GR0	DUND	WATER ELEVATION	/ DEPTH	ł		
DRIL	LLING	METHOD		6" SSA			_ DAT	E GRO	OUND WATER RECO	RDED			
Depth (m) SOIL SYMBOL			Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTE</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 I</li> <li>10 20 30</li> <li>100 200 300</li> <li>POCKET PEN (kPa</li> </ul>	:NT mm <u>40</u>	REMARKS	Standpipe/ Instrument	Elevation (m)
	CL/ dan oxic SH/ wea	AY TILL, so np, stiff, low lation spec	me fine graine / to medium pl ks, suspect wh nered), clay ar rk brown, with to high plastic t white sulpha End of Borehole	d sand, some silt, astic, brown, with nite sulphate inclusions nd silt, highly oxidation specks, s, extremely weak, te inclusions		AU1 AU2 SPT1 AU3 AU4 SPT2	36	4.4 14.5 14.7 15.5	POCKET PEN (kPa		3.5 m - Auger refusal —		769 768 767 766 765 765 764 763 763 762
<u> </u>										1			
16/11/2022	Not Tarç with	es: get depth o i bentonite	f 27 m not ach chips.	ieved. Minor sloughing	ob	served u	pon co	omple	tion. Borehole bacł	filled	Logged By:	C. Braur T. Curtis	1



	CLIEI	NT		Eastern Irrigation District			_ PRO	OJECT	NAME		8	Snake Lak	ke Reservoir	Expan	sion	
	PRO	JECT NUMBER		1560-193-00			_ PR(	OJECT	LOCATI	ON		N	E 1/4 32-19-	16		
	DATE	STARTED	03/29/2022	_ COMPLETED	)3/2	9/2022	_ GR	OUND	ELEVATI	ON	770.77m	N_5	612507.400	_ E .	416359	.000
	DRIL	LING CONTRACT	'OR	Chilako Drilling Service	s Lto	d	GR	OUND	WATER	ELEVA	TION / DEPT	Η				
	DRIL	LING METHOD		6" SSA			_ DA1	FE GR	DUND W	ATER F	RECORDED					
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOIS</li> <li>⊢ PLAS</li> <li>SPT ( 10 100 ▲ POCH</li> </ul>	STURE ( STIC - L N) Blow 20 200 <u>&lt; ET PER</u>	CONTENT IQUID s/300 mm 30 40 300 400 v (kPa)		REMARKS	3	Standpipe/ Instrument	Elevation (m)
- - - - - - - - - - - - - - - -		CLAY TILL, silt medium plastic gypsum crysta	y, some sand, e, brown, trace ls	moist, very stiff, root hairs, trace	æ	AU1		18.2		•	•					770
		SAND, silty, we	ell graded, fine	grained, moist, loose,	=	AU2		15.1								
-2		<ul> <li>brown, some o</li> </ul>	xidation stainir	ig	X	SPT1	15		•	•						769
	$\overline{\mathbb{V}}$	CLAY, silty, trad brown, suspec	ce sand, moist t white sulphat	, hard, high plastic, e inclusions	=	AU3		14.9								-
-3	<u>//</u> .	SHALE (Weath	nered), clay an	d silt, completely	=	AU4		15.8	•	•						768-
	·	weathered, bro high plastic, ex	wn, with oxida tremely weak,	tion staining, moist, blocky	X	SPT2	76									-
-4	· · · ·	39 m - suspe	ect trace white	sulnhates	Ŧ	AU5		20.9		•						767-
		4 m - Artesia m upon comple	n flow encount	ered at 6.7 m rose to 4	=	AU6		20.2		•		46m-	Dispersivity	/		-
5	· _ · ·	L4.6 m - trace	quartz fragme	nts, interbedded oxide	X	SPT3	41					Classifi 4.6 m -	cation = D2 EC: 7.3 dS	/m		766—
			n to greyish bro	own with slight oxide	-	AU7 AU8		18.4 22.2		•		4.6 m - 4.6 m -	SAR: 28.7 pH: 7.9			765-
6  	··	6.1 m - trace	gypsum crysta	ls	Y	SPT4	56									-
 - - 		6.7 m - SEEF	AGE, artesian	flow	<b>A</b>	AU9		18.0		•						764-
	· ·	7 m - greyish	brown, trace o	oxidized sand	Ŧ	AU10		18.0		•						-
	·	•			Y	SPT5	87									763-
-	· · · ·	8.2 m - very r	noist		-	AU11		25.3		•						-
9	·	-			Ŧ	AU12		19.6		•						762-
	SHALE, clayey, s		, silty, highly w	eathered, grey, moist,	X	SPT6	50					•				-
-		nigh plastic, ve staining	ry weak, finely	tissured, oxidation	=	AU13		16.3		•						761-
		Notes:														
		Target depth or observed upor	27 m not achi completion. B	eved. Seepage observore or the second s	/ed be	at a dep ntonite c	th of 6 hips.	6.7 m.	Minor s	loughi	ng	Logaed	By:		J. Bovc	ł
10/11/000	0											Review	ed By:		T. Curti	s
10/11/202	2															

# an **Englobe** company

# BOREHOLE No : 22BH129

PAGE 2 0F 2

	CLIEI	NT		Eastern Irrigation District			_ PR	OJECT	NAM	E	_		Sn	ake La	ke Reservo	oir Expa	ansio	۱	
F	PRO	IECT NUMBER		1560-193-00			PR	OJECT	LOC	ATION	I _			Ν	IE 1/4 32-1	9-16			
ſ	DATE	STARTED	03/29/2022		03/2	9/2022	GR	OUND	ELEV	ATION	١.	770	).77m	_ N_	5612507.4	00 E	4	16359.0	000
ſ	ORILI	LING CONTRACT	ror	Chilako Drilling Service	s Lto	d.	GR	OUND	WATE	ER EL	EVATI	ON / [	DEPTH						
[	ORILI	LING METHOD		6" SSA			DA	re gr	DUND	WAT	ER RE	CORI	DED						
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ SI 11 ▲ P	IOISTU PLASTI PT (N) 10 20 00 20 OCKET	IRE CO C - LIQ Blows/3 20 30 00 30 7 PEN (	NTEN <sup></sup> UID 300 mn 0 40 kPa)	Г n 0 00		REMAR	KS		Standpipe/ Instrument	Elevation (m)
-		SHALE, clayey high plastic, ve staining	y, silty, highly v ery weak, finel	veathered, grey, moist, y fissured, oxidation	=	AU14		15.3		•									-
- 		-			X	SPT7	50		 										760-
			End of Borehole	e @11.2 m									_						-
-																			759-
-12																			
-																			-
																			758-
-13																			-
-																			-
-14																			757-
																			-
-																			756
_ 15																			, 30
-																			-
-																			755-
																			-
-																			
																			754-
- ''																			-
-																			750
-18																			/53-
-																			-
-																			752-
-19																			
-																			
									L										751-
_		Notos:																	
		Target depth o observed upor	f 27 m not ach ì completion. I	nieved. Seepage observ Borehole backfilled with	ved i be	at a dep ntonite o	oth of 6 chips.	6.7 m.	Mino	r slou	ıghing	)	I	oqqer	l Bv		I	Boyd	
		·	·										R	Review	/ed Bv:		<u>J.</u> T.	Curtis	
16/11/2022															•		-		



CLIENT		Eastern Irrigation District			_ PRO	DJECT	NAM	E	_		S	inake Lake Reservoir Expans	sion	
PROJECT NUM	BER	1560-193-00			_ PRO	DJECT	LOCA	ATION	_			NE 1/4 32-19-16		
DATE STARTED	03/29/2022		)3/29	9/2022	_ GRO	DUND	ELEV	ATION		770	.71m	N_5612534.400 E	416375.0	00
DRILLING CONT		Chilako Drilling Service	s Lto	l.	GR	DUND	WATE	R EL	EVATIO	ON / D	EPT	٠		
DRILLING METH	HOD	6" SSA			DAT	E GRO	DUND	WATE	ER RE	CORE	DED			
Depth (m) SOIL SYMBOL	Soil Descrip	tion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H P ■ SF 10 ▲ P0	OISTU PLASTIC PT (N) I 0 20 00 20 <u>OCKET</u>	RE CO C - LIQI Blows/3 0 30 0 30 ' PEN (I	NTENT JID 00 mm ) 40 0 40 (Pa)	)	REMARKS	Standpipe/ Instrument	Elevation (m)
CLAY FIL hard, me staining, SAND, si brown, sc CLAY, sil plastic, b SHALE ( weathere staining, gypsum o 4.6 m -	L, silty, some sand dium plastic, brown suspect white sulpl lity, well graded, fin- ome oxidation stain ty, trace sand, mois rown, suspect white Weathered), clay an ed, mottled brown, s moist, high plastic, crystals, trace quart interbedded oxide shale fragments	, trace gravel, moist, , some oxidation hate inclusions e grained, moist, loose, ing // t, very stiff, high e sulphate inclusions and silt, completely some oxidation very weak, blocky, z fragments laminations		AU1 AU2 SPT1 AU3 AU4 SPT2 AU5 AU6 SPT3 AU7	16 44 40	<ul> <li>14.7</li> <li>16.0</li> <li>16.0</li> <li>14.4</li> <li>21.9</li> <li>20.0</li> <li>18.3</li> </ul>		•	•			2.7 m - LL = 88.8% PL = 20.1% PI = 68.7%		769 769 768 766 766 766
65.9 m - 	SEEPAGE becoming saturate trace magnesium of becoming greyish l clayey, silty, highly of dation staining, ver k, finely fissured, si s	d oxidation staining orown with oxidation weathered, grey with y moist, high plastic, uspect white sulphate		AU8 SPT4 AU9 AU10 SPT5 AU11 AU12 SPT6	44 47 81	24.3 31.6 35.0 21.9 27.7		H	•	•	•	5.8 m - EC: 11.6 dS/m 5.8 m - SAR: 29.0 5.8 m - SO4-S: 3155.5 mg/kg 5.8 m - pH: 5.1 5.8 m - LL = 62.4% PL = 18.9% PI = 43.5%		764 763 762 762
Notes: Target de 5.9 m up	End of Borehol	e @9.8 m nieved. Seepage observ ehole backfilled with ber	ved nton	at 5.9 m iite chips	. Slou	ghing	obse	rved t	to a d	eptho	of	Logged By: Reviewed By:	J. Boyd T. Curtis	



CLI	EN	т		Eastern Irrigation District			_ PR	OJECT	NAN	1E	_		S	Snake Lake Reservoir Expan	sion
PR	OJE	ECT NUMBER		1560-193-00			_ PR	OJECT	LOC	ATION	I _			NE 1/4 32-19-16	
DA	TE S	STARTED	03/29/2022	_ COMPLETED	)3/2	9/2022	_ GR	OUND	ELE	VATION	١.	770	.69m	N 5612505.400 E	416388.000
DR	ILLI	NG CONTRACT	OR	Chilako Drilling Services	s Lto	1.	GR	OUND	WAT	ER EL	EVATI	ON / E	EPTI	Η	
DR		NG METHOD		6" SSA	1		_ DA			) WAT	ER RE	CORI	DED		
Depth (m) soli svMBOI			Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLASTI SPT (N) <u>10 20</u> POCKET	RE CC C - LIQ Blows/3 00 30 F PEN (	NTENT UID 300 mm 0 40 kPa)	- 1 <u>)</u> 0	REMARKS	Standpipe. Instrument Elevation (m)
		stiff, medium pl gypsum crystal	y, trace to som astic, brown, v s	vith oxidation specks,	# #	AU1 AU2		18.1 22.0		•	•▲	•			770
-2		2.2 m - brown SHALE (Weath	ı, orange, grey iered), clay an	, and red colouring d silt, trace sand,	=	SPT1 AU3 AU4	10	15.0		•	•	•	•		769
		completely wea grey mottling, n blocky, suspect 3.2 m - trace crystals 3.8 m - orang	, light brown to dark stic, extremely weak, e inclusions nts, trace gypsum brown mottling, oxide	X =	SPT2 AU5	28	20.1							767-	
	s	blocky, suspect white sulphate inclusions 3.2 m - trace quartz fragments, trace gypsun crystals 3.8 m - orange with greyish brown mottling, o specks 4.7 m - interbedded oxides laminations				AU6 SPT3 AU7	27	19.9 18.8		•	-			4.3 m - EC: 7.6 dS/m 4.3 m - SAR: 23.8 4.3 m - SO4-S: 4386.5 mg/kg 4.3 m - pH: 8.1 4.3 m - Sand = 1.8%	766
		5.8 m - trace	oxidized gypsi	um crystals	+ +	AU8		19.2		•				Silt = 48.7% Clay = 49.5%	765
						AU9	46	18.9		•			•		764
		7.3 m - SEEP	AGE, artesian	water	Ŧ	AU10 SPT5	78	18.4		•					763—
					-	AU11		31.6				•			762—
	· · · · · · · · · · · · · · · · · · ·	SHALE, clayey noist, high plas suspect white s	, silty, medium stic, very weak sulphate inclus	weathered, grey, , finely fissured, ions		SPT6	51	30.8				-			761
16/11/2022	ן ר כ	Notes: Target depth of observed upon	27 m not achi completion. B	eved. Seepage observ orehole backfilled with	ved bei	at a dep ntonite c	oth of 7 hips.	7.3 m.	Mine	or slou	ıghinç	]		Logged By: Reviewed By:	J. Boyd T. Curtis



PAGE 2 0F 2

(	CLIEN	Т		Eastern Irrigation District			_ PRC	DJECT	NAME	S	nake Lake Reservoir B	Expansion	
F	PROJ	ECT NUMBER		1560-193-00			_ PRC	DJECT	LOCATION		NE 1/4 32-19-1	6	
[	DATE	STARTED	03/29/2022		03/29	9/2022	_ GRO	DUND	ELEVATION	770.69m	N 5612505.400	E _ 41	6388.000
[	DRILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd	l.	GR0	DUND	WATER ELEVA	TION / DEPTH	1		
[	DRILL	ING METHOD		6" SSA			_ DAT	E GR	OUND WATER F	RECORDED			
Depth (m)	SOIL SYMBOL		Soil Descript	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - L</li> <li>SPT (N) Blow</li> <li>10 20</li> <li>100 200</li> <li>POCKET PER</li> </ul>	CONTENT IQUID /s/300 mm 30 40 300 400 N (kPa)	REMARKS		Standpipe/ Instrument Elevation (m)
-11 -12 -13 -14 -15 		SHALE, clayey moist, high plas suspect white s 10.7 m - SPT 11.3 m, stopped test how deep v 11.3 m - auge resistance. Sus borehole. No sa SUSPECT VOI 12.2 m - SPT dropped to 15.4 SHALE, clayey high plastic, ve	, silty, medium stic, very weal sulphate inclus attempted at d rods from fai would have 'fro red to 12.2 m pect resistand ample retrieva D attempted at t m with no re	n weathered, grey, k, finely fissured, sions 10.7 m, dropped to ling further. Did not sefell'. Little to no the from sidewall of l. 12.2 m. A-rods sistance. n weathered, grey, wet <u>fissured</u> @15.6 m									760- 759- 758- 757- 756- 755- 754- 754- 753- 752- 751-
_													
		Notes: Target depth of observed upon	27 m not ach completion. E	ieved. Seepage obser Sorehole backfilled with	ved a	at a dep ntonite c	th of 7 hips.	7.3 m.	Minor sloughi	ng	Logged By: Reviewed Bv:	J. I T. (	Boyd Curtis
16/11/2022	2										· - J ·		

								BORE	EHOLE No :	22BH131A
		an Eng	<b>Jobe</b> cor	npar	у					PAGE 1 0F 2
	CLIENT	Eastern Irrig	gation District		PRO	DJECT	NAME	S	nake Lake Reservoir	Expansion
	PROJECT NUMBER	1560-	193-00		PRO	DJECT	LOCATION		NE 1/4 32-19-	16
	DATE STARTED	03/30/2022 COMPLE	TED03/30	0/2022	GR0	DUND	ELEVATION	770.47m	N_5612507.800	E 416388.300
	DRILLING CONTRAC	CTOR Chilako D	rilling Services Lto	1.	GRO	DUND	WATER ELEVAT	TION / DEPTH	1	
	DRILLING METHOD		6" SSA		DAT	EGR	OUND WATER F	ECORDED		
					_					e/ nt
Depth (m)	SOIL SYMBOL	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%	<ul> <li>MOISTURE C</li> <li>PLASTIC - LI</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID s/300 mm 30 40 300 400	REMARKS	Standpipe Standpipe Instrumer Elevation (m)
		OG 22BH131. Additional e	xploratory			_		l (kPa)		
	Normed inco New Second Second New Second									770- 769- 768- 768-
- - - - - - - - - - - - - - - - - - -	Incomed non key ke Incomed non key ke Incomed non key ke Komed non key ke									767-
- - - - - - - - - - - - - - - - - - -	Non-Rev Nos key ke ncomet noo key ke ncomet noo key ke ncomet noo key ke									766-
	Noneci hor key ke nconecti non key ke nconecti non key ke ke nconecti non key ke									765-
- - - - - - - 7 - - 7	Home that has key ke hoomed hoor key ke hoomed hoor key ke hoored hoor key ke									764-
- - - - - - - - - - - - - - - - - - -	Non-est Inton Key ke Incorrect Incor Key ke Incorrect Incor Key ke Incorrect Incor									763-
	Incomect noor key ke noornect noor key ke incomect noor key noornect noor									762-
	key ke Inconcert noor key ke Inconcert noor key ke Inconcert noor key ke									761-
	Notes:				1		<u> </u>			
	Additional pro	obe hole to delineate and f	urther investigat	te possi	ble voi	d.			Logged By:	CB, JB, TC
10/11/25-	-								Reviewed By:	T. Curtis
10/11/202	2									

										E	BOR	EHOLE No : 22	2BH131	Α
		PE	an <b>Englobe</b>	e cor	mpar	Ŋ							PAGE 2 0	F 2
	CLIENT		Eastern Irrigation Dis	strict		PR	OJECT	NAM	Ξ		5	Snake Lake Reservoir Expa	ansion	
	PROJECT NU	IMBER	1560-193-00			PR	OJECT	LOCA				NE 1/4 32-19-16		
	DATE START	ED 03/30/2022	COMPLETED	03/3	0/2022	GR	OUND	ELEV	ATION	1 7	70.47m	N 5612507.800 E	416388.300	)
	DRILLING CC	NTRACTOR	Chilako Drilling Ser	vices Lte	d.	 GR	OUND	WATE	R ELI	EVATION	/ DEPT	н		
	DRILLING ME	THOD	6" SSA			DA		DUND	WATE	ER RECO	RDED			
Depth (m)	SOIL SYMBOL	Soi Descrip	l otion	Sample Type	Sample Number	SPT (N)	isture Content (%)	● M H P ■ SF 1	OISTU LASTIC PT (N) 0 2	RE CONTE C - LIQUID Blows/300 r 0 30	NT nm 40	REMARKS	Standpipe/ Instrument Elevation	(m)
							Ъ	10	)0 20 DCKET	00 300 FPEN (kPa)	400			
		R TO LOG 22BH131.	Additional explorato	ory								10.7 m - Auger probe to anticipated top depth of void. 11 m - Shelby tube sample failed to be retrieved/tube broke off.	76	
- - - - - - - - - - - - - - - - - - -	key ke moomed in oor key ke moomed in oor key ke moomed in oor key ke moomed in oor key ke			X	SPT1	50						12.6 m - SPT refusal; 50 blows for 5 "	75	58-
Ē	incorrect incorr key ker	Fund of Doubled	- @40.7										75	57-
-14		End of Borehol	le @13.7 m											_
Ē														
-													75	56-
														_
-													75	55-
														_
-													75	54-
														-
_													75	53-
-18														-
Ē														
E													7	52-
-19														_
Ē														
Ē													75	51-
E												4		_
	Notes:											1		—
	Additic	nal probe hole to del	lineate and further in	vestiga	te possi	ble voi	d.					Logged By:	CB, JB, TC	
16/11/202	2											reviewed By:	i. Curtis	—

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CL	IEN	IT		Eastern Irrigation District			_ PRO	OJECT	NAME	S	nake Lake Reservoir Expa	insion
PF	roji	ECT NUMBER		1560-193-00			_ PRO	OJECT			NE 1/4 32-19-16	
DA	λΤΕ	STARTED	03/30/2022	COMPLETED	03/3	0/2022	_ GR	OUND	ELEVATION	769.98m	N_5612534.400 E	416401.000
DF	RILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	ł.	GR	OUND	WATER ELEVATION	ON / DEPTH	ł	
DF	RILL	ING METHOD		6" SSA			DAT	E GR	OUND WATER RE	CORDED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>PLASTIC - LIQI</li> <li>SPT (N) Blows/3</li> <li>10 20 30</li> <li>10 200 30</li> <li>POCKET PEN (</li> </ul>	NTENT UID 300 mm 0 40 10 400 kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
		CLAY FILL, silty stiff, medium to sulphate inclusi	/, trace to som high plastic, l ons, trace oxi	e sand, moist, very prown, suspect white dation specks	-	AU1 AU2		15.7	• •			769-
-2		2 m - trace gra	avel		X	SPT1 AU3	10	19.9	•	•		768-
		SHALE (Weath highly weathere	ered), clay an ed, light brown	d silt, trace sand, to dark grey mottling,	<b>₩</b>	AU4		21.0	•	•		767—
	·····	suspect white s 3.1 m - suspe trace oxidation	ulphate inclus ct white sulph mottling	ions ates up to 25 mm,	<b>×</b>	SPT2 AU5	45	19.3	•		3.7 m - Sand = 0.5% Silt = 49.2%	766-
	· · · · · · · · · · · · · · · · · · ·	3.9 m - trace ( 4.6 m - trace (	gypsum crysta	ls	= X	AU6 SPT3	26	18.9	•		Clay = 50.3% 4.6 m - Dispersivity Classification = D2	765
	· · · · · · · · · · · · · · · · · · ·				-	AU7		19.4	•		4.6 m - SAR: 25.7 4.6 m - pH: 8.0	
	· · · · · · · · · · · · · · · · · · ·	6.1 m - trace o	quartz fragme	nts	X	SPT4	52					764
-7	·	6.7 m - trace s brown mottling	shale inclusior	ns, brown with greyish	- - -	AU9 AU10		19.3 18.7	•			763
		7.6 m - SEEP oxide laminatior	AGE, artesian าร	flow, interbedded	X	SPT5	74	15.1	•			762-
	· · · · · · · · · · · · · · · · · · ·	89 m - verv n	noist		=	AU12		17.7	•			761–
		SHALE, clayey, high plastic, ext suspect white s	silty, highly w remely weak, ulphate inclus	reathered, grey, moist, finely fissured, ions	X	SPT6	50			•	r	
		9.8 m - wet, g Notes <sup>.</sup>	rey with oxide	mottling		AU13		26.9				
16/11/2022		Target depth of to a depth of 10	27 m not ach ) m upon com	eved. Seepage encou pletion. Borehole back	nter	ed at a d with be	depth entonit	of 7.6 æ chip	m. Sloughing ol os.	bserved	Logged By: Reviewed By:	J. Boyd T. Curtis

PROJECT MMBER       1960-193-00       PROJECT LOCATION       NE       PROJECT MARKER         DATE STARTE       03902022       COMPLETED       03902022       GROUND WATER RECORDED       E       410401.000         DRILLING CONTRACTOR       Chilae Drilling Sentes Lis       GROUND WATER RECORDED       E       410401.000         DRILLING METHOD       0'SSA       DATE GROUND WATER RECORDED       E       410401.000         Image: Solid Description       Image: Solid Big		CLIEN	NT		Eastern Irrigation Distri	ct		_ PR	OJECT	NAM	E		S	Snake Lake Reservoir Ex	pansion	
DATE STARTED       0.0302022       CONFLICTED       0.0302022       CROUND ELEVATION       100.0000       100.000       100.000		PROJ	ECT NUMBER		1560-193-00			_ PR	OJECT	LOC	ATION			NE 1/4 32-19-16		
DELLING CONTRACTOR       Childso Drilling Berchase Ltd.       ORCOUND WATER ELEVATION / DEPTH         DRULING METHOD       0° SSA       DATE GROUND WATER ELEVATION / DEPTH         ge g		DATE	STARTED	03/30/2022	COMPLETED	03/3	30/2022	GR	OUND	ELEV	ATION	N <u>7</u>	'69.98m	N 5612534.400	E41640	01.000
DRILLING METHOD     6*SSA     DATE GROUND WATER RECORDED       Image: Soli Description     Image: Soli Descrindescription     Image: Soli Description		DRILL	ING CONTRACT	TOR	Chilako Drilling Servio	ces Lt	d.	GR	OUND	WATE	ER ELI	EVATION	/ DEPTI	Η		
Image: Second		DRILL	ING METHOD		6" SSA			DA	re Gro		WATI	ER RECC	RDED	-		<u> </u>
SHALE, clayey, sity, highly weathered, grey, moist, highly weathered, highly weathered, grey, moist, highly weathered, highly weathered, grey, moist, highly weathered, hig	Depth (m)	SOIL SYMBOL		Soil Descript	on	Sample Tvpe	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S 1 1 ▲ P	IOISTU PLASTI PT (N) 1 <u>0 2</u> 00 20 OCKE1	RE CONTE C - LIQUID Blows/300 0 30 0 300 F PEN (kPa	ENT mm <u>40</u> 400	REMARKS	Standpipe/	Instrument Elevation (m)
Land of Borehole @11.6 m Land of Borehole @	Ē		SHALE, clayey	/, silty, highly v tremelv weak.	veathered, grey, mois finely fissured.	st,										
Image: Series of Borehole @11.8 m       Series of Borehole @11.8 m       769-         Image: Series of Borehole @11.8 m       Image: Series of Borehole @11.8 m       769-         Image: Series of Borehole @11.8 m       Image: Series of Borehole @11.8 m       769-         Image: Series of Borehole @11.8 m       Image: Series of Borehole @11.8 m       769-         Image: Series of Borehole @11.8 m       Image: Series of Borehole @11.8 m       769-         Image: Series of Borehole @11.8 m       Image: Series of Borehole @11.8 m       769-         Image: Series of Borehole @11.8 m       Image: Series of Borehole @11.8 m       769-         Image: Series of Borehole @11.8 m       Image: Series of Borehole @11.8 m       769-         Image: Series of Borehole @11.8 m       Image: Series of Borehole @11.8 m       769-         Image: Series of Borehole @11.8 m       Image: Series of Borehole @11.8 m       769-         Image: Series of Borehole @11.8 m       Image: Series of Borehole @11.8 m       769-         Image: Series of Borehole @11.8 m       Image: Series of Borehole @11.8 m       769-         Image: Series of Borehole @11.8 m       Image: Series of Borehole @11.8 m       769-         Image: Series of Borehole @11.8 m       Image: Series of Borehole @11.8 m       769-         Image: Series of Borehole @11.8 m       Image: Series of Borehole @11.8 m       769- </td <td>Ē</td> <td></td> <td>suspect white</td> <td>sulphate inclus</td> <td>sions</td> <td>-</td> <td>AU14</td> <td></td> <td>27.4</td> <td></td> <td></td> <td>•</td> <td></td> <td></td> <td></td> <td></td>	Ē		suspect white	sulphate inclus	sions	-	AU14		27.4			•				
End of Borehole @11.8 m 12 13 14 14 15 16 16 17 17 18 Notes: Target depth of 27 m not achieved. Seepage encountered at a depth of 7.6 m. Sloughing observed to a depth of 10 m upon completion. Borehole backfilled with bentonile chips. Logget By: Logget By:	- 						SPT7	50						-		759-
End of Borehole @11.6 m 12 13 14 14 15 16 16 16 17 17 18 Notes: Target depth of 27 m not achieved. Seepage encountered at a depth of 7.6 m. Sloughing observed to a depth of 10 m upon completion. Borehole backfilled with bentonite chips. Logged By: Boyd	Ē						<b>`</b>									
12       Image: Second Se	-			End of Borehole	@11.6 m											-
13       13       757-         14       766-         15       786-         16       786-         17       786-         18       786-         19       781-         10       10         110       10         110       10         110       10         110       10         110	-12															758-
13       Image: state of the s	Ē															_
13       757         14       786         15       786         16       786         17       787         18       786         19       787         10       787         10       787         11       787         12       787         13       786         14       786         15       786         16       786         17       787         18       787         19       787         10       787         110       787         12       787         13       787         14       786         15       787         16       786         17       787         18       787         787       787         19       787         10       787         10       787         10       787         10       787         10       787         10       787         10       787         <	Ē															-
14       76-         15       75-         16       75-         17       76-         18       76-         19       75-         19       75-         10       75-         10       75-         11       75-         12       75-         13       75-         14       75-         15       75-         16       75-         17       75-         18       75-         19       75-         19       75-         19       75-         10       10         110       10         111       10         112       10         113       10         114       10         115       10         116       10         117       10         118       10         119       10         110       10         111       10         112       10         113       10         114       10	13 															757-
14       786-         15       755-         16       784-         17       783-         18       783-         18       752-         19       751-         19       751-         Target depth of 27 m not achieved. Seepage encountered at a depth of 7.6 m. Sloughing observed to a depth of 10 m upon completion. Borehole backfilled with bentonite chips.       Logged By:       J. Boyd	Ē															-
14       16       76-         15       76-         16       76-         17       76-         18       77-         19       77-         10       77-	Ē.															750
15       75-         16       754-         17       753-         18       754-         19       751-         19       751-         751-       751-         751-       751-         751-       751-         19       751-         19       751-         19       751-         19       751-         19       751-         19       751-         19       751-         19       751-         19       751-         19       751-         19       751-         19       751-         19       751-         19       751-         19       751-         19       751-         19       751-         10       10         10       10         10       10         10       10         10       10         10       10         10       10         10       10         10       10         10       10 <td>14 </td> <td></td> <td>750-</td>	14 															750-
15       Image: state of the s	Ē															
16       754-         17       753-         18       754-         19       751-         19       751-         751-       752-         752-       752-         753-       752-         754-       752-         754-       752-         753-       752-         753-       752-         754-       752-         755-       752-         752- <td< td=""><td>- </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>755—</td></td<>	- 															755—
16       754         17       753         18       754         19       754         19       754         19       754         19       754         19       754         19       754         19       754         19       754         19       754         19       754         19       754         19       754         10       754         119       754 <td>Ē</td> <td></td> <td>-</td>	Ē															-
16       754         17       753         18       754         19       754         19       754         Notes:       754         Target depth of 27 m not achieved. Seepage encountered at a depth of 7.6 m. Sloughing observed to a depth of 10 m upon completion. Borehole backfilled with bentonite chips.       Logged By:       J. Boyd	Ē															-
17       753-         18       752-         19       751-         19       751-         19       751-         19       751-         19       751-         19       751-         19       751-         19       751-         10       10         110       10         111       10         112       10         113       10         119       10         119       10         119       10         110       10         111       10         112       10         113       10         114       10         115       10         115       10         116       10         117       10         118       10         119       10         119       10         119       10         119       10         119       10         119       10         119       10         119       10	-16															754
-17       753-         -18       752-         -19       751-         19       751-         751-       751-         751-       751-         751-       751-         751-       751-         751-       751-         751-       751-         751-       751-         751-       751-         751-       751-         751-       751-         751-       751-         751-       751-         751-       751-         751-       751-         751-       751-         752-       751-         751-       751-         751-       751-         751-       751-         751-       751-         751-       751-         751-       751-         751-       751-         751-       751-         751-       751-         751-       751-         752-       752-         751-       752-         752-       752-         751-       752-         752-	Ē															
17       18       753-         18       752-         19       751-         19       751-         10       10         119       10          119       10         110       10         110       10         110       10         110       10         110       10         110       10         110       10         110       10 <td>Ē</td> <td></td> <td>-</td>	Ē															-
-18       -18       -752-         -19       -751-         -19       -751-         -19       -751-         -19       -751-         -19       -751-         -19       -751-         -19       -751-         -19       -751-         -19       -751-         -19       -751-         -19       -751-         -19       -751-         -19       -751-         -19       -751-         -19       -751-         -10       -751-         -10       -751-         -10       -751-         -10       -751-         -10       -751-         -10       -751-         -10       -751-         -10       -751-         -10       -751-         -10       -752-         -10       -751-         -10       -752-         -10       -752-         -10       -752-         -10       -752-         -10       -752-         -10       -752-         -10       -752-	-17 -															753-
18       752-         19       751-         19       751-         Notes:       Target depth of 27 m not achieved. Seepage encountered at a depth of 7.6 m. Sloughing observed to a depth of 10 m upon completion. Borehole backfilled with bentonite chips.       Logged By:       J. Boyd	Ē															-
Image: Notes:       Target depth of 27 m not achieved. Seepage encountered at a depth of 7.6 m. Sloughing observed to a depth of 10 m upon completion. Borehole backfilled with bentonite chips.       Logged By:       J. Boyd	- 10															752-
Notes: Target depth of 27 m not achieved. Seepage encountered at a depth of 7.6 m. Sloughing observed to a depth of 10 m upon completion. Borehole backfilled with bentonite chips. Logged By: J. Boyd	18 															
19       Image: Second Se																
Notes:       Target depth of 27 m not achieved. Seepage encountered at a depth of 7.6 m. Sloughing observed to a depth of 10 m upon completion. Borehole backfilled with bentonite chips.       Logged By:       J. Boyd	-19															751-
Notes:       Target depth of 27 m not achieved. Seepage encountered at a depth of 7.6 m. Sloughing observed to a depth of 10 m upon completion. Borehole backfilled with bentonite chips.       Logged By:       J. Boyd																-
Notes:       Target depth of 27 m not achieved. Seepage encountered at a depth of 7.6 m. Sloughing observed to a depth of 10 m upon completion. Borehole backfilled with bentonite chips.       Logged By:       J. Boyd	Ē															-
Notes:       Target depth of 27 m not achieved. Seepage encountered at a depth of 7.6 m. Sloughing observed to a depth of 10 m upon completion. Borehole backfilled with bentonite chips.       Logged By:       J. Boyd	-															-
Target depth of 27 m not achieved. Seepage encountered at a depth of 7.6 m. Sloughing observed to a depth of 10 m upon completion. Borehole backfilled with bentonite chips.       Logged By:       J. Boyd		•	Notes:												I	
Logged By: J. Boyd			Target depth of 1	f 27 m not ach	ieved. Seepage enco	ounte	ered at a	depth	of 7.6	m. S	lough	ing obse	erved		. –	
								SHOH	u unp					Logged By: _	<u>J. Bo</u>	yd



	CLIEI	NT		Eastern Irrigation District			_ PRO	OJECT	NAME S	Snake Lake Reservoir Expan	sion
	PRO	JECT NUMBER		1560-193-00			_ PRO	OJECT		NE 1/4 32-19-16	
	DATE	STARTED	03/04/2022	_ COMPLETED	03/0	4/2022	_ GR	OUND	ELEVATION 770.07m	N 5612504.400 E	416411.000
	DRIL	LING CONTRACT	OR	Chilako Drilling Service	s Lto	ł.	GR	OUND	WATER ELEVATION / DEPT	н	
1	DRIL	LING METHOD		6" SSA			DA1	re gr	OUND WATER RECORDED	. <u> </u>	
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>POCKET PEN (kPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
-	$\bigotimes$	CLAY FILL, sor	ne sand, darr	p, stiff, low plastic,							
 	$\otimes$				-	AU1		4.8	•		-
-1	$\bigotimes$										769
-	$\bigotimes$				=	AU2		5.8		1.2 m - LL = 27.1% PL = 11.1%	
F	$\nearrow$	CLAY TILL, sar	ndy, some sub	prounded gravel up to	T	SPT1	30		•	PI = 16.0%	
2 		to medium plas	tic, brown, so	ned, moist, hard, low me oxidation staining		AU3		15.3	•		768-
-		2.2 m - trace	silt lenses up	to 5 mm							-
-3	·	SHALE (Weath	ered), clay ar athered, dark	nd silt, trace sand, brown, moist, medium	=	AU4		18.1	•		-
	· <u>···</u> ·	to high plastic, white sulphate	extremely we inclusions	ak, blocky, suspect	X	SPT2	24				767-
-	··					AU5		21.5	•	3.7 m - EC: 4.2 dS/m	-
-4	· · · · ·	3.8 m - trace i	ironstone incl	usions						3.7 m - SAR: 22.8 3 7 m - SO4-S <sup>-</sup> 2704 5	766—
-	· _ · ·	- 			=	AU6		21.7	•	mg/kg	
	· ·	4.7 m - trace	oxidized gyps	um crystals up to 15	Y	SPT3	41			4.3  m - Sand = 1.5%	
—5 - -	· ·	mm				AU7		20.4	•	Silt = 46.3% Clay = 52.2%	765-
	···	-									-
-6	··	-			-	AU8		19.9	•		764-
-	·				X	SPT4	50				
-	· · · · ·	-				AU9		19.1	•		-
7 7	· _ · ·										763-
-	· ·	-				AU10		16.2	•	7.3 m - Sand = 0.2% Silt = 56.7%	-
-8	· · · · ·					SPT5	48		•	Clay = 43.1%	
-		SHALE, some s	silt, highly we tremelv weak	athered, grey, moist, . fissured. suspect	₽	AU11				8.1 m - LL = 82.1% PL = 15.1%	762-
-		white sulphate	inclusions							PI = 67.0%	-
-9				5 @0.2 m						8.1 m - Sand = 0.2% Silt = 56.7%	761-
-										Clay = 43.1% 8 2 m - Auger refusal	
Ē											
-											
		Notes:									
		Target depth of completion. Bo	27 m not ach rehole backfil	ieved. No seepage end led with bentonite chips	coui S.	ntered .	Minor	sloug	hing observed upon	Logged By:	C Braun
										Reviewed Bv <sup>.</sup>	T. Curtis
16/11/2022	2										



C		νT		Eastern Irrigation District			_ PRO	OJECT	NAM	IE	_		S	nake La	ake Rese	ervoir Ex	kpansi	on	
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	OJECT	LOC	ATION	۱ _			١	NE 1/4 3	2-19-16			
[	DATE	STARTED	03/04/2022	_ COMPLETED	03/0	4/2022	_ GR	OUND	ELEV	/ATIOI	N	769	.93m	N	5612530	0.395	E	416423	.877
[	DRILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	OUND	WATE	ER EL	EVATI	ON / D	EPTH	1					
0	DRILL	ING METHOD		6" SSA			_ DAT	E GR	DUNE	WAT	ER RE	CORE	DED						
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S 1 ▲ P	10ISTL PLASTI PT (N) 10 2 00 2 OCKE	JRE CC C - LIQ Blows/ 20 3 00 30 T PEN 1	NTENT UID 300 mm <u>0 40</u> 00 40 'kPa)	- ) 0		REMA	ARKS		Standpipe/ Instrument	Elevation (m)
-	$\bigotimes$	CLAY FILL, silt	y, some fine g	rained sand, damp,															-
-	X	nim, low to me	uum piasuc, ę	jiey	Ŧ	AU1		8.4	•	)									769-
	XX	1 m - sandy, g	grey		-	AU2		6.9	•										
	<u>~~~</u>	1.5 m - trace	suspect white	sulphates and	X	SPT1	22												-
-2		SHALE (Weath weathered, bro	ered), clay ar wn with oxida	nd silt, completely tion specks, damp,		AU3		14.7		•									768
	· · · · ·	high plastic, ex sulphate inclus	tremely weak ions	, blocky, suspect white	-	AU4		15.2		•									767
-3	· · · · ·	3.1 m - trace	suspect white	sulphates up to 10	X	SPT2	21												
	· · · · ·				-	AU5		19.8		H	•		;	3.7 m -	- LL = 9 PL = 1	5.4% 4 5%			766-
-					-	AU6		20.6			•				PI = 8	0.9%			-
5	·····	4.8 m - trace	gypsum cryst	als inclusions up to 7	X	SPT3	33												765-
	· · · ·	mm			=	AU7		19.8		•									-
6	· · · ·				=	AU8		20.2		(	•								764-
	. <u></u> .				X	SPT4	61												-
7		6.7 m - becon 6.9 m - trace	ning dark grey sand lenses ບ	/ ıp to 4 mm	=	AU9		20.1		(	•								763-
	· · · · ·				*	AU10		19.4		•									-
	<u></u>		End of Borehole	e @8.1 m	Å	SPT5	65							<del>8.1 m -</del>	- Auger	refusa	I		762-
-																			-
																			761-
																			-
		Notes:				1		<u> </u>											
		Target depth of completion. Bo	27 m not ach rehole backfill	ieved. No seepage end led with bentonite chips	coui S.	ntered .	Minor	slougl	ning o	obser	ved u	pon		Logged	d By:	_	C	. Brau	<u>n</u>
16/11/2022														Reviev	ved By:	-	Г	Curti:	S



CLIENT	Eastern Irrigation Distri	ct	_ PROJE	CT NAME	S	nake Lake Reservoir Expans	sion
PROJECT NUMBER	1560-193-00		PROJE	CT LOCATION		NE 1/4 32-19-16	
DATE STARTED	08/30/2022 COMPLETED	08/30/2022	_ GROUN	ID ELEVATION	770.31m	N_5612551.000 E	416422.700
DRILLING CONTRACT	TOR Val's Drilling		GROUN	ID WATER ELEVATIO	ON / DEPTH	Η	
DRILLING METHOD	6" SSA		DATE G	ROUND WATER RE	CORDED		
Depth (m) SOIL SYMBOL	Soil Description	Sample Type Sample Number	SPT (N) Moisture Content (%)	<ul> <li>MOISTURE CON</li> <li>⊢ PLASTIC - LIQU</li> <li>SPT (N) Blows/3 10 20 30 100 200 300</li> <li>▲ POCKET PEN (k)</li> </ul>	NTENT JID 00 mm 0 40 0 400 (Pa)	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL, sil plastic, brown, 1.1 m - 200 r 1.5 m - becon SHALE (Weath weathered, bro oxidation stain weak to hard s	ty, trace gravel, dry, stiff, medium suspect white sulphate inclusions nm silt layer ming damp hered), clay and silt, completely own to dark grey mottling, some ing, damp, high plastic, extremely soil, blocky End of Borehole @4.6 m	<ul> <li>AU1</li> <li>AU2</li> <li>SPT1</li> <li>AU3</li> <li>AU4</li> <li>SH1</li> <li>AU5</li> <li>AU6</li> </ul>	9. 5. 20 13 6. 16 19 21			0.6 m - SO4-S: 1333.6 mg/kg 0.6 m - LL = $35.4\%$ PL = $11.3\%$ PI = $24.1\%$ 1.2 m - EC: 7.5 dS/m 1.2 m - SAR: 16.4 1.2 m - PH: 6.3 1.2 m - Sand = $35.9\%$ Silt = $50.1\%$ Clay = $14.0\%$ 2.7 m - LL = $98.5\%$ PL = $15.8\%$ PI = $82.7\%$ 2.7 m - Sand = $1.0\%$ Silt = $48.4\%$ Clay = $50.6\%$ 4.3 m - EC: $9.2$ dS/m 4.3 m - PH: 7.5 4.3 m - LL = $87.4\%$ PL = $18.0\%$ PI = $69.4\%$	770 769 768 767 767 766 765 765 765 765 765 765 765
Notes:							
No seepage of	r sloughing observed upon completi	on. Borehole I	backfilled	with bentonite chi	os.	Logged By: Reviewed By:	C. Tams T. Curtis



	CLIEN	NT		Eastern Irrigation District			_ PRO	OJECT	NAME	Sn	ake Lake Reservoir Expansior	<u>ו</u>
	PROJ	IECT NUMBER		1560-193-00			_ PRO	OJECT			NE 1/4 32-19-16	
	DATE	STARTED	03/04/2022	_ COMPLETED0	03/0	4/2022	_ GR	OUND	ELEVATION768	8.75m	N 5612519.800 E 4	16520.000
	DRILI	LING CONTRACT	OR	Chilako Drilling Services	s Lto	d.	GR	OUND	WATER ELEVATION / [	DEPTH		
	DRILI	LING METHOD		6" SSA			DAT	re gro	OUND WATER RECOR	DED		
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 4</li> <li>100 200 300 40</li> <li>POCKET PEN (kPa)</li> </ul>	Г 1 0 00	REMARKS	Standpipe/ Instrument Elevation (m)
- - - - - - - - - - - - - - - - - - -		CLAY TILL, trac to 15 mm, dam oxidation speck	ce fine graine p, stiff, high p ss	d sand, trace gravel up lastic, brown, with	æ	AU1		9.5	•	C	0.6 m - LL = 59.0% PL = 13.8% PI = 45.2%	768-
	· · · · · · · · · · · · · · · · · · ·	SHALE (Weath completely wea specks, damp,	ered), clay ar athered, dark l medium to hig	d silt, trace sand, brown, with oxidation gh plastic, extremely	-== 	AU2	14	13.0	•			
- 2 	· · · · ·	weak, blocky, s	uspect white	sulphate inclusions	▲ =	AU3	14	15.9	•			
					-	AU4		16.7	•			766-
-3		3.1 m - trace (	gypsum cryst	als up to 10 mm	X	SPT2	24		•			
		3.6 m - moistu 3.7 m - becon	ure increasing ning greyish b	l prown	ŧ	AU5		21.4	•			765
	· · · · ·	47 m - becon	ning some oxi	dation staining	∎ ▼	AU6	42	19.3	•			764
	· · · · · ·	5.2 m - becon	ning high plas	tic, dark brown	▲ =	AU7		20.1	I.	5	.2 m - LL = 77.2% PL = 18.3%	
-6	· · · · ·				=	AU8		20.1	•	5	PI = 58.9% 5.2 m - Sand = 2.5%	763
		66m SEED			X	SPT4	46			•	Sill = 49.2% Clay = 48.3%	
- 7		SHALE, silty, hi	ighly weather	ed, light grey, damp,	-	AU9		19.0	•	b	lows for 5"	762
		high plastic, vei 7 m - becomir	ry weak, fissu ng brown and	red dark grey mottling	-== 	AU10	50	16.0	•			761
			End of Borehole	e @8.2 m		AU11		12.1	•	 e	<del>.2 m - Auger refusal</del>	
- - - - - - - - - - - - - - - - - - -												760-
16/11/202	2	Notes: Target depth of observed upon	27 m not ach completion. E	ieved. Seepage encour Borehole backfilled with	nter bei	red at a ntonite o	depth hips.	of 6.6	m. Minor sloughing	L	.ogged By: <u>C.</u> Reviewed By: <u>T.</u>	Braun Curtis



CLIENT		Eastern Irrigation District			_ PRO	DJECT	NAME	8	Snake Lake Reservoir Expan	sion
PROJECT	NUMBER	1560-193-00				DJECT	LOCATION		NE 1/4 32-19-16	
DATE STAR	RTED 03/04/2022	COMPLETED	03/0	4/2022	_ GR0	DUND	ELEVATION	767.93m	N 5612516.200 E	416618.500
DRILLING C		Chilako Drilling Service	s Lto	d.	GR0	DUND	WATER ELEVAT	FION / DEPT	н	
	METHOD	6" SSA			_ DAT	E GRO	OUND WATER R	RECORDED		
Depth (m) SOIL SYMBOL	So Descr	bil iption	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LI</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID \$/300 mm 30 40 300 400 I (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
dark 0.3 n -1 CLA -2 	TONITE (1.1 m) 80 m Y, "" m - becoming stiff LE (Weathered), clay	m layer		AU1 AU2 SPT1	10	29.6 28.6		•	0.6 m - Organic Content = 4.6% 0.6 m - Sand = 6.7% Silt = 29.8% Clay = 63.5%	767
mois soil, 2.1 2.4 	t, medium to high pla blocky m - becoming trace o m - moisture decreas m - becoming some sions, trace gypsum o	stic, extremely weak hard oxidation staining sing silt, trace ironstone rystals up to 4 mm	- - X	AU4 SPT2 AU5	37	23.5 18.3	•	•		765
-4 	m - gypsum crystals	up to 10 mm	= X =	AU6 SPT3 AU7	34	18.1 17.7	•	•		763
5.6 staini 	m - becoming dark g ing	rey, trace oxidation	The second secon	AU8 SPT4	47	16.1	•	•	6.4 m - SPT refusal; 50	762
6.7 	m - trace suspect wh	ite sulphates	-	AU9 AU10		18.0 15.8	•		DIOWS IOF 3	761
	grey, high plastic, ver	y weak, fissured		SPT5	83				7.6 m - LL = 75.8% PL = 14.3% PI = 61.5% 7.6 m - Sand = 0.8% Silt = 53.4% Clay = 45.8% 8.1 m - SPT/auger refusal	760-
Note Targe comp	s: et depth of 33 m not a oletion. Borehole back	chieved. No seepage end filled with bentonite chips	coui s.	ntered. N	/linor s	lough	ing observed u	Jpon	Logged By:	C. Braun
16/11/2022										



C		ΝT		Eastern Irrigation District			PR0	DJECT	NAM	IE	_		S	nake L	ake Reservoi	r Expan	sion	
Р	ROJ	ECT NUMBER		1560-193-00			PR0	DJECT	LOC	ATION	۱ _				NE 1/4 32-19	-16		
D	ATE	STARTED	03/04/2022	COMPLETED 0	03/04	4/2022	GR	DUND	ELEV	/ATION	١.	767	.36m	N	5612453.90	0_E_	4167	72.100
D	RILL	ING CONTRACT	OR	Chilako Drilling Services	s Lto	ł.	GR	DUND	WATI	ER EL	EVATI	ON / E	)EPTł	Η				
D	RILL	ING METHOD		6" SSA			DAT	E GRO	DUNE	) WAT	ER RE	COR	DED					
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S	10ISTU PLASTI PT (N) 10 2 00 20 20CKET	RE CC C - LIQ Blows/: 0 3 00 30 FPEN (	NTENT UID 300 mm 0 40 00 40 (kPa)	- ) 0		REMARK	S	Standnine/	Elevation (m)
		CLAY TILL, trac fine angular gra stiff, medium pl trace suspect w 1.2 m - trace SHALE (Weath weathered, dar plastic, extreme	ce fine grained avel up to 7 m astic, brown, ' /hite sulphate gypsum crysta ered), clay an k brown, mois ely weak, bloc	d sand, trace silt, trace m, moist, stiff to very with oxidation specs, inclusions als d silt, completely t, medium to high ky, gypsum crystals		AU1 AU2 SPT1 AU3	13	16.8 17.4 20.4		•		▲ _		1.2 m	- LL = 52.5 PL = 15.0 PI = 37.5	% % %		767- 766- 765-
		3.3 m - trace t	fine grained s oxide specks	and	-	SPT2 AU5 AU6	22	17.1 16.0		•				3.7 m 3.7 m 3.7 m 3.7 m	- EC: 5.2 d - SAR: 12.0 - pH: 7.3 - LL = 57.9 PL = 15.3	S/m ) %		764-
-6			End of Borehole	: <i>@</i> 6.6 m		SPT3 AU7 AU8 SPT4	81	16.0 14.9		•				5.8 m	PI = 42.6 - LL = 64.1' PL = 16.3 PI = 47.8	% % %		762- 761-
																		760- 759- 758-
16/11/2022		Notes: Target depth of with bentonite o	33 m not ach chips.	ieved. Minor sloughing	obs	served u	ipon c	omple	tion.	Boreł	nole b	ackfil	led	Logge Revie	d By: wed By:		<u>C. Br</u> T. Cu	aun ırtis



PROJECT NUMBER       188-1930       PROJECT CONTENTION       NET 43219-16         DATE STATUTE       0.0000222       COMPLETED       00000222       GROUND WATER RECORDED       •       416902.85         DRLING METHIO       0.500022       COMPLETE       0.500022       GROUND WATER RECORDED       •       •       416902.85         DRLING METHIO       0.5001       0.550	c		NT		Eastern Irrigation District			_ PR	OJECT	NAM	1E	_		S	Snake L	ake Re	eservoi	r Expai	nsion		
DALE STARTED       DADAGO222       COMPLETED       DEBOLO2222       GROUND ELEVATION       TO Zetim       Notes:         DRILLING CONTRACTOR       Velt Ending       GROUND MATER ELEVATION DEPTH       Image: Classical control of the state of the	F	PROJ	IECT NUMBER		1560-193-00			_ PR	OJECT	LOC	ATION	1 _				NE 1/4	4 32-19	-16			
DIRLING METHOD       Order Definition         0       0' SSA       DATE GROUND WATER RECORDED         0       0' SSA       D' T' N' BROWNO THEN         0       0' SSA       D' T' N' BROWNO THEN         0       0' SSA       D' T' N' BROWNO THEN LEVALUM CONTENT         1       -1' SSA       D' T' N' BROWNO THEN LEVALUM CONTENT         1       -1' SSA       D' T' N' BROWNO THEN LEVALUM CONTENT         -1' SSA       D' T' N' BROWNO THEN LEVALUM CONTENT       REMARKS         -1' SSA       D' T' N' BROWNO THEN LEVALUM CONTENT       REMARKS         -1' SSA       D' T' N' BROWNO THEN LEVALUM CONTENT       REMARKS         -1' SSA       D' T' N' BROWNO THEN LEVALUM CONTENT       REMARKS         -1' SSA       D' T' N' BROWNO THEN LEVALUM CONTENT       REMARKS         -1' SSA       D' T' T' S'		DATE	STARTED	08/30/2022	_ COMPLETED	08/3	0/2022	_ GR	OUND	ELE\	/atioi	N .	767	7.61m	N	56124	411.800	)_E	416	6809.8	300
Discurrence       Discurrence       Discurrence       Discurrence       Discurrence            Generation of the second process of the second proces of the second pr				OR	Val's Drilling			GR							Η						
Notes: Trace seepage observed at a depth of 3.4 m. No sloughing observed upon completion. Borehole backfilled with bentonite chips. Logged By: <u>C. Tams</u> Reviewed By: <u>C. Tams</u>	Celler (m) Celler Celle		CLAY TILL, silt CLAY TILL, silt damp, very stiff suspect white s 1.2 m - 200 m SHALE (Weath completely weath race oxidation extremely weath 3.4 m - trace	08/30/2022 OR Soil Descript y, trace grave f, medium pla sulphate inclus nm medium gr nered), clay ar athered, brown staining, dam k to hard soil, SEEPAGE End of Borehold	COMPLETED Val's Drilling 6" SSA ion i, trace sand lenses, stic, dark brown, sions rained sand layer ad silt, some sand, n to dark grey mottling, p, high plastic, blocky	Sample Type	AU1 AU2 SH1 AU3 AU4 SPT1	_ GR _ GR _ DA' (N) LdS	OUND OUND TE GR( (%) 12.3 7.6 21.8 19.4 21.4		/ATIOI ER EL D WAT //OISTU PLASTI //OO 2 //OCKE	N EVATI ER RE JIRE CC C - LIQ Blows/ 20 3 00 3( T PEN ( 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	761 ON / I ECOR NITEN' UID 300 mm <u>0 4</u> (kPa)	7.61m DEPTI DED Γ	N H 0.6 m Conte 0.6 m 1.2 m 1.2 m 1.2 m 2.7 m 2.7 m 2.7 m 2.7 m 2.7 m	5612/ RE - Org 4 - San Silt : Clay - EC: SAF - PH: - SAF - PH: - SAF - PH: - SAF - PH: - SAF - PH: - SAF - PH: - SAF - S	Anic Amage and a set of the set	2 E 5.0% 5.0% 5.5% 5.7m 6% 6% % % % % % % % % % % % % %		Standpipe/	300 United and a constraint of the second s
Trace seepage observed at a depth of 3.4 m. No sloughing observed upon completion. Borehole backfilled with bentonite chips.  Logged By: C. Tams Reviewed By: T. Curtie			Notes:																		760
backfilled with bentonite chips. Logged By: <u>C. Tams</u>			Trace seepage	observed at	a depth of 3.4 m. No sl	oug	hing obs	erved	upon	com	pletio	n. Boı	rehole	e							
Paviewed Rv: T Curtie			backfilled with	bentonite chip	IS.										Logge	d By:			C. 1	ams	
16/11/2022 Teviewed by. <u>1. Cutus</u>	16/11/2022														Review	wed E	By:		Т. С	urtis	



PAGE 1 0F 1

BOREHOLE No : 22BH202

	CLIEI	NT		Eastern Irrigation District			PR	OJECT	NAME	Snake Lak	e Reservoir Expa	nsion	
	PRO	JECT NUMBER		1560-193-00			PR	OJECT		N	E 1/4 32-19-16		
	DATE	STARTED	03/03/2022	COMPLETED 0	03/0	3/2022	GR	OUND	ELEVATION 766.92r	n_N_5	612326.400 E	416866.400	<u> </u>
	DRIL	LING CONTRACT	OR	Chilako Drilling Services	s Lto	d.	GR	OUND	WATER ELEVATION / DEP	ГН			
	DRIL	LING METHOD		6" SSA			DA	TE GR	OUND WATER RECORDED				
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>POCKET PEN (KPa)</li> </ul>	-	REMARKS	Standpipe/ Instrument Elevation	(m)
-		SAND, silty, we	ell graded, fine	grained, damp, loose,									-
- - - - - - 1 - -		CLAY TILL, soi 5 mm, moist, s oxidation staini	me sand, silt a tiff, medium pl ing, gypsum ci	nd sand lenses up to astic, brown, some rystals, coal staining	-	AU1 AU2		8.8 22.2	• •		LL = 49.0%	70	66
2	· · · · · · · · · · · · · · · · · · ·	SHALE (Weath weathered, bro extremely weat	nered), clay an own, moist, me k, blocky, susp	d silt, completely dium to high plastic, bect white sulphate	X	SPT1	18		•		PL = 13.1% PI = 35.9%	70	65-
	· · · · · · · · · · · · · · · · · · ·	inclusions, gyp	sum crystals		=	AU3		19.6					-
-3					T	SPT2	24	19.0				70	64-
	······	•			-	AU5		20.3	•			7	63-
					-	AU6		20.3	•				-
- 5 -	· · · ·	4.8 m - gypsi	um crystals inc	lusions up to 7 mm	X	SPT3	51	15 5	•			70	62-
		SHALE, clayey	slit lenses up	to 3 mm veathered, grey, damp,		AU8		13.4	•			7	
			End of Borehole	@6.0 m						-			-
- - - -7												70	60-
-													-
-8										-		7	59
													-
-													
-9												7	58-
													-
Ē													_
<b>—</b>		Notoci											
16/11/202:	2	Target depth of backfilled with	f 33 m not ach bentonite chip	ieved. No sloughing or s.	see	epage o	bserve	ed upo	n completion. Borehole	Logged Reviewe	By:	C. Braun T. Curtis	
16/11/202	2									Reviewe	еч Бу	I. Curtis	

# an **Englobe** company

	CLIE	NT		Eastern Irrigation District			PR0	OJECT	NAME	S	snake Lake Reservoir Expa	ansion
	PRO	JECT NUMBER		1560-193-00			_ PRO	OJECT	LOCATION		NE 1/4 32-19-16	
	DATE	STARTED	03/03/2022	COMPLETED 0	)3/0	3/2022	_ GR	OUND	ELEVATION	767.90m	N_5612207.600 E	416886.300
	DRIL	LING CONTRACT	OR	Chilako Drilling Services	s Lto	d.	GR	OUND	WATER ELEVAT	ION / DEPT	н	
	DRIL	LING METHOD		6" SSA			DAT	E GR	OUND WATER R	ECORDED		
Depth (m)	SOIL SYMBOL		Soil Descripti	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CI</li> <li>⊢ PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 20 3</li> <li>100 200 3</li> <li>▲ POCKET PEN</li> </ul>	ONTENT QUID /300 mm 30 40 00 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
-		SILT, sandy, Sa nonplastic, ligh	and is fine gra t brown	ined, damp, soft,								
- - - - - - - - - - - - - -		CLAY TILL, sor moist, firm, var oxidation staini CLAY, silty, mo	me medium gr ving, medium ng, silt lenses ist, stiff, high r	rained sand, trace silt, plastic, brown, some , coal specks plastic, brown, suspect	-	AU1		11.8	•		1 2 m - 11 = 107 2%	767-
Ē	V/	white sulphate	inclusions		T	/.02		2			PL = 15.5%	-
	V//				Å	SPT1	5				PI = 91.7%	766-
	<i>[]</i>	1			-	AU3		21.1	⊢●		2.1 m - LL = 86.7% PL = 16.4%	
Ē	· ·	SHALE (Weath	ered), clay ar	nd silt, completely		ΔΠΑ		20.5			PI = 70.3%	
-3	· · · · ·	plastic, extreme	ely weak, bloc	ky	-			20.5				765-
-	·	•			X	SPT2	27					
-	·				-	AU5		17.6	•			704
-4		•										764-
Ē		4.3 m - trace	gypsum crysta	als	-	AU6		18.5	•		16 m Dianaraivity	-
	·	•			Y	SPT3	42				Classification = ND4	763-
—5 	· ·	•				AU7		19.3	•			
-	· · · · · ·	-										-
6	· · · · ·	-			Ŧ	AU8		19.4	•			762-
-	· ·	•			Å	SPT4	50			•		
			End of Borehole	e @6.6 m								761-
Ē												
Ē												
-8												760-
Ę												
Ē												
<u>-9</u>												759-
E E												
Ē												758-
<b>—</b> —												
		Notes: Target depth of backfilled with	f 33 m not ach bentonite chip	ieved. No sloughing or s.	see	epage ol	oserve	ed upo	n completion. E	Borehole	Logged By:	C Braun
											Reviewed Bv:	T. Curtis
16/11/2022	2											



CLIE	ENT		Eastern Irrigation District			_ PRO	DJECT	NAME	S	nake Lake Reservoir Expa	ansion	
PRO	JECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16		
DAT	E STARTED	03/03/2022		03/0	3/2022	_ GRO	DUND	ELEVATION	767.48m	N 5612108.000 E	416883.	.900
DRIL	LLING CONTRACT	TOR	Chilako Drilling Service	s Lto	ł.	GR(	DUND	WATER ELEVAT	ION / DEPTH	1765.65 m	1.83 m	I
DRIL	LLING METHOD		6" SSA			_ DAT	E GRO	OUND WATER R	ECORDED	10/12/20	22	
Depth (m) SOIL SYMBOL	SIIT sandy S	Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows, 10 20 3</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	DNTENT QUID /300 mm 30 40 /00 400 (kPa)	REMARKS	Standpipe/	Elevation (m)
	nonplastic, ligh	nt brown										767
	SAND, gravely	, Gravel is sub d damp com	prounded well graded,	▰	AU1		7.8	•				/6/
	oxidation stain	ing										-
	medium plastic	ce sand, trace c, brown, some	e silt, moist, stiff, e oxidation staining,		AU2		15.8	•	•			766-
	SHALE (West	sulphate inclu pered) clav ar	sions		SPT1	20		•			<b>y</b>	
	weathered, bro	own, moist, me	edium to high plastic,		AU3		20.1	•			-	
	···extremely wea	K, DIOCKY										765
	2.7 m - beco	ming brownish	grey with trace	=	AU4		21.0	•				
-3	-suspect white s	sulphates		Y	SPT2	38						
		gypsum cryst	als									764-
	3.7 m - beco	ming dark brov	wn	=	AU5		18.8	•				
							20.0					
					A06		20.9			4.6 m - Dispersivity		763
-5				X	SPT3	34				Classification = $D^2$		
	- SHALE, clayey ⊒high plastic. ve	/, silty, highly v erv weak. fissu	veathered, grey, moist, red	-	AU7		14.3	•		4.6 m - SAR: 30.0		
	5 m - gypsun	n crystals inclu	isions up to 10 mm							4.6 m - pH: 7.5		762-
6	- -			=	AU8		11.9	•				
				X	SPT4	50			•	I		704
	-	End of Borehole	e @6.6 m									/61-
7												
-												760-
												-
-8												
												759
-9												
												758-
	Notes:											<u> </u>
	Target depth o	f 33 m not ach	ieved. No sloughing or	see	epage ol	oserve	d upo	n completion. 5	50 mm			
	standpipe insta with bentonite	alled to a depti chips.	n ot 6.6 m. Borehole ba	ickfi	lled with	sand	within	slotted area ar	nd capped	Logged By:	C. Braur	<u>1</u>
16/11/2022		-								Reviewed By:	T. Curtis	3



0	CLIEI	NT		Eastern Irrigation District			PR0	OJECT	NAME	S	inake Lake Reservoir Expa	nsion
F	PRO	JECT NUMBER		1560-193-00			_ PR	OJECT	LOCATION		NE 1/4 32-19-16	
	DATE	STARTED	03/03/2022	COMPLETED	03/0	3/2022	GR	OUND	ELEVATION	768.57m	N_5612008.000 E	416881.500
	DRIL	LING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	OUND	WATER ELEVAT	ION / DEPTH	ł	
	DRIL	LING METHOD		6" SSA			DA	E GR	OUND WATER R	ECORDED		
Depth (m)	SOIL SYMBOL		Soil Descript	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LI</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID 3/300 mm 30 40 300 400 I (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
$1^{-1}$		SILT, trace fine nonplastic, ligh SAND, some si grained, damp, sulphate inclus CLAY TILL, trac medium plastic with oxidation s SHALE (Weath weathered, dar weak, blocky 5.7 m - trace 5.8 m - SPT /		AU1 AU2 SPT1 AU3 AU4 SPT2 AU5 AU6 SPT3 AU7 SPT4	14 25 61 50	3.4 2.6 22.0 22.9 18.5 20.0 15.6	•		1.5 m - Sand = 79.2% Silt = 11.4% Clay = 9.4% 3.7 m - LL = 59.8% PL = 16.8% PI = 43.0%	768– 767– 766– 765– 764– 763– 763– 762– 761– 761–		
-		Notes: Target depth of backfilled with	30 m not ach bentonite chip	ieved. No sloughing or s.	see	epage ol	bserve	ed upc	n completion. I	Borehole	Logged By:	C. Braun
16/11/2022											Reviewed By:	I. Curtis



CLIENT	Eastern Irrigation District			_ PRO	DJECT	NAME	5	Snake Lake Reservoir Expans	ion
PROJECT NUMBER	1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16	
DATE STARTED	03/03/2022 COMPLETED 0	)3/03	/2022	_ GRO	DUND	ELEVATION	768.37m	N_5611908.000 E	416879.000
DRILLING CONTRACT	OR Chilako Drilling Services	s Ltd.		GR0	DUND	WATER ELEVAT	ION / DEPT	н	
DRILLING METHOD	6" SSA			_ DAT	E GRO	DUND WATER R	ECORDED		
Depth (m) SOIL SYMBOL	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>PLASTIC - LIO</li> <li>SPT (N) Blows, 10 20 3</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID /300 mm 30 40 00 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
SILT, trace san	d, damp, soft, nonplastic, brown								768-
SAND, well gravel of the second	aded, medium grained, damp, loose, xidation staining, coal specks ndy, some silt, trace subrounded mm, moist, stiff, medium plastic, <u>xidation staining, coal specks</u> nered), clay and silt, completely rk brown, moist, high plastic, k, blocky ming hard soil		AU1 AU2 SPT1 AU3 AU4 SPT2 AU5 AU5 SPT3	14 19 50	<ul> <li>7.0</li> <li>6.0</li> <li>18.3</li> <li>19.0</li> <li>14.2</li> <li>16.3</li> </ul>	• • • • • • • • • • • • • • • • • • • •		0.6 m - Organic Content = 1.2% 0.6 m - Sand = 21.5% Silt = 45.2% Clay = 33.3% 2.1 m - LL = 39.5% PL = 14.3% PI = 25.2% 2.1 m - Gravel = 2.9% 2.1 m - Gravel = 2.9% 2.1 m - Sand = 37.7% Silt = 31.2% Clay = 28.2%	767– 766– 765– 764– 764–
6									
									762
									704
									/01-
									-
									760-
									-
—9 E									
									759-
Notes:		<u> </u>				<u> </u>		1	
Target depth of backfilled with	f 30 m not achieved. No sloughing or bentonite chips.	see	page ot	oserve	d upo	n completion. E	Borehole	Logged By:	C. Braun Г. Curtis



(		NT		Eastern Irrigation District			PR	OJECT	NAME	S	nake L	ake Reservoir Ex	pansio	on		
F	PROJ	IECT NUMBER		1560-193-00			PR	OJECT	LOCATION			NE 1/4 32-19-16				
ſ	DATE	STARTED	03/03/2022	COMPLETED	03/0	3/2022	GR	OUND	ELEVATION	769.12m	N	5611808.000	E	41687	6.50	)0
[	ORILI	ING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	OUND	WATER ELEV	ATION / DEPTH	Η	765.71 m		3.41	m	
ſ	DRILI	ING METHOD		6" SSA			DA	TE GR	OUND WATER	RECORDED		09/15/	2022			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE</li> <li>PLASTIC -</li> <li>SPT (N) Blo</li> <li>10 20</li> <li>100 200</li> <li>POCKET P</li> </ul>	CONTENT LIQUID ws/300 mm 30 40 300 400 EN (kPa)		REMARKS		Standpipe/		Elevation (m)
-		SAND, silty, fin Iiaht brown	e grained, we	ll graded, damp, loose,												769-
- - - - - - - - - - - - - - - - - - -	44 44 44	1 m - some p	oorly graded g	jravel	*	AU1 AU2		2.8 5.7	•							768-
-		•			Y	SPT1	14									-
-2						ΔΠ3		3.8	•		2.1 m	- Gravel = 15 (	1%			- 
-		• >			-			0.0			2.1 m	- Sand = 70.3%	6			-
		2.6 m - trace	gravel		=	AU4		10.2	•		2.1 m	- Filles - 14.7	/0			-
					X	SPT2	4		•							766
-		3.6 m - trace	seepage at 3.	5 m		AU 5		15.3	•				4			-
-4		SHALE (Weath	nered), clay an	d silt, completely	1			10.0								765-
-	· · · ·	extremely wea	k, blocky	, moist, mgn plastic,	=	AU6		16.6	•							-
-	· · · ·				Y	SPT3	82									-
5 	· ·					AU7		18.2	•							764-
	·															-
	· · · · · ·	6.2 m - trace	white rock up End of Borehole	to 20 mm 9@6.3 m	X	SPT4	50				6.1 m <del>blows</del>	- SPT refusal; for 6"	50			763
-																-
-																-
																761-
-																-
-9																760-
-																-
																-
_										i 1						
16/11/2022		Notes: Target depth o depth of 3.5 m area and capp	f 30 m not ach . 50 mm stand ed with bentor	ieved. Sloughing obse pipe installed to a depi ite chips.	rveo th o	d to a de f 4.7 m.	pth of Backfi	3.6 m illed w	i. Seepage ol ith sand with	bserved at a in slotted	Logge Revie	ed By:	<u>С</u> Т	<u>. Bra</u>	un tis	
L., 11/2022																



	CLIE	NT		Eastern Irrigation District			PR	OJECT	NAME	Sn	ake Lake Reservoir Expar	nsion
	PROJ	IECT NUMBER		1560-193-00			_ PR	OJECT	LOCATION		NE 1/4 32-19-16	
	DATE	STARTED	03/03/2022	COMPLETED	03/0	3/2022	GR	OUND	ELEVATION	769.93m	N 5611708.000 E	416874.000
	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	OUND	WATER ELEVATIO	N / DEPTH		
1	DRILI	LING METHOD		6" SSA			DA	re gr	OUND WATER REC	ORDED		
Depth (m)	SOIL SYMBOL		Soil Descript	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CON</li> <li>PLASTIC - LIQUI</li> <li>SPT (N) Blows/30 10 20 30 100 200 300</li> <li>POCKET PEN (KF</li> </ul>	TENT D 0 mm <u>40</u> 2a)	REMARKS	Standpipe/ Instrument Elevation (m)
-		SAND, trace si	lt, trace clay, v	vell graded, fine								-
		SAND and GR	AVEL, Gravel graded, coars	is well rounded up to e grained, damp,	=	AU1 AU2 SPT1	11	5.0 1.7	•		.2 m - Sand = 86.4% Silt = 6.2% Clay = 7.4%	769
	000000000000000000000000000000000000000	loose, brown, s	ome oxidatior	n staining	- <b>≡</b> -≡ -▼	AU3 AU4		2.9 3.2	•			767-
  4	000000000000000000000000000000000000000	43.6 m - moista	ure increasing	, becoming dark browr		SPT2 AU5	10	3.6	•			766
		CLAY, silty, wet 4.3 m - SEEP SHALE (Weath weathered, dar extremely weal	, soft, low pla AGE ered), clay ar k grey, damp, k, blocky	stic, light brown d silt, completely high plastic,	The second secon	AU6 SPT3 AU7	16	18.6	•		I.3 m - LL = 27.1% PL = 12.6% PI = 14.5%	765
		6.1 m - moist	ure decreasin	3	Ŧ	AU8 SPT4	50	21.6	•	6 <b></b> 6	6.1 m - SPT refusal; 50 blows for 6"	764
			End of Borehole	9 @6.8 m						6 6 6 6	Classification = ND3 Classification = ND3 5.1 m - EC: 2.8 dS/m 5.1 m - SAR: 14.0 5.1 m - pH: 7.8	763
		Notes: Target depth of a depth of 4.3 r	27 m not ach n. Borehole b	ieved. No sloughing of ackfilled with bentonite	oser chi	ved upc ps.	n com	pletio	n. Seepage obser	ved at L	.ogged By:	C. Braun T. Curtis
16/11/2022	<u> </u>											



(		NT		Eastern Irrigation District			_ PRO	DJECT	NAME				Sna	ake Lake Reservoir Exp	ansior	ı	
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOCA	TION				NE 1/4 32-19-16			
[	DATE	STARTED	03/08/2022	COMPLETED	03/0	8/2022	_ GRO	DUND	ELEVA	TION	_	769.54	4m	N_5611608.000	<u>= 41</u>	6912.6	300
[	ORILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	ł.	GR	DUND	WATE	R ELE	EVATIC	N / DEI	PTH				
[	ORILL	ING METHOD		6" SSA			_ DAT	E GR	OUND	WATE	ER RE	CORDE	D				
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>M0</li> <li>H PI</li> <li>■ SP</li> <li>10</li> <li>10</li> <li>▲ PC</li> </ul>	DISTUF _ASTIC PT (N) E 0 20 0 20 DCKET	RE CON - LIQU Blows/30 0 300 PEN (k	ITENT IID 00 mm <u>40</u> 0 400 Pa)		REMARKS		Standpipe/ Instrument	Elevation (m)
	$\square$	CLAY, silty, dar	np, soft, low pl	astic, brown													
	4 44 44 44	SAND, poorly g loose, brown, s	graded, mediu some oxidation	n grained, moist, staining	=	AU1 AU2 SPT1 AU3	4	4.8 3.9 5.7	• • •				1.:	2 m - LL = 23.4% PL = 13% PI = 10.4%			769
		loose, brown, some oxidation staining 2.5 m - becoming trace gravel, well graded, subrounded up to 30 mm, moist, loose, brown 3.1 m - SEEPAGE SHALE (Weathered), clay and silt, completely weathered, light brown to dark grey mottling, mo medium to high plastic, extremely weak, blocky End of Borehole @5.2 m				AU4 SPT2 AU5 AU6 SPT3	11	6.0 18.3 16.5	•	•			2. 2. 5. 5.	7 m - Sand = 84.7% 7 m - Fines = 15.3% <u>1 m - SPT refusal</u> 2 m - Auger refusal			766 765 764 763 762
		Notes: Target depth of observed upon	27 m not achi completion. B	eved. Seepage observor	/ed	at a dep ntonite c	th of 3 hips.	8.1 m.	Minor	slou	ghing		Lc	ogged By:	<u>С.</u> Т. (	Braun	761
10/11/2022																	



C		ΙT		Eastern Irrigation District			_ PRO	DJECT	NAN	ИE	_		Sna	ake La	ike Reservoir	Expans	ion	
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	CATIO	N _			1	NE 1/4 32-19-	·16		
0	DATE	STARTED	03/08/2022	COMPLETED (	03/08	8/2022	_ GRO	DUND	ELE	VATIO	N	767.6	69m	_ N _	5611508.000	_ E _	416869	.000
0	DRILL	ING CONTRACT	OR	Chilako Drilling Services	s Lto	1.	GR0	DUND	WAT	ER EI	EVATI	ON / DE	PTH		766.47 m		1.22 m	<u> </u>
0	RILL	ING METHOD		6" SSA			DAT	E GR	OUN	D WAT	ER RE	CORD	ED		09/	15/2022		
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOIST PLAST SPT (N 10 20 POCKE	URE CC IC - LIQ ) Blows/: 20 3 200 30 :T PEN (	0NTENT 101D 300 mm 0 40 100 400 (kPa)			REMARK	S	Standpipe/	Elevation (m)
		CLAY TILL, sor subrounded gra medium plastic	ne medium gi avel up to 20 i , dark brown,	ained sand, some mm, moist, hard, with oxidation specks	-	AU1		10.0		•								767
		1.3 m - trace s 1.4 m - trace s 1.4 m - SAND loose, sand is c staining	sulphates er, trace fine gravel, I, brown with oxidation	= X =	AU2 SPT1 AU3	6	12.8 13.7	•	•	-					-		766	
-3		SHALE (Weath weathered, ligh high plastic, ext sulphate inclusi	ered), clay ar t brown to da tremely weak tons	d silt, completely rk grey mottling, moist, blocky, suspect white	Ŧ	AU4 SPT2	44	21.1		+	•		2.	.7 m ·	LL = 113.3 PL = 15.39 PI = 98.09	% 6 6		765
-4	: : : : : :	4.2 m - trace I	rounded grave End of Borehole	el up to 25 mm e @4.4 m	-	AU6		14.2		•			 <u>4</u> .	.3 m ·	· Auger refu	sal		763
-5																		
6											-							762
7																		761
																		760
9																		759-
																		758
		Notes:																1
16/11/2022		Target depth of observed upon installed to a de	33 m not ach completion. E epth of 3.0 m	ieved. Seepage observ Borehole backfilled with	/ed sar	at a dep าd and b	oth of 1 penton	.4 m. ite chi	Min ps.	or slo 50 mr	ughing n stan	g dpipe	Lo	ogge eviev	d By: ved By:		C. Brau T. Curtis	n



		NT		Eastern Irrigation District			_ PR	OJECT	NAME	Ξ			Snake Lake	Reservoir E	Expans	ion	
1	PROJ	IECT NUMBER		1560-193-00			_ PR	OJECT	LOCA	TION			NE	1/4 32-19-1	6		
1	DATE	STARTED	03/08/2022	COMPLETED	03/0	8/2022	GR	OUND	ELEV	ATION	_	768.16	m N 56	11425.400	E_	416867.	.300
1	DRILL	LING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	OUND	WATE	R ELE	VATIO	N / DEP	ТН				
1	DRILL	LING METHOD		6" SSA			DA	TE GRO	DUND	WATE	R REC	ORDED					
Depth (m)	SOIL SYMBOL		Soil Descriptio	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M <sup>1</sup> ⊢ P ■ SF 10 ▲ P0	OISTUR LASTIC PT (N) B 0 20 00 200 DCKET	RE CON - LIQUI lows/300 <u>30</u> 0 300 PEN (kF	TENT D 0 mm 40 400 2a)	F	REMARKS		Standpipe/ Instrument	Elevation (m)
- - - - - - - - - - - - - - - - - - -		CLAY TILL, so subrounded gr medium plastic	me fine grained avel up to 35 n c, brown, some	d sand, some nm, damp, firm, oxidation staining	#	AU1 AU2		5.1 7.6	•								768
- - - 		SHALE (Weath weathered, dau plastic, extrem	d silt, completely medium to high (y	-	AU3		19.6		¢			2.1 m - E	:C: 6.6 mg/	/kg		766-	
3	· · · · · · · · · · · · · · · · · · ·	2.6 m - becor	ming dark brow	n with grey mottling	-	AU4		18.0		•			2.1 m - S 2.1 m - p 2.1 m - L	H: 8.1 L = 73.4% L = 19.9%			765-
- - - - - - -				<b>Å</b>	AU5	43	20.4		•		•		1 - 53.5%				
	· · · · · · · · · · · · · · · · · · ·	4.3 m - trace	suspect ironsto	one	=	AU6		19.7		•							764—
5	· · · · ·	4.6 m - trace	gypsum crysta	ls	X	SPT3	38					•					-
		SHALE, silt an high plastic, ex	d clay, highly w tremely weak,	eathered, grey, moist fissured	-	AU7		14.2		•			5.2 m - S	and = 0.4% ilt = 63.6%	% > %		/63-
6 		6.1 m - some	oxidation stair	ing	=	AU8		14.0		•							762-
- - - - - - - - - - - -	-		End of Borehole	@6.6 m									<del>6.6 m - S</del>	i <del>P   refusal</del>			761-
- 																	760
																759	
		Notes:			<u> </u>	1		1					1			1	1
16/11/2022	2	Target depth of Borehole backt	f 30 m not achi filled with bento	eved. Sloughing obse onite chips.	rvec	l to a de	pth of	5.1 m	upon	comp	oletion		Logged E Reviewe	By: d By:		<u>C. Braur</u> T. Curtis	<u>1</u>



PROJECT NUMBER         1560-193-00         PROJECT LOCATION         NE 1/4 32-19-16           DATE STARTED         0307/2022         COMPLETED         0307/2022         GROUND ELEVATION         764.43m         N         5611308.000         E         416           DRILLING CONTRACTOR         Chilako Drilling Services Ltd.         GROUND WATER RELEVATION / DEPTH	
DATE STARTED 0307/2022 COMPLETED 0307/2022 GROUND ELEVATION 764.43m N 5611308.000 E 416 DRILLING CONTRACTOR Chilako Drilling Services Ltd. GROUND WATER ELEVATION / DEPTH DRILLING METHOD 6* SSA DATE GROUND WATER RECORDED	
DRILLING CONTRACTOR       Chilako Drilling Services Lid.       GROUND WATER RELEVATION / DEPTH         DRILLING METHOD       0° SSA       DATE GROUND WATER RECORDED         Date GROUND WATER RECORDED       0° SSA         Date GROUND WATER RECORDED       0° SSA         Description       0° SSA         Description       0° SSA         Description       0° SSA         Description       0° SSA         CLAY TILL, trace silt, moist, stiff, medium plastic, brown, trace organics       AU1         SPT (N) Blows 300 mm       10 20 30 400         POOKET PEN (Page)       0° SSA         Drown, trace organics       AU1         SPT (N) Blows 300 mm       10 20 30 400         POOKET PEN (Page)       0° COKET PEN (Page)         SPT (N) Blows 300 mm       10 20 30 400         Provent, trace organics       AU2         SPT (N) Pasic, extremely weak hown, moist, stiff, medium plastic, brown to dark brown, moist, supper time suphate inclusions         SPT (N) Plastic, extremely weak, fissured, suspect white sulphate       AU4         SPT (N) Plastic, extremely weak, fissured, suspect white sulphate inclusions       16.6         SPT (N) Plastic, extremely weak, fissured, suspect white sulphat	64.200
DRILLING METHOD       6° SSA       DATE GROUND WATER RECORDED         90       Soil       0       Soil       0       Moisture content       H PLASTIC - LIQUID       REMARKS         90       0       CLAY TILL, trace silt, moist, stiff, medium plastic, brown, trace organics       0	
Image: Construction       Soil Description       Image: Construction of the provided state of the provide	
CLAY IILL, trace silt, moist, stift, medium plastic, brown, trace organics AU1 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU3 AU4 SPT1 AU3 AU4 SPT1 AU3 AU4 SPT2 AU3 AU4 SPT3 AU5 SHALE, clayey, silty, highly weathered, light grey, damp, high plastic, extremely weak, fissured, suspect white sulphate inclusions AU4 SPT3 AU4 SPT3 AU4 SPT3 AU4 SPT3 AU4 SPT3 AU4 SPT3 AU4 SPT3 AU4 SPT3 AU4 SPT3 AU4 SPT3 AU4 SPT3 AU5 SPT3 AU4 SPT3 AU5 SPT3 AU4 SPT3 AU5 SPT3 AU4 SPT3 AU5 SPT3 SPT3 AU5 SPT3 A	Instrument Elevation (m)
AU1 AU2 SHALE (Weathered, low not dark brown, moist, high plastic, extremely weak, blocky, oxide staining, gypsum crystals, suspect white sulphate inclusions AU4 AU2 SPT1 AU2 AU3 AU4 SPT2 AU4 AU4 SPT2 AU4 SPT2 AU4 AU4 SPT2 AU4 AU4 SPT2 AU4 AU4 SPT2 AU4 AU4 SPT2 AU4 AU4 AU4 AU4 AU4 AU4 AU4 AU4	
SPT1 22 inclusions inclusions inclusions inclusions inclusions AU3 17.5 AU3 17.5 AU3 17.5 AU3 17.5 AU3 17.5 AU4 SPT2 17 AU4 SPT2 17 AU5 AU4 SPT2 17 AU5 AU4 SPT2 17 AU5 AU6 SPT3 77 SHALE, clayey, silty, highly weathered, light grey, damp, high plastic, extremely weak, fissured, suspect white sulphate inclusions End of Borehole @5.1 m AU6 AU7 AU6 AU6 AU6 AU6 AU6 AU6 AU6 AU7 AU6 AU6 AU6 AU6 AU7 AU7 AU8 AU8 AU8 AU8 AU7 AU7 AU8 AU8 AU8 AU8 AU7 AU8 AU7 AU8 <td>764—</td>	764—
AU3 AU3 AU3 AU3 AU3 AU3 AU3 AU3	
AU4 AU4 SPT2 AU5 AU5 AU5 AU5 AU5 AU5 AU5 AU6 SPT3 AU5 AU6 SPT3 AU6 SPT3 AU6 SPT3 AU6 SPT3 AU6 SPT3 AU6 AU6 AU6 AU6 AU6 AU6 AU6 AU6	762
AU5 AU5 AU5 AU5 AU5 AU5 AU5 AU5	
AU5 AU6 SPT3 SHALE, clayey, silty, highly weathered, light grey, damp, high plastic, extremely weak, fissured, suspect white sulphate inclusions End of Borehole @5.1 m AU5 AU6 SPT3 T7 AU5 I8.3 I AU6 I8.3 I I I I I I I I I I I I I	761-
AU6 SPT3 77 18.3 H AU6 SPT3 77 18.3 H AU6 SIT ST	
-7 Auger top drive U-joint broken	760
	756
Notes:       Target depth of 39 m not achieved. Minor sloughing observed upon completion. Borehole backfilled with bentonite chips.         Logged By:       C. Br         16/11/2022       Reviewed By:	aun rtis



CLIE	ENT			Eastern Irrigation District			_ PRC	JECT	NAME	S	Snake Lake Reservoir Exp	oansion	
PRC	OJE	CT NUMBER		1560-193-00			_ PRC	JECT			NE 1/4 32-19-16		
DAT	ES	TARTED	07/19/2022	COMPLETED	07/19	9/2022	_ GRO	DUND	ELEVATION	764.47m	N 5611196.000	<u>= 416863.600</u>	0
DRI	LLIN	IG CONTRACT	OR	Val's Drilling			GR0	DUND	WATER ELEVAT	ION / DEPT	н		
DRI	LLIN	IG METHOD		6" SSA			_ DAT	E GR	OUND WATER RE	ECORDED			
Depth (m) SOIL SYMBOL			Soil Descript	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows/ 10 20 3</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	DNTENT QUID 300 mm 30 40 00 400 (KPa)	REMARKS	Standpipe/ Instrument Flevation	Elevation (m)
		LAY TILL, silty m, high plasti aining, gypsu 0.7 m - sand p 1 m - some sa HALE (Weath eathered, ligh loist, high plas tratified coal s ystals, sand p 2.2 m - becon d some sand 2.5 m - becon	y, trace to son c, brown, coa m crystals bockets to 30 and to sandy ered), clay ar t brown with c stic, extremely taining, oxide bockets ning orange d ning light grey End of Borehole	ne sand, moist, soft to I staining, oxide mm d silt, completely Jark grey mottling, r weak, blocky, finely staining, gypsum ue to severe oxidation r with brown mottling c @3.0 m		AU1 AU2 AU3 AU4					2.7 m - LL = 68.4% PL = 15.4% PI = 53.0%	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	764 763 762 762 760 759 758 758 755
	N	otes:											
16/11/2022	N N ol	/etland: Targe bserved upon	t depth of 39 i completion. E	n not achieved. No se Borehole backfilled with	epa( i bei	ge obser ntonite c	∿ed u∣ hips.	oon c	ompletion. No s	loughing	Logged By:	J. Boyd T. Curtis	

# an **Englobe** company

	CLIEI	NT		Eastern Irrigation District			PR	OJECT	NAME	Snake Lake Reservoir Expans	ion
1	PRO	JECT NUMBER		1560-193-00			_ PR	OJECT		NE 1/4 32-19-16	
ı	DATE	STARTED	03/08/2022	COMPLETED 0	03/0	8/2022	GR	OUND	ELEVATION 767.57r	n <u>N 5611109.000</u> E	416859.500
1	DRILI	LING CONTRACT	OR	Chilako Drilling Services	s Lto	d.	GR	OUND	WATER ELEVATION / DEP	н	
I I	DRILI	LING METHOD		6" SSA			DA	TE GRO	OUND WATER RECORDED		
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm 10 20 30 40 100 200 300 400 POCKET PEN (kPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
-1 -1 -2 -3 -4 -5 -6 -7		CLAY TILL, gra subrounded up brown 0.6 m - 100 m 1 m - moistur 1.1 m - becor coal specs, trac 2 m - 200 mm well graded, loc 2.3 m - fine a dark brown, hat SHALE (Weath completely weath plastic, extrement plastic, extrement	avely, some sa to 50 mm, dr nm sand layer e increasing ning some gra ce white sulph n layer of SAN ose, brown wit ngular gravel rd, trace gyps nered), clay ar athered, dark l ely weak, bloc	and, Gravel is y, stiff, medium plastic, , silty, some clay avel, oxidation staining, ates ID, medium grained, th oxidation staining up to 5 mm, becoming um crystals ID silt, trace sand, brown, moist, high sky		AU1 AU2 AU3 AU4 AU5 AU6 SPT3	78	4.5 11.4 21.0 20.9 24.9 20.0		0.6 m - Organic Content = 1.9% 0.6 m - Sand = 47.3% Silt = 32.9% Clay = 19.8% 1.2 m - LL = 37.4% PL = 15.1% PI = 22.3% 3 m - no SPT recorded due to sloughing 3.7 m - EC: 0.7 dS/m 3.7 m - SAR: 7.1 3.7 m - SAR: 7.1 m - SAR: 7.	767- 766- 765- 764- 763- 763- 763- 763- 763- 763- 763- 763
										_	/ 38-
		Notes:									
16/11/2022	2	Target depth of with bentonite	f 33 m not ach chips.	ieved. Minor sloughing	ob	served ι	ipon c	omple	tion. Borehole backfilled	Logged By:	C. Braun T. Curtis



(		IT		Eastern Irrigation District			_ PRO	OJECT	NAN	1E	_		Sn	ake Lake Reservoir Expans	ion	
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	OJECT	LOC	ATION	_ ۱			NE 1/4 32-19-16		
[	DATE	STARTED	03/08/2022	COMPLETED 0	)3/0	8/2022	_ GR	OUND	ELE	VATIO	Ν.	766	.80m	N 5611008.000 E	416858.9	900
[	ORILL	ING CONTRACTO	DR	Chilako Drilling Services	s Lto	ł.	GR	OUND	WAT	ER EL	EVATI	ON / E	EPTH			
[	ORILL	ING METHOD		6" SSA			_ DAT	E GRO	DUNI	D WAT	ER RE	CORI	DED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLASTI SPT (N) <u>10 2</u> POCKE	IRE CO C - LIQ Blows/3 20 30 7 PEN (	NTEN UID 300 mn 0 40 kPa)	- 1 2) 0	REMARKS	Standpipe/ Instrument	Elevation (m)
- - - - - - - - -		CLAY TILL, san 40 mm, Sand is medium plastic,	dy, trace sub medium grai brown, some	rounded gravel up to ned, damp, stiff, low to a oxidation staining	æ	AU1		5.4	•							766-
-		1.2 m - becom	ing some gra coal specks	ivel	-= 	AU2		13.3		•						-
_2		SAND, clayey, s up to 10 mm, w loose, brown, so	some silt, son ell graded, m ome oxidatior	ne subrounded gravel edium grained, moist, n staining/	▲ =	AU3	6	20.2			•		1  1	.5 m - Gravel = 10.9% .5 m - Sand = 45.7% Silt = 19.1%		765
-	· · · · ·	SHALE (Weathere highly weathere extremely weak	d silt, trace sand, t, high plastic,	Ŧ	AU4		16.8		•				Clay = 24.3%		764-	
-3	·			X	SPT2	82						3	m - Sand = 0.3% Silt = 59.0%			
		E	∙@3.5 m									3	Clay = 40.7% .5 m - SPT/auger efusal		763 762 761 760 759 759 758 758	
	1	Notes: Target depth of	33 m not ach	ieved. Minor sloughing	ob	served u	pon c	omple	tion.	Borel	hole b	ackfil	led			
16/11/2022		with bentonite c	hips.										L	.ogged By:	<u>C. Braun</u> T. Curtis	<u> </u>



CLIENT		Eastern Irrigation District				_ PRO	OJECT	NAME	nake Lake Reservoir Expansion	
PROJECT NUMBER		1560-193-00				_ PRO	PROJECT LOCATION		NE 1/4 32-19-16	
DATE STARTED		03/11/2022 COMPLETED 03/11/2022			_ GR	OUND	ELEVATION766.09n	N_5610908.000 E	416858.500	
DRILLING CONTRACTOR Chilako Drilling Service			s Ltd.		GR	_GROUND WATER ELEVATION / DEPT		н		
DRILLING METHOD 6" SSA						DAT	E GR	OUND WATER RECORDED		
Depth (m) SOIL SYMBOL	Soil Description			Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm         <ol> <li>20 30 40</li> <li>100 200 300 400</li> <li>POCKET PEN (kPa)</li> </ol> </li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
	CLAY TILL, gra grained sand, G trace fine angul plastic, brown, s white sulphate i SHALE (Weath completely wea staining, moist, weak, blocky, SHALE, clayey, high plastic, ext	vely, some m Bravel is subr ar gravel, mo some oxidatic inclusions ered), clay ar thered, brown medium to hi silty, highly v remely weak	edium to coarse punded up to 50 mm, ist, very stiff, medium on staining, suspect ad silt, trace sand, n, some oxidation gh plastic, extremely veathered, grey, moist, fissured		AU1 AU2 SPT1 AU3 AU4 SPT2 AU5 AU6 SPT3	29 78 50	4.9 5.7 20.6 16.8 13.0 12.6		1.2 m - LL = 38.7% PL = 9.8% PI = 28.9% 5.1 m - SPT/auger refusal; 50 blows for 6"	766– 765– 764– 763– 763– 763– 763– 763– 763– 763– 763
	N - 4								]	
- 16/11/2022	Notes: Target depth of with bentonite c	36 m not ach hips.	ieved. Minor sloughing	ob	served ι	ipon c	omple	tion. Borehole backfilled	Logged By: Reviewed By:	C. Braun T. Curtis


	CLIE	NT		Eastern Irrigation District			_ PR	OJECT	NAMESn	ake Lake Reservoir Expansi	on
l	PROJ	JECT NUMBER		1560-193-00			_ PR	OJECT		NE 1/4 32-19-16	
l	DATE	STARTED	03/11/2022	COMPLETED	03/1	1/2022	_ GR	OUND	ELEVATION 767.06m	N 5610808.000 E	416858.200
	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	OUND	WATER ELEVATION / DEPTH	764.80 m	2.26 m
	DRILI	LING METHOD		6" SSA			_ DA	TE GR	OUND WATER RECORDED	09/15/2022	
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>POCKET PEN (kPa)</li> </ul>	REMARKS	Elevation (m)
-		SAND, trace si loose, brown, t	lt, well graded race roots hair	, fine grained, damp, s							
- - - -		~			=	AU1		3.7	•		
		•			=	AU2		3.0	•		/66
-					X	SPT1	4		•		
-2		CLAY TILL, sar gravel, moist, s	ndy, trace silt, stiff to very stiff	trace subangular , low plastic, brown,	-	AU3		22.3	₽	.1 m - LL = 19.0% PL = 8.3%	Z 765-
-		coal specs, oxi SHALE (Weath	de staining iered), clay an	d silt, trace sand,	-	AU4		23.2	•	PI = 10.7%	
-3	·	completely wea plastic, extreme	athered, greyis ely weak, bloc	sh brown, moist, high ky	X	SPT2	19		•		764
-	·	3.7 m - becor	nina brownish	arev		AU5		19.4	•		
-4		SHALE, clayey	, silty, highly w	veathered, light brown		A.U.C		110			763—
-		weak, fissured	nina arev	ligit plastic, very	V	AUO	50	14.0	4	.6 m - Dispersivity	
5 5			inig groy			SP13	50	10.7	4	.6  m - EC:  2.4  dS/m	762-
-						AU7		12.7	4	.6 m - SAR: 18.4 6 m - pH: 8.3	
-6		-			=	AU8		12.3	•	PL = 15.1%	761—
-		 			X	SPT4	50		•5	2  m - 57.5% 2  m - Sand = 2.0%	-
			End of Borehole	e @6.6 m	1					Clay = 40.0%	
—7 											760-
-											
8											759-
-											
-											
-9											758-
-											
-											
		Notes <sup>.</sup>									
		Target depth of with sand and l	33 m not ach	ieved. Minor sloughing s. 50 mm standpipe ing	ob: stall	served u ed to a c	pon c lepth	omple of 3.0	tion. Borehole backfilled m.	agged By:	Drown
									L	oggea ву: <u>С</u> Reviewed Bv: 1	. Braun
16/11/2022	2										



(	CLIEN	NT		Eastern Irrigation District			_ PR	OJECT	NAME		Sn	ake Lake Reservoir Exp	ansion	1	
Г	PROJ	ECT NUMBER		1560-193-00			_ PR	OJECT	LOCATION			NE 1/4 32-19-16			
ſ	DATE	STARTED	03/11/2022	COMPLETED	03/1	1/2022	GR	OUND	ELEVATION	767.2	27m	N 5610709.000 E	41	6857.8	300
Г	ORILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	OUND	WATER ELE	EVATION / DE	PTH				
1	ORILL	ING METHOD		6" SSA			DA	E GR	OUND WATE	ER RECORDI	ED				
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTUI</li> <li>PLASTIC</li> <li>SPT (N) I</li> <li>10 20</li> <li>100 20</li> <li>POCKET</li> </ul>	RE CONTENT C - LIQUID Blows/300 mm 0 30 40 0 300 400 - PEN (kPa)		REMARKS		Standpipe/ Instrument	Elevation (m)
F	///	CLAY and SILT	, trace sand, t dium plastic li	race gravel, damp, oht brown_trace root											767-
ļ   E	///	hairs	alam placeto, il	gin brown, addo root	-	AU1		7.2	•						-
-1		SAND, clayey,	some silt, wel	graded, fine grained,											-
F		moist, loose, bi	rown, some ox	dation staining	=	AU2		5.6	•						766-
F					Y	SPT1	12								-
2						A113		12.2				$P_1 = 0.2\%$			-
Ē		2.3 m - wet			-	A03		13.5			2	2.1  m - Sand = 59.5%			765-
F   F		2.5 m - SEEF	AGE	d silt_trace sand	-	AU4		24.8		•		Silt = 16.5% Clav = 23.8%			-
-3		completely wea	athered, light k	prown to dark grey	V	CDT2	25				2	2.7 m - Sand = 11.2%			
F	··	mottling, moist, blocky	, high plastic, e	extremely weak,		3612	25			-		Sint = 44.7% Clay = 44.1%			764
ļ		SHALE, clayey	, silty, highly v	veathered, grey, moist,											-
-4		high plastic, ex	tremely weak,	fissured											-
Ē															/03
F					X	SPT3	50								-
5 			End of Borehole	e @5.1 m											762
F   F															-
6															
															761-
F															-
-7															-
F															760-
F															-
-8															-
															759
c   E															-
—9 —															750
E I															/58-
F															-
		N la fa a													
		Target depth of observed upon	f 33 m not ach completion. E	ieved. Seepage obser Borehole backfilled with	ved i be	at a dep ntonite c	oth of 2 chips.	2.5 m.	Minor slou	ghing	L	.ogged By:	J.	Boyd	
16/11/2022	!										F	Reviewed By:	<u> </u>	Curtis	



(	CLIEN	NT		Eastern Irrigation District			_ PRO	DJECT	NAME		Snake Lake Reservoir Expar	nsion	
1	PROJ	IECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16		
1	DATE	STARTED	03/11/2022	COMPLETED	)3/1 <sup>-</sup>	1/2022	GR	DUND	ELEVATION	767.74m	N 5610609.000 E	416856	j.900
1	DRILI	ING CONTRACT	OR	Chilako Drilling Service	s Ltc	ł.	GR	DUND	WATER ELEVA	TION / DEPT	н		
1	DRILI	ING METHOD		6" SSA			DAT	E GR	OUND WATER F	RECORDED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LI</li> <li>SPT (N) Blow</li> <li>10 20</li> <li>100 200</li> <li>POCKET PEN</li> </ul>	CONTENT IQUID s/300 mm 30 40 300 400 N (kPa)	REMARKS	Standpipe/ Instrument	Elevation (m)
		CLAY, sandy, s plastic, brown,	ity, very moist trace root hair	, soft, low to medium S	-	AU1		3.5	•				767-
- 1 		1 m - trace to	some silt		-	AU2		2.9	•				
	<u>/</u>	SAND some d	lav woll grado	d fine grained moist	X	SPT1	3		•				766-
-2		loose, brown	ia staising	a, me gramea, moist,	-	AU3		2.6	•		2.1 m - Organic		-
_		2.1 m - organ 2.5 m - becon	ning wet			ΔΗΛ		15.0			2.1  m - Gravel = 0.5%		765
-3	<u> </u>	2.7 m - SEEP SHALE (Weath	'AGE iered), clay an	d silt, trace sand,		0.07		15.5	_		Silt = $8.8\%$		
		completely wea mottling, moist,	athered, light b , high plastic, א	rown to dark grey ⁄ery weak,		SP12	23		•		3 m - Dispersivity		
		discontinuity \.3.2 m - red la SHALE, silt and highly weathere weak, fissured	minations d clay, trace fir ed, grey, moist	e grained sand, , high plastic, very	=	AU5 AU6 SPT3	50	8.3 13.8	•		Classification = ND4 3 m - EC: 1.4 dS/m 3 m - SAR: 13.5 3 m - pH: 8.5 3.7 m - LL = 75.4% PL = 18% PI = 57.4%		764
6			End of Borehole	@5.2 m	-						3.7 m - Sand = 9.2% Silt = 46.2% Clay = 44.6% 5.1 m - SPT refusal; 50 blows for 5"		762
-													761-
													-
_													760-
8													
_													-
_													759-
-9													-
-													-
-											-		758
		Notes:							<u> </u>		<u> </u>		
		Target depth of observed upon	<sup>:</sup> 33 m not ach completion. B	eved. Seepage observ orehole backfilled with	/ed bei	at a dep ntonite c	oth of 2 chips.	2.7 m.	Minor sloughii	ng	Logged By:	<u>C. Brau</u>	<u>n</u>
16/11/2022													3



		NT		Eastern Irrigation District			_ PR	OJECT	NAME		_		S	Snake Lake Reservoir Exp	ansion		
1	PROJ	ECT NUMBER		1560-193-00			_ PR	OJECT	LOCA	TION	_			NE 1/4 32-19-16			
l (	DATE	STARTED	03/11/2022	COMPLETED 0	3/1	1/2022	_ GR	OUND	ELEVA	TION	_	767	.52m	N 5610509.000 E	41	6854.4	400
l 1	ORILL	ING CONTRACT	OR	Chilako Drilling Services	s Lto	d.	GR	OUND	WATE	R ELE	VATIO	ON / E	EPTI	н			
ı	ORILL	ING METHOD		6" SSA			DA	re gro	OUND	WATE	R RE	CORI	DED				
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MC</li> <li>⊢ PL</li> <li>■ SP</li> <li>100</li> <li>▲ PC</li> </ul>	DISTUR ASTIC T (N) B 0 200 0 200 DCKET	RE COI - LIQU lows/3 30 9 30 PEN (H	NTEN] JID 00 mm ) 4( 0 40 ∢Pa)	- 1 0	REMARKS		Standpipe/ Instrument	Elevation (m)
-1		CLAY TILL, sar brown, with oxis sulphate inclus SAND, silty, cla moist, loose to 2 m - becomin 2 m - becomin 2.4 m - SEEP 2.9 m - trace CLAY TILL, silty plastic, light bro specks, oxide s inclusions 3.6 m - becon SHALE (Weath weathered, ligh high plastic, ext	idy, trace silt, dation specks ons yey, well grac compact, bro ing medium gr AGE, organic gravel y, some sand, own to dark gr taining, susp ning grey, firm ered), clay ar t brown to da tremely weak End of Borehole	moist, stiff, low plastic, s, suspect white ded, fine grained, wn ained staining wet, stiff, medium rey mottling, coal ect white sulphate n, trace sand nd silt, completely rk grey mottling, moist, blocky a @5.4 m		AU1 AU2 SPT1 AU3 AU4 SPT2 AU5 AU6 SPT3 AU7	7 8 50	6.5 8.7 17.5 17.4 21.1 13.6 14.9		•			→ →	0.6 m - Organic Content = 1.8% 0.6 m - Sand = 50.0% Silt = 29.2% Clay = 20.8% 9L = 12.2% PL = 12.2% PI = 30.7% 3.7 m - Sand = 31.3% Silt = 39.4% Clay = 29.3% 4.6 m - SPT refusal; 5 blows for 6"	0		767- 766- 765- 764- 763- 763- 763- 763- 764- 763- 764- 763- 764- 765- 764- 765- 765- 765- 765- 765- 765- 765- 765
																	-
		Notes:															L
16/11/2022	!	Target depth of observed upon	33 m not ach completion. I	ieved. Seepage observ Borehole backfilled with	ed be	at a dep ntonite c	oth of 2 chips.	2.4 m.	Minor	sloug	ghing			Logged By:	<u> </u>	<u>3raun</u> Curtis	



	CLIEI	NT		Eastern Irrigation Distric	t		_ PR	DJECT	NAM	1E	_		S	Snake L	ake Re	servoir E	xpansi	on	
	PRO	JECT NUMBER		1560-193-00			_ PR	DJECT	LOC	ATION	_ ۱				NE 1/4	32-19-1	6		
	DATE	STARTED	03/10/2022	COMPLETED	03/1	0/2022	_ GR	DUND	ELE\	/ATIO	N	767	'.46m	N	56104	06.900	Ε	416852	2.100
	DRIL	LING CONTRACT	OR	Chilako Drilling Service	es Lte	d.	GR	DUND	WAT	ER EL	EVAT	ION / E	DEPT	Η					
	DRIL	LING METHOD		6" SSA			_ DA	E GR	DUNE	D WAT	ER RI	ECORI	DED						
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M	//OISTU PLAST SPT (N) 10 2 00 2 POCKE	JRE CC IC - LIC Blows/ 20 3 T PEN	0NTEN QUID 300 mn 30 40 00 40 (kPa)	Г D D		REN	IARKS		Standpipe/	Elevation (m)
-		SAND, silty, tra	ice clay, well g t. brown	raded, fine grained,															-
		•	., 2.0		-	AU1		6.3	•										767-
- 1		•																	-
-		1.1 m - moist	ure increasing		=	AU2		26.0			•								766
-		•			X	SPT1	2		•										
<u>-</u> 2		2.1 m - and s	ilt some clav			AU3		28.6			•			2.1 m	- Sano	1 = 43.9	%		
		2.2 m - becor	ning medium	grained											Silt =	39.4%	/_		765
F.		2.8 m - SEEF	AGE		-	AU4		25.4			•				Oldy	- 10.7 /	10		
-3		CLAY TILL, sai	ndy, some silt,	trace fine grained	Í	SPT2	15												
-		gravel up to 30	mm, moist, fi	rm, medium plastic,															764-
-4		brown, some o	xidation staini	ng		AU5		16.0		••				3.7 m	- LL = PL =	48.0% 16.6%			-
-		SHALE (Weath	nered), and sill	, clayey, sandy,	-	AU6		23.1		⊢	•		-1	43 m	PI =	31.4% 43.4%			-
-	·	completely wea	athered, light b medium plas	brown to dark grey tic, extremely weak.			00							4.0 m	PL =	13.1%			/63-
-5	··	blocky	,	, <b>,</b> ,		5013	30							4.3 m	PI = - Sano	30.3% d = 28.3	%		-
-		•			=	AU7		13.8		•					Silt = Clav	= 43.4% = 28.39	6		762-
	·	-				AU8		12.0		•				4.6 m	- Disp	ersivity			
6 -	·	• 												4.6 m	- EC:	$n = ND^{\circ}$ 2.5 dS/r	n n		
-	·	•			_\▲	SP14	50							4.6 m 4.6 m	- SAR - pH: {	: 15.1 3.0			761-
			End of Borehole	e @6.6 m										-	•				-
Ę																			-
-																			760-
-8																			-
-																			759-
-																			100
9 9																			-
-																			758-
E																			-
		Notes:	f 33 m not och	ieved Seenage chast	vod	at a dor	th of f	) g m	Slov	ahina	1 obs/	anvod	too						
		depth of 2.7 m	upon complet	ion. Borehole backfille	d wi	ith bento	nite ch	nips.	0100	gung	, 0056	a veu	10 a	Logge	d By:		C	. Brau	in_
16/11/0000														Review	wed B	y:	Г	. Curti	s
10/11/2022	<u>.</u>																		



	CLIE	NT		Eastern Irrigation District		_ PRO	DJECT	NAM	IE	_		Snal	ke Lake R	eservoir Exp	ansior	1		
	PROJ	IECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	ATION	ı _			NE 1/-	4 32-19-16			
1	DATE	STARTED	03/09/2022	COMPLETED	)3/0	9/2022	_ GRO	DUND	ELEV	ATIO	N.	767.7	4m	N_5610	310.000 E	<u> </u>	6849.0	000
	DRILI	LING CONTRACT	OR	Chilako Drilling Services	s Lto	d.	GR0	DUND	WATI	ER EL	EVATI	ON / DE	PTH _					
	DRILI	LING METHOD		6" SSA			DAT	E GR	DUNE	WAT	ER RE	CORDE	D					
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S	10ISTU PLASTI PT (N) 10 2 00 2 OCKE	JRE CC C - LIQ Blows/3 20 30 7 PEN (	NTENT UID 300 mm 0 40 00 400 kPa)		RE	MARKS		Standpipe/ Instrument	Elevation (m)
-		SAND, silty, so grained. moist.	me clay, well g loose, brown	graded, medium														_
					-	AU1		2.9	•									
- 1		•																/0/
-		•			=	AU2		2.9	•									-
-		1.5 m - moist	ure increasing		Y	SPT1	2		-									766-
-2		2.1 m - trace	seenage			AU3		3.2	•					l m - Sar	nd = 50.8%	,		-
-		2.1 111 - 11400	seepage											Silt	= 32.5%			-
Ē		•			æ	AU4		5.9	•					Cia	y = 10.778			765-
-3					Y	SPT2	4		•									-
											_							
-4	ŝ	SAND and GR	AVEL, Sand is	medium grained,	=	AU5		22.6			•							/64
	00	Gravel is well r	ounded up to	40 mm, poorly graded,	-	AU6		18.3		•								_
E	·	SHALE (Weath	iered), clay an	d silt, trace sand,		ODTO	<b>F7</b>						4.6	3 m - Dis	persivity			763-
5	·	completely wea weak, blocky	athered, grey,	high plastic, extremely		5P15	57						4.6	6 m - EC	2.5 dS/m			-
-	······				=	AU7		16.5		•			4.6 4.6	6 m - SAI 6 m - pH:	R: 13.3 7.7			-
-	·	-			-	AU8		14.9		•			5.8	3 m - LL :	= 54.3%			762-
6	·	-			V	0.074	50							PL :	= 14.6% - 39.7%			-
Ē		•				SP14	50						6.6	<del>) m - SP</del>	– 55.7 % <del>F refusal: 5</del>	.0		-
-7			End of Borehole	@6.6 m									blo	ows for 4				761-
																		-
-																		760-
-8																		
-																		
-																		759-
-9																		-
-																		758
		Notos:																
		Target depth of	33 m not ach	ieved. Seepade observ	/ed	at a der	oth of 2	2.1 m	Slou	ahina	i obse	rved to	а					
		depth of 4.1 m	upon complet	ion. Borehole backfilled	d wi	th bento	nite ch	nips.		J9			Lo	gged By:		С.	Braun	ı
16/11/2022	2												Re	viewed E	Ву:	<u> </u>	<u>Curtis</u>	
L																		



(		NT		Eastern Irrigation District			PR	OJECT	NAN	1E	_		S	Snake La	ake Reservoir Expa	insion		
F	PROJ	ECT NUMBER		1560-193-00			PR	OJECT	LOC	ATION	_ ۱			١	NE 1/4 32-19-16			
[	DATE	STARTED	06/27/2022	COMPLETED	06/2	7/2022	GR	OUND	ELE	/ATIO	N	765	5.44m	N	5610209.900 E	41	6846.	200
[	ORILL	ING CONTRACT	OR	Val's Drilling			GR	OUND	WAT	ER EL	EVAT	ION / E	DEPT	Η				
[	ORILL	ING METHOD		6" SSA			_ DA	TE GR	OUNI	) wat	ER RI	ECOR	DED					
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLAST SPT (N) 10 2 200 2 200CKE	JRE CC IC - LIC Blows/ 20 3 7 PEN	ONTEN QUID 300 mn 30 4 00 40 (kPa)	Г ) ) 0		REMARKS		Standpipe/ Instrument	Elevation (m)
		CLAY TILL, silt up to 15 mm, n oxidation staini inclusions, san SHALE (Weath completely wea brown, moist, h soil, blocky, sus SHALE, clayey medium plastic	y, trace sand, noist, stiff, low ng, suspect w d pockets hered), clay ar athered, dark l high plastic, ex spect white su spect white su , silty, highly v , extremely w PAGE End of Borehole	trace rounded gravel plastic, brown some hite sulphate d silt, trace sand, prown to greyish tremely weak to hard liphate inclusions veathered, damp, eak to hard soil		AU1 AU2 SH1 AU3 AU4 SPT1 AU5 AU6 SPT2	61							2.1 m - Classif 2.3 m - 2.3 m - 2.7 m - 2.7 m -	- Dispersivity fication = ND3 - EC: 11.1 dS/m - SAR: 45.7 - pH: 7.9 - LL = 99.0% PI = 23.5% - Sand = 0.1% Silt = 53.7% Clay = 46.2%			765- 764- 763- 761- 760- 759- 758- 757-
- - - - - - - - - - - - - - - - - - -		Notes: Wetland: Targe sloughing obse	t depth of 36 prved upon co	m not achieved. Seepa mpletion. Borehole bac	ge	observe ed with	d at a bentor	depth	of 4	8 m.	Minor			Logged	d By:	С. Е Т. С	<u>Braun</u> Curtis	1 1



CLIEN	т		Eastern Irrigation Distric			PR0	OJECT	NAME	Snake Lake Reservoir Expans	sion
PROJE	ECT NUMBER		1560-193-00			_ PRO	JECT		NE 1/4 32-19-16	
DATES	STARTED	03/10/2022	COMPLETED	03/1	0/2022	GR	OUND	ELEVATION765.44	<u>m N 5610110.000</u> E	416843.900
DRILLI	ING CONTRACT	OR	Chilako Drilling Service	es Lto	d.	GR	OUND	WATER ELEVATION / DEI	ΎН	
DRILLI	ING METHOD		6" SSA			DA1	E GR	OUND WATER RECORDE	D	
Depth (m) SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>POCKET PEN (kPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
	plastic, brown, inclusions up to	trace suspect 5 15 mm	white sulphate	-	AU1 AU2		10.0 10.1	• •	 1.2 m - LL = 65.3%	765
	SHALE (Weath completely wea plastic, extreme suspect white s	nered), clay an athered, dark l ely weak, bloc sulphate inclus	d silt, trace sand, prown, moist, high ky, gypsum crystals sions, oxide staining	-	SPT1 AU3	10	26.9	•	PL = 15.7% PI = 49.6%	763
	2.7 m - trace SHALE, silt and high plastic, ve	fine grained s d clay, highly v ry weak, fissu	and veathered, grey, moist red	, ,	AU4 SPT2	57	26.8	•		762
				<b>₽</b>	AU5 AU6		23.4 21.3	•	3.7 m - EC: 2.0 dS/m 3.7 m - SAR: 18.7 3.7 m - pH: 8.6 3.7 m - Sand = 0.4% Silt = 56.5%	761
		End of Borehole	e @5.1 m		SPT3	50			• Clay = 43.1%	760- 759- 758- 757- 756-
16/11/2022	Notes: Target depth of with bentonite o	36 m not ach chips.	ieved. Minor sloughing	g ob	served ı	ipon c	omple	tion. Borehole backfilled	Logged By:	C. Braun T. Curtis



	CLIEN	T		Eastern Irrigation District			_ PRO	DJECT	NAM	E		S	nake La	ake Reservoi	r Expan	sion		
	PROJ	IECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	ATION			1	NE 1/4 32-19	-16			
1	DATE	STARTED	03/10/2022	COMPLETED	03/1	0/2022	_ GRO	DUND	ELEV	ATION	ı _;	768.63m	N	5610010.000	) E _	4168	38.4	00
	DRILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	ł.	GR	DUND	WATE	ER ELE	EVATION	/ DEPTH	Η					
	DRILL	ING METHOD		6" SSA			_ DAT	E GRO	DUND	WATE	ER RECO	ORDED		09/	15/2022	2		
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ SI 11 ▲ P	10ISTUF PLASTIC PT (N) E 10 20 00 20 <u>0CKET</u>	RE CONTI C - LIQUID Blows/300 0 30 0 300 PEN (kPa	ENT mm 40 400		REMARK	S	□ Standbibe/	Instrument	Elevation (m)
-		SAND, trace si verv loose, bro	lt, well gradec wn	, fine grained, moist,														1.1
-					-	AU1		13.9		•								768-
1										·····								
-		1.2 m - becor	ning trace cla	y, trace fine angular	=	AU2		13.5		•								111
		gravel up to 3 n	nm		X	SPT1	6		-									767-
-2		2 m - oxidatio	on staining			AU3		15.5		•			2.1 m ·	- Sand = 87	.5%			1 - 1
-														Silt = 4.9%	, 0 0/			
					=	AU4		18.7		•				Clay = 7.6	70			766
-3		•			Y	SPT2	7											.   .
-	<u> </u>	3.4 m - SEEF	AGE		<b> </b> ▲	0											_	765
Ē,	· <u>·</u> ··	SHALE (Weath	nered), clay ar athered_dark	nd silt, trace sand, brown_some oxidation	=	AU5		21.5			•							105
-4	·····	staining, moist,	high plastic,	extremely weak,				10.2										
-		рюску SHALE, clayey	, silty, highly v	veathered, grey, damp,		A00		10.2										764—
-5		low plastic, ver	y weak, fissur	ed	X	SPT3	50											
					-	AU7		14.5		•			5.1 m blows	- SPT refus for 5"	al; 50			
-																		763-
-6					=	AU8		13.7		•								111
-					X	SPT4	50					•						111
-			End of Borehole	e @6.6 m	┤╴													762-
7																		
-																		
Ē																		761
-8																		
-																		760-
- -																		
Ę																		
																		759—
E																		
	1	Notes:																
16/11/2022	2	Target depth of observed upon installed to a de 2022	f 30 m not ach completion. I epth of 6.6 m.	ieved. Seepage obsen 3orehole backfilled with Borehole measured d	ved i sai ry o	at a dep nd and b n Augus	oth of 3 penton at 10, S	8.4 m. ite chi Septer	Mino ps. 5 nber	or sloug 0 mm 15, an	ghing standpi nd Octol	pe ber 12,	Logge Reviev	d By: wed By:		<u>C. Bra</u> T. Cu	aun Irtis	



	CLIEN	NT		Eastern Irrigation District			_ PRO	DJECT	NAME	8	Snake Lake Reservoir Expa	ansion	
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16		
[	DATE	STARTED	03/10/2022		03/1	0/2022	GRO	DUND	ELEVATION	767.06m	N 5609910.100 E	416838	.300
[	ORILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR0	DUND	WATER ELEVAT	ION / DEPT	н		
[	ORILL	ING METHOD		6" SSA			DAT	E GR	OUND WATER R	ECORDED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 20 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID 3/300 mm 30 40 300 400 I (kPa)	REMARKS	Standpipe/ Instrument	Elevation (m)
		SHALE (Weathered), and silt, clayey, trace fine grained sand, completely weathered, dark brow moist, high plastic, extremely weak, blocky, suspect white sulphate inclusions 2.2 m - moisture increasing 3.1 m - oxidation staining				AU1 AU2 SPT1 AU3	20	16.7 17.4 19.5	•		0.6 m - Organic Content = 3.0% 0.6 m - Sand = 1.6% Silt = 69.5% Clay = 28.9%		766
		2.2 m - moisture increasing 3.1 m - oxidation staining 3.7 m - trace coal specks				AU4 SPT2 AU5 AU6	22	19.5 21.4	•		3 m - Dispersivity Classification = D2 3 m - EC: 1.4 dS/m 3 m - SAR: 17.3 3 m - pH: 7.2 4.3 m - Organic Content = 6.3%		764
5 5 							27	21.1	•		4.3 m - LL = 67.5% PL = 22.0% PI = 45.5%		762
- 6 		high plastic, vei	ry weak, fissu	red	The second secon	AU8 SPT4	50	15.7	•				761
7 7 7			End of Borehole	@6.6 m									760-
													759-
9       													758
16/11/2022	2	Notes: Target depth of with bentonite of	ieved. Minor sloughing	l op:	served u	ipon co	omple	tion. Borehole	backfilled	Logged By: Reviewed By:	C. Brau T. Curtis	n	
	_				_								



(		NT		Eastern Irrigation Distric	t		_ PRO	OJECT	NAME		Snake Lake Reservoir Expa	nsion	
1	PROJ	IECT NUMBER		1560-193-00			_ PRO	JECT	LOCATION		NE 1/4 32-19-16		
(	DATE	STARTED	06/29/2022		06/2	9/2022	GR	OUND	ELEVATION	766.62m	N 5609810.000 E	416838.	200
(	ORILL	ING CONTRACT	OR	Val's Drilling			GR	OUND	WATER ELEVA	TION / DEPT	н		
1	ORILL	ING METHOD		6" SSA			DAT	E GR	OUND WATER F	RECORDED			
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LI</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200</li> <li>POCKET PEN</li> </ul>	CONTENT QUID s/300 mm 30 40 300 400 v (kPa)	REMARKS	Standpipe/ Instrument	Elevation (m)
-		CLAY TILL, silt	y, some sand	, trace gravel, moist, dark brown									-
-			o nigit plastic,			Δ111		20.3					766-
-					-			20.0					-
					=	AU2			<u> </u>		1.2 m - EC: 9.7 dS/m		
		1									1.2 m - SAR: 23.8 1.2 m - pH: 7.7		765-
2		1				SH1					1.2 m - LL = 59.9%		-
		2 m - becomi	ng residual so Istone	il or completely		AU3		20.6	•		PL = 13.6% PI = 46.3%		
-	<u> </u>	SHALE (Weath	nered), clay ar	nd silt, trace sand,	-								764-
-3	··	completely wea	athered, greyi	sh brown, some		AU4		20.8			2.7 m - LL = 75.2% PL = 19.6%		-
Ĩ	· <u>···</u> ·	weak to hard s	oil, blocky	in plastic, extremely	X	SPT2	22				PI = 55.6%		-
-	·												763-
	·					AU5		16.0	•				
-4	··	4 m - becomi	ng grey					47.0					-
_	· <u>·</u> ··	4.3 m - groun	nd up shale ind	clusions		AU6		17.2	•		4.3 m - Sand = 0.7% Silt = 58.5%		762-
					X	SPT3	43			-	Clay = 40.8%		102 -
—5 -	•—••	-	End of Borehole	e @5.1 m	- -						·		-
													761
													/01
6 -													-
													760
													/00-
—7 -													-
													750
													/ 59
8													-
-													
													758-
9 													
-													
Ē													757-
_										<u> </u>	1		
		Notes:											
		Wetland: Targe	et depth of 33	m not achieved. No se tonite chins	epa	ge or slo	oughin	g obse	erved upon co	mpletion.		a =	
		DOIGHOIG DACKI		orne ompo.							Logged By:	C. Tams	;
16/11/2022											Reviewed By:	I. Curtis	3



	CLIEN	ΝT		Eastern Irrigation District			_ PRO	OJECT	NAM	E	_		Sn	ake La	ake Reservoir E	Expans	ion	
	PROJ	ECT NUMBER		1560-193-00			_ PRO	OJECT	LOC	ATION	_			1	NE 1/4 32-19-1	6		
	DATE	STARTED	03/10/2022	COMPLETED 0	)3/1(	0/2022	_ GRO	OUND	ELEV	ATION	۱ .	768.	66m	_ N _	5609686.900	E _	41682	9.300
	DRILL	ING CONTRACT	OR	Chilako Drilling Services	s Lto	1.	GR0	OUND	WATE	ER ELE	EVATI	ON / D	EPTH		766.10 m		2.56	m
	DRILL	ING METHOD		6" SSA			_ DAT	E GR	OUND	) WATE	ER RE	CORD	ED		10/12	2/2022		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ Si 11 ▲ P	IOISTU PLASTIC PT (N) I 10 <u>2</u> 00 20 OCKET	RE CO C - LIQ Blows/3 0 30 7 PEN (	NTENT UID 300 mm 0 40 kPa)	)		REMARKS		Standpipe/	Elevation (m)
-		CLAY TILL, trac	ce fine to medi	um grained sand,														-
-		stiff, high plasti	c, brown, som	e oxidation staining	-	AU1		47	•									768-
- - 1						7.01												
		1.1 m - moist	ure increasing		=	AU2		11.4		• ⊢				.2 m ·	- LL = 54.7%			-
-					Y	SPT1	34								PL = 15% PI = 39.7%			767-
2		SHALE (Weath	iered), clay an	d silt, trace sand,		AU3		20.7			•							
Ē	· · ·	completely wea	athered, light b	rown to dark grey		1.00		20.1								1	,	
	· · · · ·	high plastic, ex	tremely weak,	blocky	=	AU4		19.6		•			2	2.7 m ·	- LL = 97.3%	1	•	766-
-3	· _ · ·	2.3 m - trace	gypsum crysta	lls	Y	SPT2	49								PL = 19.6% PI = 77.7%			-
-	·												2	2.7 m ∙	- Sand = 2.0% Silt = 48.5%	6		765-
-4	· · -				=	AU5		22.1			•				Clay = 49.5	%		/03
Ē					-	AU6		21 0			•							
-	· · ·				T	,		21.0										764-
5	·				Å	SPT3	57											
-	· · · · ·	5.2 m - trace	fine sand		-	AU7		18.0		•								
-	·				-	AU 8		18.9					5	8 m .	. Sand = 0.5%	6		763-
6 6	·				-	700		10.5						.0	Silt = 63.2%			-
-	·	65 m - SEEP	ACE		Å	SPT4	56								Clay = 36.35	/0		
		0.5 m - SEEF	AOL		-	AU9		20.3		•								762-
	·				_	AL 110		10.8										-
-	· _ · ·				-	7010		13.0										761-
-8		SHALE, clayey	, silty, highly w	eathered, grey, moist,	Å	SPT5	84											
-		high plastic, ve	ry weak, fissur refusal	red /	=	AU11		24.1			•		-					-
-		. <u>(.0.2 m 7/ugor</u>	End of Borehole	@8.3 m														760-
-9																		-
-																		
																		759-
		Notoci										i						
		Target depth of	30 m not achi	eved Seepage observ	/ed	at a der	oth of P	3.5 m	Mino	n slou	ahing	r						
		observed upon	completion. B	orehole backfilled with	sar	nd and b	penton	ite chi	ips. 5	0 mm	stan	, dpipe	L	ogge	d By:	(	C. Brau	un
16/11/2024	2	installed to dep	0111 OT 6.6 M.										F	Reviev	ved By:	-	T. Curt	is
10/11/2022	-																	



(		NT		Eastern Irrigation District			_ PR	OJECT		ΛE	_		S	nake L	ake Reservoir Ex	pansic	n	
F	PROJ	ECT NUMBER		1560-193-00			_ PR	OJECT			_ ۱				NE 1/4 32-19-16			
[	DATE	STARTED	03/23/2022	2 COMPLETED	03/2	3/2022	_ GR	OUND	ELE	VATIO	N	768	3.40m	N	5609577.900	E_4	16770.2	200
[	DRILI	ING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	OUND	WAT	ER EL	EVATI	ION / E	DEPTH	ł	765.98 m		2.42 m	
[	DRILI	ING METHOD		6" SSA			DA	re gro	OUN	D WAT	ER RE	ECOR	DED		10/12/2	2022		
Depth (m)	SOIL SYMBOL		S Desci	oil ription	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLASTI SPT (N) <u>10 2</u> 100 2 POCKE	JRE CC IC - LIG Blows/ 20 3 00 3( T PEN	DNTEN <sup>-</sup> QUID 300 mn 30 <u>4</u> 00 40 (kPa)	Г n 0 00		REMARKS		Standpipe/ Instrument	Elevation (m)
-		SAND, some si	ilt, well gra	ded, medium grained,														
_		homogeneous	se, brown,	some oxidation staming,		A111		53						0 6 m	Sand - 71 /1%			768-
-	$\sim$	CLAY TILL, sor	ne silt, trac	e sand, moist, stiff,	┤┺			5.5	-					0.0 111	Silt = 24.2%	)		-
-		medium plastic	, brown, w	ith oxidation specks, coal	=	AU2		18.1		40					Clay = 4.4%			
-		specks, silt lens	565		V	0074												767
-2						SPI1	9											
_					₽	AU3		22.8			•	•				-	;	766
-	$\leq$	SHALE (Weath	ered) clay	and silt_trace sand				21.2								-		/00
-3	· · · · ·	completely wea	athered, da	rk brown, with oxidation		A04		21.5			-			3 m - /	Artesian; water			
	·	specks, moist, l	high plastic	c, extremely weak, blocky	X	SPT2	45							level r	aised from 8.0 i	m		765-
-	· <u>··</u> ·	0.7				AU 5		10 0			• I			compl	etion.			
-4	·····	3.7 m - some	suspect w	hite sulphates	-			10.0			-			3.7 m 3 7 m	- EC: 9.8 dS/m			
_	<u> </u>				-	AU6		20.5			•			3.7 m	- pH: 6.3			764—
	·					0072	27					_		3.7 m	- LL = 69.0% PL = 22.1%			
	· <u>·</u> ··					5813	31								PI = 46.9%			-
-	···				=	AU3.7		14.2		•								763-
-	·					AL 18		15.4		•								-
-6	·							10.4										
-	· · ·				X	SPT4	71											762-
-	· · · · ·				=	AU9		15.0		•								
—7 -	· <u>·</u> ···																	
-	· <u>··</u> ·	7.2 m - becon mottling	ning some	dark brown and grey	=	AU10		15.8		•								761-
	·····																	
-8	<u></u> .	8 m - SEEPA	GE/ FREE	WATER, semi-artesian;	-	AU11		34.1		-		•		8.2 m	- EC: 12.7 dS/n	n		
-	·	8.2 m - becon	ning soft, v	vet claystone		_		-						8.2 m 8 2 m	- SAR: 32.6			760
	· <u>·</u> ··				=	AU12		34.0				•		8.2 m	- LL = 67.8%			
-	·····	9.1 m - becon		Y	SPT6	88								PL = 16.7% PL = 51.1%				
		9.5 m - SPT r	efusal															759— -
	·· —·	9.6 m - trace (	gypsum cr	ystals hole @9.8 m	1						•							
		Notes:							_									
		Target depth of	30 m not a	achieved. Artesian seepag	je o	bserved	at a d	epth o	of 8.	) m, w	ater l	evel						
		measured at 3.	0 m upon o	completion. Minor sloughi	ng c	bserved	l upon	comp		n. Boi denth	rehole	e 2 m		Logge	ed By:	C.	Braun	
16/11/2022	!				stariup	ipe ins	, an <del>c</del> u	100	uepu	. 01 0.	<u>د</u> ۱۱۱.		Revie	wed By:	T.	Curtis		



CLIENT	Eastern Irrigation Distric	t	PROJEC	T NAME	Snake Lake Reservoir Expan	sion
PROJECT NUMBER	1560-193-00		PROJEC	T LOCATION	NE 1/4 32-19-16	
DATE STARTED	03/24/2022 COMPLETED	03/24/2022		ELEVATION 769.2	<u>2m N 5609508.100 E</u>	416681.700
DRILLING CONTRACT	OR Chilako Drilling Service	es Ltd.		WATER ELEVATION / DE	РТН	
DRILLING METHOD	6" SSA		DATE GR	OUND WATER RECORDE	D	
Depth (m) SOIL SYMBOL	Soil Description	Sample Type Sample Number	SPT (N) Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>⊢ PLASTIC - LIQUID</li> <li>■ SPT (N) Blows/300 mm 10 20 30 40 100 200 300 400</li> <li>▲ POCKET PEN (kPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
up to 30 mm, or sand pockets,	indy, slity, trace subrounded gravel Iry, stiff, medium plastic, light brown, suspect white sulphate inclusions	AU1	5.3 9.1	•		769 768
SHALE (Weath completely we conclusion stain extremely wea	nered), clay and silt, trace sand, athered, mottled dark brown, trace ing, moist, medium to high plastic, k, blocky, some suspect white	▲ SPT1	27 19.5 22.6	5 •	PI = 47.7% 1.2 m - Gravel = 0.4% 1.2 m - Sand = 34.8% Silt = 35.2% Clay = 29.6%	767
-3	ning greyish brown	SPT2	27 22.1	•	3 m - artesian water encountered at 8.3 m rose to 3.0 m upon completion.	766
5	n to dark grey mottling ning fractured bedrock	<ul> <li>AU6</li> <li>SPT3</li> <li>AU7</li> </ul>	19.7 38 19.9	, <b>e</b> , <b>e</b>		764
6 	ure increasing	<ul> <li>AU8</li> <li>SPT4</li> <li>AU9</li> <li>AU10</li> </ul>	17.8 50 15.9 16.2	3 9 2 2	 ■6.3 m - SPT refusal; 50 blows for 5"	763 762
8 8 	PAGE/FREEWATER	AU11	80 38.0	) •		761-
8.8 m - trace	oxidized gypsum crystals	AU12	38.8 50	3	9.5 m - SPT refusal; 50	760-
Notes: Design depth o Minor sloughin	of 30 m not achieved. Seepage enco g observed upon completion. Boreh	ountered at 8.3	3 m, rose t with bento	o 3.0 m upon completion nite chips.	n. Logged By: Reviewed By:	C. Braun T. Curtis

	CLIE	NT		an Englobe		mpar	וע _ PR	OJECT	NAM	E	_		S	Snake Lake Reservoir Expan	PAGE 1	1 0F 1
	PRO	JECT NUMBER		1560-193-00			PR	OJECT	LOC	ATION	_ ۱			NE 1/4 32-19-16		
	DATE	STARTED	03/24/2022	COMPLETED	03/2	4/2022	GR	OUND	ELEV	'ATIOI	N	769	9.12m	N 5609477.000 E	416585.	.600
	DRILI	LING CONTRACT	TOR	Chilako Drilling Servi	ces Lt	d.	GR	OUND	WATE	ER EL	EVATI	ON / I	DEPT	н		
	DRILI	LING METHOD		6" SSA			DA	TE GR	OUNE	WAT	ER RE	COR	DED			
Depth (m)	SOIL SYMBOL		Soil Descript	tion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S 1 11	IOISTU PLASTI PT (N) 10 2 00 2 OCKE	JRE CC IC - LIQ Blows/ 20 3 00 30 T PEN	NTEN UID 300 mr 0 4 00 4( /kPa)	T n <u>0</u> 20	REMARKS	Standpipe/ Instrument	Elevation (m)
-1		CLAY TILL, gravely, some fine to medium grain- sand, Gravel is subrounded up to 20 mm, dry, s low to medium plastic, light brown End of Borehole @0.6 m												0.6 m - Auger refusal at 0.6 m. Attempted at relocated hole to same result. Recommended to ODEX hole through gravely cobble layer prior to coring.		769 768 767 766 765 765 764 763 763 763 763 764
-		Notes:												-		
16/11/202	22	Design depth o with cuttings.	of 27 m not ac	hieved. Auger refusa	at 0.	6 m on ç	gravell	y cobl	oles. I	Boreł	nole b	ackfil	led	Logged By: Reviewed By:	<u>C. Braur</u> <u>T. Curtis</u>	<u>n</u>

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(		NT	. <u> </u>	Eastern Irrigation District			_ PR	OJECT	NAN	1E			Snake L	ake Reservoir	Expans	ion	
1	PROJ	IECT NUMBER		1560-193-00			_ PR	DJECT	LOC	ATION				NE 1/4 32-19	-16		
1	DATE	STARTED	03/24/2022	_ COMPLETED	)3/24	4/2022	_ GR	OUND	ELE	/ATION		771.03	<u>n</u> N_	5609474.100	)_E_	416493	3.000
[ [	ORILL	ING CONTRACT	OR	Chilako Drilling Services	s Lto	1.	GR	OUND	WAT	ER ELE	VATIO	N / DEP	ГН	762.89 m		8.14 r	n
1	DRILL	ING METHOD		6" SSA			DA1	E GRO	JUNI	) WATE	R REC	ORDED		08/	10/2022		
Depth (m)	SOIL SYMBOL		Soil Descriptio	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTUF PLASTIC SPT (N) B 10 20 100 200 POCKET	RE CON - LIQUI Blows/30 <u>30</u> 0 300 PEN (kF	TENT D 0 mm <u>40</u> 2a)	_	REMARK	S	Standpipe/	Elevation (m)
		CLAY TILL, sar medium graine mm, dry, stiff, lo some oxidation inclusions 2.2 m - becon 2.3 m - moisti SHALE (Weath completely wea plastic, extreme staining, suspe 6.8 m - becon 7.6 m - becon specks 8.8 m - trace	ndy, gravely, tra- id, Gravel is su ow to medium a staining, susp ning trace fine <u>ure increasing</u> ered), clay an- athered, dark b ely weak, block- ely weak, block- ely weak, block- ely weak, block- ely weak, block- ely weak, block- gypsum crysta	ace silt, Sand is brounded up to 30 plastic, light brown, lect white sulphate gravel d silt, trace sand, rown, moist, high cy, some oxidation ate inclusions d dark grey mottling ured, some oxidation		AU1 AU2 SPT1 AU3 AU4 SPT2 AU5 AU5 AU5 AU5 AU5 AU5 AU5 AU5 AU1 AU9 AU10 SPT5 AU11 AU12 SPT6	29 38 43 41 32	6.0 10.8 14.6 15.5 18.8 18.8 21.2 21.4 20.9 19.8 19.6 17.0						- LL = 83.19 PL = 16.69 PI = 66.59 PL = 21.79 PL = 21.79 PI = 43.59 - Dispersivit fication = NI - EC: 7.4 d5 - SAR: 21.8 - PH: 5.0 - Sand = 1.6 Silt = 46.4 Clay = 52.	% % % % 2 9 0 4 5 7 3 % 0 %		770 769 768 767 766 765 765 765 764 763
- - - - -		SHALE, silty, cl weathered, gre weak, finely fise	layey, trace fin ey, moist, high j sured, marine	e grained sand, highly blastic, extremely	<b>Å</b>	AU13	62	17.6		•							-
16/11/2022		Notes: Target depth of 27 m not achieved. Seepage not encountered. Sloughing observed to a c 10.7 m upon completion. Borehole backfilled with sand and bentonite chips. Standpipe in depth of 9.1 m.											Logge	d By: wed By:	(	<u>C. Brau</u> T. Curti	ins



PAGE 2 0F 2

C		νT		Eastern Irrigation District			_ PRO	OJECT	NAN	ΛE	-		S	nake L	ake Reservoir E.	xpansio	n	
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	OJECT	LOC	CATION	۱ _				NE 1/4 32-19-16	6		
[	DATE	STARTED	03/24/2022	COMPLETED	03/2	4/2022	_ GR	OUND	ELE	VATIO	N	771	.03m	N	5609474.100	E _4	16493.0	000
[	DRILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	OUND	WAT	ER EL	EVAT	ION / E	)EPTH	H	762.89 m		8.14 m	
[	DRILL	ING METHOD		6" SSA			_ DAT	re GR	OUN	d wat	ER RI	ECORI	DED		08/10	/2022		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLASTI SPT (N) <u>10 2</u> POCKE	JRE CC IC - LIC Blows/ 20 3 7 PEN	0NTENT 201D 300 mm 30 40 00 40 (kPa)	- 1 <u>)</u> 0		REMARKS		Standpipe/ Instrument	Elevation (m)
- - - - - - - - - - - - - - - - - - -		SHALE, silty, c weathered, gre weak, finely fis	layey, trace fir ey, moist, high sured, marine	ne grained sand, highly plastic, extremely	= Y	AU14 SPT7	88	18.2		•	•							760
						AU15		17.6		•								/60
					=	AU16		17.6		•				12 m	- Auger refusa	I		759-
		- 	End of Borehole	@12.7 m	X	SPT8	50							1 <u>2.6 r</u> 50 blc	<u>m - SPT refusa</u> ows for 3"	l;		-
																		758-
																		757-
-																		-
15																		756-
																		755-
-																		-
17																		754-
																		753-
-																		-
																		752
-																		-
-																		-
		Notes:			<u> </u>	1											1	
		Target depth of 10.7 m upon co depth of 9.1 m	f 27 m not ach ompletion. Bor	ieved. Seepage not en rehole backfilled with s	cou and	intered. and ber	Slough ntonite	ning o chips	bser 5. Sta	ved to andpip	o a de be ins	pth of talled	to a	Logge	ed By:	C.	Braun	
16/11/2022			- 											Revie	wed By:	Τ.	Curtis	

# an **Englobe** company

	CLIEI	NT		Eastern Irrigation District			_ PRO	OJECT	NAME		5	Snake Lake Reservoir Expan	sion
	PRO	JECT NUMBER		1560-193-00			_ PRO	OJECT	LOCATION			NE 1/4 32-19-16	
	DATE	STARTED	03/24/2022		)3/2	4/2022	GR	OUND	ELEVATION		770.34m	N 5609474.400 E	416393.000
	DRILI	LING CONTRACT	OR	Chilako Drilling Services	s Lto	ł.	GR	OUND	WATER ELE	VATIO	N / DEPT	н	
	DRILI	LING METHOD		6" SSA			DAT	re gro	OUND WATE	R REC	ORDED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTUR</li> <li>PLASTIC</li> <li>SPT (N) B</li> <li>10 20</li> <li>100 200</li> <li>POCKET</li> </ul>	RE CON - LIQUI Blows/30 0 30 PEN (kF	TENT D 0 mm <u>40</u> 2a)	REMARKS	Standpipe/ Instrument Elevation (m)
		SHALE (Weath completely weath staining, moist, hard soil, block	ered), clay an athered, browr high plastic, e y gypsum crysta	d silt, trace sand, n, some oxidation extremely weak to als	= = X	AU1 AU2 SPT1	27	20.0 17.7	•			0.6 m - Organic Content = 2.9% 0.6 m - Sand = 1.0% Silt = 41.0% Clay = 58.0%	770–
2 				*	AU3 AU4		20.4 19.9	•			2.1 m - LL = 70.7% PL = 20.2% PI = 50.5% 2.7 m - EC: 2.8 dS/m 2.7 m - SAR: 21.4	768-	
- - - - - - - - - - - - - - - - - - -					=	SPT2 AU5 AU6	38	21.0	•	•	•	2.7 m - pH: 8.2	767
		5.1 m - becor	ning light brow	n to grey mottling	-	SPT3 AU7	32	18.1	•	•		4.6 m - Dispersivity Classification = D2	765
6 7 7				=     =	AU8 SPT4 AU9 AU10	68	20.1 13.8 17.5	•	, 		6.1 m - EC: 5.9 dS/m 6.1 m - SAR: 31.3 6.1 m - pH: 7.6 6.7 m - Sand = 0.4% Silt = 50.9% Clay = 48.7%	764	
				-	SPT5 AU11 AU12	59	16.7 17.2	•				762	
-9 - - - - -		SHALE, silty, c oxidation speck weak, finely fis 9.1 m - SEEF	veathered, grey, some plastic, extremely ATER	X	SPT6	50	13.0	•		•	9.3 m - SPT refusal; 50 blows for 3" <u>9.8 m - A</u> uger refusal	761–	
_			End of Borehole	@9.9 m									
		Notes:											
16/11/2022	2	Target depth of completion. Bo	f 27 m not ach rehole backfill	ieved. Seepage encou ed with bentonite chips	ntei 8.	ed at 9.	1 m. M	1inor s	loughing ob	bserve	d upon	Logged By: Reviewed By:	C. Braun T. Curtis
L													



	CLIEN	ΝT		Eastern Irrigation District			PR0	OJECT	NAM	E	_		S	nake Lake Reservoir Expans	ion	
	PROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	ATION	_			NE 1/4 32-19-16		
1	DATE	STARTED	03/24/2022	COMPLETED	03/2	4/2022	GR	OUND	ELEV	ATION	1	771	.20m	N 5609474.700 E	416293.00	0
	DRILI	ING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	OUND	WATE	ER ELI	EVATI	ON / E	)EPTH	ł		
I	DRILI	ING METHOD		6" SSA			DAT	E GRO	DUNE	WATI	ER RE	ECORI	DED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S 1 1 ▲ P	IOISTU PLASTI PT (N) 00 20 00 20 00CKE1	RE CC C - LIQ Blows/ 0 30 7 PEN (	0NTEN UID 300 mm 0 40 00 40 (kPa)	- ) 0	REMARKS	Standpipe/ Instrument	Elevation (m)
- - - - - - - - - - - - - - - - - - -		CLAY TILL, sor damp, stiff, me specks, trace s	me fine grained dium plastic, b suspect white s	d sand, some slit, rown, with oxidation ulphate inclusions	*	AU1		16.0		•					-	771
		SHALE (Weath completely wea	nered), clay an athered, browr	d silt, trace sand, , some oxidation	X	SPT1	32	10.0		_						-
	· · · · · ·	staining, damp weak, blocky	gh plastic, extremely	-	AU3		14.8		٠					7	769	
-3	· · · · · ·	2.7 m - suspe	ale	T T	AU4 SPT2	74	16.6		•				2.7 m - LL = 123.1% PL = 18.2% PI = 104.9%	7	768-	
	· · · · ·			-	AU5		20.2		•	•					-	
- ' - - -	· · · · · · · · · · · · · · · · · · ·				-	AU6		19.9		•				4.3 m - Water level raised from 6.1 m to 4.3 m upon	7	767
5	· ·	4.8 m - trace	gypsum crysta	ls	Å	SPT3	34							completion.		-
-	· · · · · · · · · · · · · · · · · · ·	5.2 m - becor 5.3 m - becor	ning brown an ning finely stra	d grey mottling tified	=	AU7		18.4		•					7	766 
-6	· · · ·					AU8		18.2		•						-
-	· · · · ·	6.2 m - SEEP	AGE/FREEW	ATER		SPT4	65	21.6			•					-00
7 7	·				-	AU10		27.0						7.3 m - LL = 67.5%	7	764-
- - - - - - - - - - - - - - -	· · · · · ·	7.6 m - becor	rown	X	SPT5	75							PL = 21.8% PI = 45.7% 8.2 m - no AU samples	7	763-	
		\$HALE, silty, c with some oxid extremely weal	eathered, dark grey, noist, high plastic,	X	SPT6 AU13	71	17.0		•				due to augered/falsely saturated sample	7	762	
	1	Notes:			· · · · ·											
16/11/2022	2	Target depth of completion. Bo	f 24 m not achi rehole backfill	eved. Seepage encou ed with bentonite chips	intei s.	red at 6.	1 m. N	linor s	lougl	ning c	bser	ved u	oon	Logged By:	C. Braun	



PAGE 2 0F 2

	CLIEI	NT		Eastern Irrigation District	t		_ PR	OJECT	NAME		S	nake Lake Reservoir Expar	ision	
	PRO	IECT NUMBER		1560-193-00			_ PR	OJECT	LOCATION			NE 1/4 32-19-16		
	DATE	STARTED	03/24/2022	COMPLETED	03/2	4/2022	GR	OUND	ELEVATION	771	.20m	N 5609474.700 E	416293.	.000
	DRILI	LING CONTRACT	OR	Chilako Drilling Service	es Lte	d.	GR	OUND	WATER ELE	VATION / D	EPTH	۹		
	DRILI	LING METHOD		6" SSA		г			OUND WATE	R RECORE	DED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTUR</li> <li>PLASTIC</li> <li>SPT (N) B</li> <li>10 20</li> <li>100 200</li> <li>POCKET</li> </ul>	RE CONTENT - LIQUID lows/300 mm <u>30 40</u> 0 300 40 <u>PEN (KPa)</u>	)	REMARKS	Standpipe/ Instrument	Elevation (m)
		with some oxida extremely weak	ayey, nigniy w ation specks, i a, fissured	reathered, dark grey, moist, high plastic,	-	AU14		20.7	•					761-
11		10.4 11 - 11800	Suspect white	e sulphates	X	SPT7	50					10.9 m - SPT refusal		
		11.3 m - beco	ming brown a	nd grey mottling	-	AU15		20.7	۲ø			11.3 m - LL = 67.1% PL = 17.9%		760-
- 12		-			-	AU16		22.2		•		11.3 m - Sand = 1.1%		
-		-			X	SPT8	50					Silt = 56.2% Clay = 42.7%		759-
		E	nd of Borehole	@12.7 m	┤┻							<del>12.7 m - SPT/Auger</del>		
13 												12.96 m - SAR: 37.8		758-
-14														
Ē														757-
-														-
15														756-
-														
														755-
E														
-17														754
Ē														/ 54-
Ē														-
- 18														753-
-														
-19														
-														752-
E														
_														
		Notes:	21 m not ort	iound Soonage and	inta	rod of 6	1 m 🖡	linor -	loughing ch	convod				
		completion. Bo	ehole backfill	ed with bentonite chip	s.	ieu al 6.	i m. N	mor s	soughing of	uservea up	JON	Logged By:	C. Braur	n
16/11/0000												Reviewed By:	T. Curtis	3
10/11/2022	<u>.</u>													



C	LIEN	ΝT		Eastern Irrigation District			_ PRO	DJECT	NAM	E	_		Sna	ake Lake	Reservoir E	Expans	ion		
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	ATION	_			NE	1/4 32-19-1	6			
C	DATE	STARTED	03/24/2022	COMPLETED 0	)3/2	4/2022	_ GRO	DUND	ELEV	ATION	I _	771.	34m	N_560	9475.000	E_	4161	93.00	0
0	RILL	ING CONTRACT	OR	Chilako Drilling Services	s Lto	l.	GR0	DUND	WATE	ER ELE	EVATIO	ON / DI	EPTH	76	7.99 m		3.35	m	
0	RILL	ING METHOD		6" SSA	-		_ DAT	E GRO	DUND	WATE	ER RE	CORD	ED		09/15	5/2022			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ SI 11 ▲ P	OISTUI PLASTIC PT (N) E 0 20 00 20 00CKET	RE COI C - LIQI Blows/3 0 30 0 30 7 PEN (I	NTENT JID 000 mm 0 400 kPa)	)	R	EMARKS		Standpipe/	Elevation	Elevanori (m)
-	<u>}}}<u>})</u>}))))) </u>	PEAT, organics white sulphate	, clayey, dam inclusions	o, stiff, brown, suspect /														7	771-
		SHALE (Weath	ered), clay an	d silt, some sand,	-	AU1		17.4		•									
-1	·	specks, moist, i	medium to hig	h plastic, extremely															111
		weak, blocky, s	uspect white s	suipnate inclusions	-	AU2		18.7		•								7	70-
					X	SPT1	33					•							
-2	· <u>··</u> ·				=	AU3		19.1		٠								-	760
	<u></u> .					A114		10.2										,	
-3	· <u>··</u> ·				T	AU4		19.3		•									.
	· <u>···</u> ·				X	SPT2	43					I	•			٩ =		7	′68–
					-	AU5		16.0		•									_
-4	· · · · ·											•							
-		4.3 m - trace ( 4 4 m - moist	gypsum crysta ure increasing	als	-==	AU6		17.9		•								7	'67— 
		4.7 m - gypsu	m crystals inc	lusions up to 25 mm	X	SPT3	27												
	· · · ·				-	AU7		18.4		•								7	766-
						A I 10		10.0											=
-6	· <u>··</u> ·					AU6		19.9											-
					X	SPT4	27				•							7	′65
	· · · ·				=	AU9		18.5		•									-
	. <u></u> .				-	AU10		18.2		•								7	- 764
-		7.5 m - becon	ning dark brov	vn	V	0.075	-0						-	0 - 0					
-8	· <u>·</u> ·	SHALE. siltv. cl	avev. highly w	veathered. arev. moist.	Å	SP15	50						·····	.0 111 - 51	PTTelusal				
_		high plastic, exi	tremely weak,	fissured	-	AU11		17.7		•								7	'63- -
		mottling		in to daily groy	-	AU12		17.5		•									1.1.1
-9	_				▼	SDTA	50						9	3 m - SI	PT refusal				760
		9.5 m - trace :			51 10	50						T	.0 111 01	- Torabai				02	
-			e @9.9 m	=	AU13		12.1		•			9	<del>.9 m - A</del> ı	uger refus	al			.   .	
		Notes:			L	L		1											
		Target depth of	24 m not ach	ieved. Seepage encou	nter	ed at 9.	5 m. N	linor s	lough	ning o	bserv	red up	on						
		m		eu with sand and dento	л 1110	- criips.	Stand	pipe ir	ารเลแต	- น เป ส	a uep		י.ש L	ogged B	y:	(	C. Bra	un 	—
16/11/2022													R	eviewed	ву:		I. Cu	tis	



	CLIEN	NT		Eastern Irrigation District			_ PR	OJECT	NAME	Ξ	_		Sr	iake Lak	e Reservoir	Expar	ision	
F	PROJ	IECT NUMBER		1560-193-00			_ PR	OJECT	LOCA	TION	_			N	E 1/4 32-19-	-16		
ſ	DATE	STARTED	03/25/2022	COMPLETED	03/2	5/2022	_ GR	OUND	ELEV	ATION	Ι.	771	.77m	_ N_5	609474.800	_ E	41609	3.000
	ORILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	OUND	WATE	R ELE	EVATI	ON / E	DEPTH					
[	DRILI	LING METHOD		6" SSA			_ DA	TE GRO	DUND	WATE	ER RE	CORI	DED				1.	
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>M<sup>4</sup></li> <li>H</li> <li>PI</li> <li>SF</li> <li>10</li> <li>10</li> <li>PC</li> </ul>	DISTUF LASTIC PT (N) E D 20 0 20 DCKET	RE CC C - LIQ Blows/: 0 30 PEN (	0NTEN1 UID 300 mm <u>0 4(</u> 00 40 (kPa)	Г 1 0 00		REMARK	S	Standpipe/	Instrument Elevation (m)
- - - - - - - -		CLAY, silty, sor brown, with ox sulphate inclus	ne sand, dry, s idation specks sions	tiff, medium plastic, suspect white	-	AU1		13.8		•								771–
		SHALE (Weatr completely weatr specks, moist, suspect white	athered), clay an athered, brown high plastic, e: sulphate inclus	d slit, trace sand, , with oxidation ktremely weak, blocky, ions	The second secon	AU2 SPT1	22	15.2		•	•							770-
-	· · · · · ·							16.2		•								769-
	· · · · ·			X	SPT2	66												
	· · · · ·				Ŧ	AU5		16.7		•								768-
-	· · · · ·	4.8 m - trace	gypsum crysta	ıls	The second secon	AU6 SPT3	44	18.8		•			•					767–
			0,1		-	AU7		18.2		•								
6	·	6.2 m - becor	ming dark brow	n with oxidation	<b>=</b> ▼	AU8 SPT4	57	20.0		•	•							766-
- - - - - 7	· · · · · ·	staining 6.8 m - becor	ming brown an	d grey mottling	<b>A</b>	AU9		18.8		•								765
-	······	77m-SFF	PAGE/EREEW	ATER	i∎ ▼	AU10	84	18.5		•			7	/.3 m - l l	LL = 58.8% PL = 19.4% PL = 39.4%	6 6 6		764-
		7.7 m - SEEPAGE/FREEWATER			<b>▲</b> =	AU11	0-1	18.8		•			7	7.3 m - 3 9	Sand = 1.0 Silt = 58.6º Clay = 40.4	)% % 4%		
- - 9 -					<b>=</b> ▼	AU12	62	20.1		•	)		7 () 7	7.6 m - 1 Classific 7.6 m - 1	Dispersivit cation = NI EC: 5.6 dS	y D3 S/m		763-
-  - - -		<ul> <li>SHALE, silty, clayey, highly weathered, grey, m</li> <li>high plastic, extremely weak, fissured</li> </ul>				AU13	03	13.3		•			7	7.6 m - j	pH: 5.8			762-
		Notes:							<u> </u>				[					
		Target depth or upon completion	f 24 m not achi on. Borehole ba	eved. Minor seepage ackfilled with bentonite	enc ch	ountered ips.	l at 7.	7 m. N	linor s	slougi	hing	obser	ved L	ogged	By:		C. Bra	un
16/11/2022													F	Reviewe	ed By:		T. Cur	tis

	V	MPE	an <b>Englobe</b> of	100	mpar	ıу							F	AGE 2 0
	CLIEN	NT	Eastern Irrigation District	t		PR	OJECT	NAM	IE			S	Snake Lake Reservoir Expansio	on
	PROJ	ECT NUMBER	1560-193-00			PR	JECT	LOC	ATION	1			NE 1/4 32-19-16	
	DATE	STARTED 03/2	25/2022 COMPLETED	03/2	5/2022	 GR	OUND	ELEV		N	77	1.77m	N 5609474.800 E	16093.000
	DRILL		Chilako Drilling Service	es Lt	d.	GR	OUND	WATI	ER EL	EVAT	ON / I	DEPT	— — — H	
	DRILI	ING METHOD	6" SSA			DAT		JUNE	) WAT	FRR	-COR	DED		
	1													it %
Depth (m)	SOIL SYMBOL		Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● N H F ■ S 	10ISTL PLASTI PT (N) 10 2 00 2 POCKE	JRE CC IC - LIC Blows/ 20 3 00 3 T PEN	DNTEN QUID 300 mr 30 4 00 4 (kPa)	T n 1 <u>0</u> 00	REMARKS	Standpipe Instrumer Elevation
-		SHALE, silty, clayey high plastic, extreme	/, highly weathered, grey, moist, ely weak, fissured		AI 114		11 6		•					
-							11.0							7
				X	SPT7	50				·				
-		End of	f Borehole @11.2 m	1									11.2 m - SPT and auger refusal	
-														7
-12														
-														
-														-
-13														/:
-														
														7
15														75
-15														
														7!
-16														
-														
														7!
-17												+		
_														
-														7!
-18														
_														
-														7!
-19														
_														
-														7?
									<u> </u>	1	i	<u> </u>		
		Notes:												
		Target depth of 24 n	n not achieved. Minor seepage	enc	ountered	d at 7.	7 m. N	linor	sloug	ghing	obse	rved		
		upon completion. Bo	orenole backfilled with bentonite	e ch	ıps.								Logged By: C	Braun
													Reviewed By: T	Curtis

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	CLIEN	NT		Eastern Irrigation District			_ PR	OJECT	NAM	IE	_		S	nake Lake Reservoir Expar	sion	
	PROJ	IECT NUMBER		1560-193-00			_ PR	OJECT	LOC	ATION	<u> </u>			NE 1/4 32-19-16		
	DATE	STARTED	03/25/2022		)3/2	5/2022	GR	OUND	ELE\	ATIO	١	77	2.16m	N_5609473.300 E	415993	3.000
	DRILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	OUND	WAT	ER EL	EVAT	ION /	DEPTH	ł		
	DRILL	ING METHOD		6" SSA			DA	E GR	DUNE	) WAT	ER RI	ECOR	DED			
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● N H I ■ S 1 ▲ F	10ISTU PLASTI PT (N) 10 2 00 2 00 2	RE CC C - LIC Blows/ 0 3 7 PEN	DNTEN QUID 300 mr 30 4 00 4 (kPa)	T n 10 00	REMARKS	Standpipe/	Elevation (m)
		CLAY TILL, soi subrounded gra	me medium gi avel up to 35 i lastic, brown	rained sand, some mm, trace silt, damp, some oxidation												772-
1		staining			-	AU1		5.5	•							
Ē	<u> </u>	SHALE (Weath	nered), clay ar	nd silt, trace sand,	=	AU2		12.7		•						//1-
È.	· · · · · ·	completely wea staining, moist	athered, dark , medium to hi	brown some oxidation igh plastic, extremely	X	SPT1	40									
2 	·	weak, blocky, t	race suspect v	white sulphates	=	AU2.8		13.1		•						770
Ē	··	-												2.7 m - EC: 4.3 dS/m		
-3	· · · · ·					AU4		12.5		• ⊢				2.7 m - SAR: 17.8 2.7 m - pH: 7.7		769-
	·····	-			X	SPT2	70							2.8 m - LL = 104.1% PL = 17.0%		
-4	· · · ·				=	AU5		17.1		•				PI = 87.1% 3 m - groundwater rose		
Ē	·				-	AU6		18.5		•				from 7.6 m to 3.0 m		768-
Ē	· · · ·	-			Y	SPT3	39									
—5 	· — · ·					AU7		16.2		•						767-
	· · · · · ·															-
6	· · · · ·					AU8		17.9		•						766
Ē	·				X	SPT4	48						•			
-7	· · · · ·				=	AU9		17.6		•						
-	· _ · ·				-	AU10		17.8		•				7.3 m - Sand = 8.3%		765
Ē	··	7.6 m - SEEF	AGE/FREEW	ATER	Y	SPT5	50							Silt = 73.5% Clay = 18.2%		
8	· · · · ·					AU11		25.5			•			7.6 m - artesian water: rose from 7.6 m to 6.5		764
	·	-												m upon breaching fracture		
-9	· · · · ·	SHALE silty c	lavev highly v	veathered grev moist	== 	AU12		26.3			•			7.8 m - SPT refusal; 50 blows for 5"		762
		high plastic, ex	tremely weak	, finely fissured	X	SPT6	50						•	9.3 m - SPT refusal; 50 blows for 4"		-
		9.9 m - becor	nd grey mottling	-	AU13		21.2		F	•			9.8 m - LL = 83.2% PL = 17.2%			
		Notes:			-								I		<u> </u>	. <u></u> .
		Target depth of	f 24 m not ach	lieved. Seepage encou	nte	red at 7.	6 m. N	linor s	loug	hing o	bser	ved u	ipon		o -	
		compiction. Do												Logged By:	C. Brau	in
16/11/2022	2													Reviewed By:	I. Curti	S

		MP	G	an <b>Englobe</b> (	0	mpar	٦y					BOR	EHOLE No :	22BH308 PAGE 2 0F 2
	CLIEI	NT		Eastern Irrigation Distric	t		PR	OJECT	NAM	IE	_	:	Snake Lake Reservoir Ex	kpansion
	PRO	JECT NUMBER		1560-193-00			PR	OJECT	LOC	ATION	_		NE 1/4 32-19-16	
	DATE	STARTED	03/25/2022	COMPLETED	03/2	25/2022	GR	OUND	ELE\	ATION	_ ۱	772.16m	N 5609473.300	E415993.000
	DRILI	LING CONTRAC	TOR	Chilako Drilling Servic	es Lt	d.	GR	OUND	WATI	ER ELE	EVATIO	ON / DEPT	н	
	DRILI	LING METHOD		6" SSA			DA	TE GR	OUNE	) WATE	ER RE	CORDED		
Depth (m)	SOIL SYMBOL		Soil Descript	tion	Sample Tvpe	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S 1 ▲ P	10ISTU PLASTIC PT (N) I 10 2 00 20 OCKET	RE COI C - LIQU Blows/3 0 30 0 30	NTENT JID 00 mm 0 40 0 400 (Pa)	REMARKS	Standpipe/ Instrument Elevation
-		SHALE, silty, o	clayey, highly v	weathered, grey, moist	t,								PI = 66.0%	762-
-			Allemely weak	, mery hooded	-	AU14		16.4		•				
E 		-			X	SPT7	50						1	
Ē			End of Borehole	e @11.2 m	┤┛	<b>`</b>							11.2 m - SPT refusal	<u>- 7</u> 61-
Ē														
-12														760
Ē														700-
-														
-13														759-
-														
Ē														
14 														758-
-														
														757-
-														
-16														756-
														130
-														
—17 -														755-
-														
- - - 19														
														754-
-														
-19														
Ē														753-
Ē														
Ē									<u> </u>				-	
		Notes: Target depth c completion. Bo	of 24 m not ach orehole backfil	nieved. Seepage enco lled with bentonite chir	unte	ered at 7.	6 m. N	/linor s	loug	hing o	bserv	ed upon	Loggod Pur	C Prours
		B.		omp									Logged By:	U. Braun
16/11/202	2													



	CLIE	NT		Eastern Irrigation District			_ PRO	DJECT	NAME	Snake L	ake Reservoir E	xpans	ion	
	PROJ	IECT NUMBER		1560-193-00			_ PRO	DJECT			NE 1/4 32-19-16	6		
	DATE	STARTED	03/25/2022	_ COMPLETEDC	)3/2	5/2022	_ GR	OUND	ELEVATION 773.99m	<u>N</u>	5609471.400	E _	415893.	.000
	DRILI	LING CONTRACT	OR	Chilako Drilling Services	s Lto	Ι.	GR	OUND	WATER ELEVATION / DEPT	н	769.68 m		4.31 m	
	DRILI	LING METHOD		6" SSA			_ DAT	E GR	OUND WATER RECORDED		09/15	/2022		
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>POCKET PEN (kPa)</li> </ul>	-	REMARKS		Standpipe/ Instrument	Elevation (m)
-		Subrounded gra	ne medium gr avel up to 25 i	nm, damp, stiff, low to										
-		medium plastic	, brown		-	AU1		4.5	•					-
-1	$\geq$	1 m - red oxid	lation staining											773-
	·	SHALE (Weath	iered), clay ar	id silt, trace sand,	-	AU2		7.2	•					
Ē	<u> </u>	oxidation staini	ng, moist, hig	h plastic, extremely	X	SPT	24							
2 	· · · ·	weak to hard so	oil, blocky		=	AU3		20.2	I.●	2.1 m	- EC: 11.1 dS/	'n		772
Ē		-								2.1 m 2.1 m	- SAR: 21.2 - pH: 4.9			-
-3	·	-			-	AU4		13.8	•	2.1 m	- LL = 72.6% PL = 17.5%			771-
	·				X	SPT2	36		•		PI = 55.1%			-
-	·	-				AU5		17 4	•					-
-4		3.8 m - becon	ning brown ar	nd grey mottling		,								770
-		-			-	AU6		16.9	•	4.3 m	- groundwater	- <u>-</u>	◩▋▋	_
-	· · · · ·	4.7 m - trace	oxidized gyps	um crystals	Y	SPT3	36			upon	completion			
—5 -	· _ · · ·					AU7		16.3	•	5.2 m	- Sand = 4.3%			769
Ē		5.2 m - moisu	ure increasing							0.2	Silt = 51.0%	/		
- 6	·	-			=	AU8		17.9	•		Clay - 44.7%	0		768-
	· _ · ·	6.1 m - becon	ning dark grey	with some fine	Y	SPT4	42							
Ē		6.5 m - SEEP	AGE/ FREEW	/ATER		AU9		17.8	•					
-7	·													767-
É	·				▰	AU10		19.4	•					
		-			Y	SPT5	41							
-8					-	AU11		19.0	•					766-
-9		SHALE, silty, c	layey, highly v	veathered, grey, with	=	AU12		18.6	•					765
-		oxidation speck weak, finely fise	ks, moist, high sured	i plastic, extremely	Y	SPT6	80							-
Ē		-				AL 14-2		10 5						
-						AUIS		19.5						<u> </u>
		Notes:												
		Target depth of completion. Bo	21 m not ach rehole backfill	leved. Seepage encour ed with sand and bento	nter onite	ed at 6. e chips.	5 m. N Stand	1inor s pipe ir	sloughing observed upon nstalled to a depth of 8.0	Loga	ed By:	<i>,</i>	. Brau	n
		m.				•				Revie	wed Bv:	-	T. Curtis	<u>'</u>
16/11/2022	2													

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PAGE 2 0F 2

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	CLIEI	NT	Eastern Irrigation Distric	t		_ PR	OJECT	NAN	1E	_		Sn	ake Lake Reservoir E	kpansio	on		
1	PRO	JECT NUMBER		1560-193-00			_ PR	OJECT	LOC	ATION	_			NE 1/4 32-19-16	i		
I	DATE	STARTED	03/25/2022	COMPLETED	03/2	5/2022	GR	OUND	ELE	VATION	1	773.9	9m	N 5609471.400	E _4	15893.0	000
I	DRILI	LING CONTRACT	ror	Chilako Drilling Service	es Lte	d.	GR	OUND	WAT	ER ELI	EVATI	ON / DE	PTH	769.68 m		4.31 m	
1	ORILI	LING METHOD		6" SSA	_		DAT	TE GR		D WATI	ER RE	ECORDE	D	09/15	2022		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLASTIC SPT (N)   10 2 100 20 POCKET	RE CC C - LIQ Blows/ 0 30 7 PEN (	ONTENT 201D 300 mm 30 40 20 400 (kPa)		REMARKS		Standpipe/ Instrument	Elevation (m)
-		SHALE, silty, c oxidation spec	layey, highly w ks, moist, high	veathered, grey, with plastic, extremely		Δ1.11.1		2/ 3			•						
-		weak, finely fis	sured			AU14		24.3			•						
-11		_			X	SPT7	50							1.0 m CDT and			763-
Ē			End of Borehole	@11.2 m									a	uger refusal			1.1
																	111
—12 E																	762
-																	
-13																	761-
-																	111
-																	
-14																	760-
-																	1.1
-15 -																	759— -
-																	
-																	758-
																	100
-																	.
17																	757
E																	
-																	11
—18 -																	756-
Ē																	
E 10																	765
- 19																	/ 55-
Ē																	
	1	Notes:			_	1	I	1	<u> </u>								
		Target depth o	f 21 m not achi	ieved. Seepage enco	unte	red at 6.	5 m. N	linor s	sloug	hing o	bser	ved upo	n				
		completion. Bo m.	orehole backfill	ed with sand and ben	tonit	e chips.	Stand	pipe ir	nstal	led to	a dep	oth of 8	0 L	ogged By:	С	. Braun	
16/11/2022	!												R	Reviewed By:	T.	Curtis	



C		NT		Eastern Irrigation District			_ PRO	DJECT	NAME	8	Snake Lake Reservoir Expa	nsion
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16	
C	DATE	STARTED	03/25/2022	_ COMPLETED0	3/2	5/2022	_ GRO	DUND	ELEVATION	772.61m	N 5609468.500 E	415793.000
C	DRILL	ING CONTRACT	OR	Chilako Drilling Services	s Lto	ł.	GR0	DUND	WATER ELEVAT	ION / DEPT	н	
C	DRILL	ING METHOD		6" SSA			DAT	E GR	OUND WATER R	ECORDED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID 5/300 mm 30 40 300 400 L (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
-1	E CLAY, (residua moist, very stit high plastic, bi suspect white SHALE (Weat completely we mottling, some plastic, extrem 3.1 m - trace 3.7 m - some 3.7 m - some 3.7 m - some 3.7 m - trace 3.7 m - trace 3.1 m - trace 3.7 m - trace		i claystone), a , homogeneou own, some oxi sulphate inclus ered), clay an athered, light b oxidation stai ely weak, bloc gypsum crysta suspect white hing dark grey fine sand lens ure increasing ayey, highly w tremely weak,	nd silt, trace sand, us/massive, medium to idation staining, sions d silt, trace sand, orown to dark grey ning, moist, high ky als e sulphates e sulphates v with some oxidation es veathered, grey, moist, finely fissured		AU1 AU2 SPT1 AU3 AU4 SPT2 AU5 AU5 AU5 AU5 AU5 AU5 AU5 AU5 AU1 AU10 SPT4 AU9 AU10 SPT5 AU11 AU12 SPT6	18 26 41 49 55 50	19.7 19.6 19.1 20.4 19.8 18.5 19.8 18.4 11.4 15.8 13.2 12.9			0.6 m - Organic Content = 3.6% 0.6 m - Sand = 8.3% Silt = 37.0% Clay = 54.7% Clay = 54.7% 6.1 m - Dispersivity Classification = ND3 6.1 m - EC: 6.6 dS/m 6.1 m - SAR: 32.1 6.1 m - pH: 7.5 6.7 m - LL = 86.4% PL = 19.3% PI = 67.1% 6.7 m - Sand = 6.5% Silt = 51.7% Clay = 41.8%	772– 771– 770– 769– 768– 766– 766– 766– 765– 764–
			End of Borehole	e @9.6 m							<del>9.6 m - SPT / auger</del> refusal; 50 blows for 2"	763-
_												
16/11/2022		Notes: Target depth of completion. Bo	21 m not ach rehole backfill	ieved. No seepage enc ed with bentonite chips	our	ntered. N	/linor s	lough	ing observed u	ipon	Logged By: Reviewed By:	C. Braun T. Curtis



C		NT		Eastern Irrigation Distric	t		_ PRO	OJECT	NAME	E	_		Sna	ake La	ake Re	servoir E	Expan	sion		
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	OJECT	LOCA	TION	_			١	NE 1/4	32-19-1	6			
0	DATE	STARTED	03/28/2022	COMPLETED	03/2	8/2022	GR	OUND	ELEV	ATION	-	773.46	Sm	N	56094	66.100	Ε.	4156	393.0	00
0	DRILL	ING CONTRACT	OR	Chilako Drilling Service	es Lto	d.	GR	OUND	WATE	R ELE	VATI	ON / DEF	РΤΗ							
0	DRILL	ING METHOD		6" SSA			DAT	E GR	DUND	WATE	R RE	CORDE	D							
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>M<sup>4</sup></li> <li>⊢ P<sup>1</sup></li> <li>■ SF</li> <li>10</li> <li>10</li> <li>4 P0</li> </ul>	DISTUF LASTIC PT (N) E <u>D 20</u> 0 20 DCKET	RE CO ; - LIQ 8lows/3 ) 30 0 30 PEN (	NTENT UID 300 mm 0 40 10 400 kPa)			REN	IARKS		Standpipe/	Instrument	Elevation (m)
-1		CLAY TILL, silt plastic, brown v hairs BENTONITE (0 SHALE (Weath completely weat extremely weat inclusions	moist, hard, high specks, trace root <u>m layer</u> Id silt, trace sand, n, moist, high plastic, pect white sulphate		AU1 AU2 SPT1 AU3	25	17.1 17.7 18.7		•	•		1.	2 m -	- LL = PL = PI =	135.5% 26.3% 109.2%	6			773	
-3		2.4 m - trace gypsum crystals up to 10 mm				AU4		18.8		•										771
	·	3.4 m - trace oxidation staining				SPT2 AU5	25	19.9		•										770
5		4.6 m - trace	3.4 m - trace oxidation staining 4.6 m - trace shale fragments				37	19.4 19.1		•		•								769
-6	· · · · ·	6.1 m - interb	edded red oxi	dized laminations up t	= ∞ <b>V</b>	AU8	16	19.6		•										
	· · · ·	200 mm 6.9 m - grey r	nottling, trace	shale inclusions		AU9	40	15.5		•										767
		SHALE, clayey	, silty, highly v	veathered, grey with	- - 	AU10 SPT5	50	16.2		•										766
-8		weak, fissured 8.2 m - becon	ning firm/hard	nigri piasuc, very		AU11		15.4		•										765
-9						AU12 SPT6	50	16.1		•			 9.	1 m -	- SPT	refusal	I			764
			e @9.8 m	-	AU13		18.5		•											
16/11/2022		Notes: Target depth of	21 m not ach	ieved. Borehole backf	illed	with ber	ntonite	chips					Lo	oggeo eview	d By: ved B	y:		J. Bc T. Cu	oyd Irtis	



	CLIENT         Eastern Irrigation D           'ROJECT NUMBER         1560-193-00						_ PRO	OJECT	NAM	1E	_		Sı	nake L	ake Reservoir I	Expans	sion	
F	PROJ	JECT NUMBER		1560-193-00			_ PRO	OJECT	LOC	ATION	_				NE 1/4 32-19-1	6		
ı	DATE	STARTED	03/28/2022		03/2	8/2022	_ GRO	OUND	ELE	/ATION	-	774	.15m	_ N _	5609463.400	E_	415593	.000
[	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	ł.	GR0	OUND	WAT	ER ELE	EVATIO	DN / D	EPTH	I	771.43 m		2.72 m	<u> </u>
۱ ۱	DRILI	LING METHOD		6" SSA			DAT	re gro	DUNE	) WATE	ER RE	CORE	DED		10/1	2/2022		
Depth (m)	SOIL SYMBOL		Soil Descrip	tion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTUF PLASTIC SPT (N) E 10 20 200 20 200 KET	RE COI C - LIQU Blows/3 D 30 0 30 PEN (H	NTENT JID 00 mm ) 40 0 40 (Pa)	) ) 0		REMARKS		Standpipe/	Elevation (m)
-	/	CLAY TILL, silt	/, trace sand . brown. som	, moist, very stiff, le oxidation staining.														774-
		gypsum crystal	s, trace root	hairs	-	AU1		14.2		•	•							-
-1	2																	773
-		completely wea	ered), clay a ithered, brow	nd sill, trace sand, n, some oxidation		AU2		18.0		•								-
	<u></u> .	staining, moist, blocky, oxide s	high plastic, becks	extremely weak,	X	SPT1	22				•							-
-	·					AU3		17.8		•								772
	· · · ·				-	AU4		17.4		•				2.7 m	- LL = 54.4%		¥ 🛛	-
					X	SPT2	38								PL = 17.7% PI = 36.7%			771-
	· · · ·	gypsum crystals 3.8 m - orange and red mottling			æ	AU5		15.3		•								-
-	· · · · ·	46 m - interb	edded orang	e laminations	=	AU6		13.8		•			4	4.3 m 4.3 m	- EC: 5.7 dS/ - SAR: 12.5	m		770
5	· ·		outou orang		X	SPT3	64							4.3 m	- Sand = 13.4	1%		700
	· · · · ·	5.2 m - grey, o 5.5 m - brown	orange, and l and orange	brown laminated layers with grev shale	=	AU7		17.5		•					Silt = 51.3% Clay = 35.3	%		/69-
6	· <u>···</u> ·	inclusions	5	5 7	=	AU8		20.7		•				6 0 m	SDT rofued	. 50		768
		- - - -			X	SPT4	62						l	blows	for 6"	, 50		
7		SHALE, clayey oxidation spece	, silty, highly s, moist, high	weathered, grey, with plastic, very weak,	-	AU9		18.8		•								767-
-	_					AU10		17.8		•								
-8		7.8 m - SEEP	AGE			SPT5	50							8.1 m	- SPT refued	. 50		
			End of Boreho	le @8.2 m										blows	for 3"	, 50		
-9																		765—
-																		-
	Notes:								<u> </u>									
		Target depth of completion. Bo	intei onite	ed at 7. e chips.	8 m. N Stand	1inor s pipe ir	loug istal	hing o led to a	bserv a dep	ed up	oon 8.2 <sub>I</sub>	Logge	d By:		J. Boyc	1		
16/11/2022													Revie	wed By:		T. Curti	<u>s</u>	



	CLIE	NT		Eastern Irrigation District			PR	OJECT	NAME		:	Snake La	ake Reservoir Ex	pansi	on	
	PRO.	JECT NUMBER		1560-193-00			_ PR	OJECT	LOCATIO	NC			NE 1/4 32-19-16			
	DATE	STARTED	03/28/2022		03/2	8/2022	GR	OUND	ELEVATI	ON	774.29m	<u>n</u> N_	5609460.800	E	415493.	000
	DRIL	LING CONTRACT	OR	Chilako Drilling Service	es Lte	d.	GR	OUND	WATER I	ELEVA	TION / DEPT	н				
	DRIL	LING METHOD		6" SSA			DA	TE GR	OUND W	ATER F	RECORDED					
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOIS</li> <li>⊢ PLAS</li> <li>SPT ( 10 100 ▲ POCH</li> </ul>	TURE ( STIC - L N) Blow <u>20</u> 200 ( <u>EȚ PEI</u>	CONTENT IQUID s/300 mm 30 40 300 400 v (kPa)		REMARKS		Standpipe/ Instrument	Elevation (m)
		CLAY, silty, sor plastic, brown,	ne sand, very trace root hai	moist, stiff, medium rs		AU1		20.7								774
-1		CLAY TILL, silt	y, some sand	, very moist, stiff,		AU2		21.7	-	•						773-
		gypsum crystal 1.5 m - interb	edded oxide l	ayers	X	SPT1	12									-
					-	AU3		21.0		•	•					772-
-3					<del>-</del> ▼	AU4	07	24.6		+•		-2.7 m	- LL = 67.1% PL = 21.1% PL = 46.0%			-
		SHASHALE (M	/eathered) cl	av and silt_trace sand		AU5	21	23.0		•	•		11 10.070			771-
-4	· · · · · · · · · · · · · · · · · · ·	brown, some o plastic, extrem 4.1 m - orang	xidation stain ely weak, bloc le mottling, gr	ng, moist, medium ky eyish brown, trace	=	AU6		21.3		<b>I</b> •		-4.3 m	- LL = 86.1% PL = 19.1%			770-
- 	· · · · · · · · · · · · · · · · · · ·	BENTONITE (4 SHALE (Weath	s 1.2 m), 200 m nered), clay ar vidation staini	m layer nd silt, trace sand,		SPT3 AU7	29	20.1		•		5.2 m	PI = 67.0% - Sand = 0.9%			769
	· · · · · · · · · · · · · · · · · · ·	plastic, extreme 4.6 m - interb	ely weak, bloc edded oxide l	ky ayers	-	AU8		20.0		•			Silt = 51.5% Clay = 47.6%			-
		SHALE, gravel interbedded ox	y, silty, highly ide layers, da k, finely fissur	weathered, grey with mp, high plastic, ed	X	SPT4	60	14.6								768
			in, intery need			AU10		15.3		•						767-
Ē					Ţ	SPT5	50									_
		SILTSTONE, c light grey, dam .∖.8 m - SPT ref	layey, trace sa p, very weak usal End of Borehole	and, highly weathered, e @8.2 m			00									766
-9 																765
	1	Notes:						1				1				<u> </u>
16/11/2022	2	Target depth of	f 18 m not ach	ieved. Borehole backfi	illed	with ber	ntonite	e chips				Logge Reviev	d By:		I. Boyd . Curtis	 5
	-															



CLIENT	Eastern Irrigation District				DJECT	NAME	Snake Lake Reservoir Expar	nsion
PROJECT NUMBER	1560-193-00				DJECT		NE 1/4 32-19-16	
DATE STARTED	03/28/2022 COMPLETED 0	03/28	/2022	_ GRO	DUND	ELEVATION 774.34r	n N 5609458.200 E	415393.000
DRILLING CONTRACT	OR Chilako Drilling Services	s Ltd.		GR0	DUND	WATER ELEVATION / DEP	гн	
DRILLING METHOD	6" SSA			_ DAT	E GR	OUND WATER RECORDED		
Depth (m) SOIL SYMBOL	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>POCKET PEN (kPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
SHALE (Weath completely weats staining, very m blocky, gypsum 	SHALE (Weathered), clay and silt, trace sand, completely weathered, brown, some oxidation staining, very moist, high plastic, extremely weat blocky, gypsum crystals 1.5 m - interbedded oxidation layers 2.2 m - brown with light brown and oxidation mottling, weak 3 m - interbedded sand laminations 4 m - trace shale inclusions 4 m - trace shale inclusions 4 m - greyish brown with orange mottling 4.6 m - suspect white sulphates, greyish browr with oxidation staining 5.6 m - extremely weathered grey shale pocket up to 50 mm SHALE, clayey, silty, highly weathered, grey, sor oxidation staining, damp, high plastic, finely fissured End of Borehole @6.7 m				21.9 21.3 24.8 21.9 20.2 22.2 22.4 19.9		-4.3 m - LL = 68.5% PL = 19% PI = 49.5% -4.3 m - Sand = 1.9% Silt = 46.4% Clay = 51.7% 4.6 m - Dispersivity Classification = D2 4.6 m - EC: 4.3 dS/m ■4.6 m - SAR: 25.7 4.6 m - pH: 6.0	774– 7773– 7772– 7771– 7770– 769– 768– 768– 766–
							-	765-
Notes:	10 m mat applicated No. 1999		4	America		in a share was down or		
Iarget depth of completion. Bo	raw mot achieved. No seepage end rehole backfilled with bentonite chips	coun s.	tered. N	linor s	lough	ling observed upon	Logged By: Reviewed By:	J. Boyd T. Curtis



C		NT		Eastern Irrigation Distric	t		PR0	OJECT	NAME		_		Sna	ake La	ake Reservoii	Expan	sion		
F	PROJ	IECT NUMBER		1560-193-00			_ PRO	OJECT	LOCAT	ION	_			1	NE 1/4 32-19	-16			
[	DATE	STARTED	03/28/2022	COMPLETED	03/2	8/2022	GR	OUND	ELEVA	TION	_	775.1	7m	_ N _	5609456.400	)_E_	4152	93.0	00
[	DRILL	ING CONTRACT	OR	Chilako Drilling Service	es Lto	d.	GR	OUND	WATER	R ELE\	VATIC	DN / DE	PTH		773.54 m		1.63	m	
[	DRILL	LING METHOD		6" SSA			DA1	E GR	DUND V	VATEF	R RE	CORDE	Đ		09/	15/2022	2		
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOI</li> <li>⊢ PL/</li> <li>SPT</li> <li>10</li> <li>POO</li> </ul>	ISTURI ASTIC - (N) Bio 200 200 CKET F	E CON - LIQU ows/3 300 2EN (k	NTENT JID 00 mm 0 40 0 400 (Pa)			REMARK	S	□ Standpipe/		Elevation (m)
		CLAY TILL, silt high plastic, bro root hairs, trace	y, trace sand, own, some ox e gypsum crys	very moist, very stiff, idation staining, trace stals	ŧ	AU1		21.8	ŀ		•		0	.6 m ·	- LL = 52.6%	6			775
-1	/	BENTONITE (1	m layer		AU2		24.9			•	•			PI = 40.29	%			774-	
-2		Staining, moist, high plastic, extremely weak, blocky 				SPT1 AU3	17	16.8		•							¥		773—
-		2.1 m - trace 2.6 m - brown	als own with oxidation	-	AU4		16.6		•									-	
	· · · ·					SPT2	37												772
-4	· · · · ·	3.8 m - brown oxidation mottlii	own greyish brown and		AU5		18.4		●⊢			3 3 3	.7 m ⋅ .7 m ⋅ .7 m ⋅	- EC: 2.8 ds - SAR: 10.9 - SO4-S: 50	6/m 18.4			771	
- - - - -	· · · ·	4.6 m - greyis	h brown with	oxidation staining	X	SPT3	37	21.7		•			3 3	.7 m ⋅ .7 m ⋅ .7 m ⋅	- pH: 4.9 - LL = 52.7%	6			-
	· · · · ·	5.2 m - trace	shale inclusio	ns	-	AU7		20.0		٠			4	.3 m ·	PI = 31.59 Sand = 8.8 Silt = 52.0	% 3% %			770
-6		high plastic, ex	tremely weak ulphates	, finely fissured,	' = ▼	AU8	50	17.2		•					Clay = 39.	2%			769-
						AU9	50	16.2		•			Ī						-
					-	AU10		14.7		•									768
			e @8.2 m	┥Ă	SPT5	50											-	767	
9																		766	
-																			
		Notes:																	
		Target depth of	18 m not ach	nieved. Borehole backf	illed	with ber	ntonite	chips					L	ogge	d By:		J. Bo	yd	
16/11/2022													R	eviev	veu by:		1. UU	uS	



(		NT		Eastern Irrigation District			_ PR	OJECT	NAM	E			Sn	ake La	ke Reservo	ir Expar	sion		
1	PROJ	JECT NUMBER		1560-193-00			_ PR	OJECT	LOCA	ATION				N	IE 1/4 32-19	9-16			
1	DATE	STARTED	03/28/2022	COMPLETED	03/2	8/2022	GR	OUND	ELEV	ATION	_	778.7	1m	_ N_5	5609454.80	0 E	415	193.(	000
1	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR	OUND	WATE	RELE	VATIO	N / DE	PTH						
1	ORILI	LING METHOD		6" SSA			_ DA	TE GRO	DUND	WATE	R REC	CORDE	D						
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M ⊢ P ■ SF 10 ▲ P0	OISTUF LASTIC PT (N) E 0 20 00 20 DOCKET	RE CON - LIQU 3lows/30 0 300 PEN (ki	ITENT ID 00 mm <u>40</u> 9 400 Pa)			REMAR	Ś		Standpipe/ Instrument	Elevation (m)
		CLAY TILL, soi	me sand, silty	trace gravel, moist,															-
-			lastic, light bit	Jwn, root nans	-	AU1		12.3		•									778
-		1						-											
Ē					=	AU2		13.2		•			1	.2 m -	LL = 45.1	%			
	$\sim$				Y	SPT1	50						4		PL = 13.1 PI = 32.0	%			777-
2	$\leq$	SHALE (Maath	pered) clav ar	nd silt trace sand		AU3		16.2		•									
Ē	· ·	completely wea	n, some oxidation																
Ē	···	blocky, suspec	extremely weak, te inclusions	-	AU4		16.1		•									776	
-3	·	3 m - trace re	nd	X	SPT2	51												-	
E	·	•					10 -											775	
-4	· ·	3.7 m - moist	, greyish brow	n, hard		AU5		16.5		•									
Ē	·				-	AU6		16.3		•									
-	··	•				SDT2	54												774-
-5		-				3513	54												
-	· · · · ·	•				AU7		14.5		•									
	· <u> </u>	-			-	AU8		14.9		•									773-
-6	· <u>··</u> ·	6.1 m - trace	to some gyps	um crystals and	V	ODT4	0.0						6	.1 m - Jassifi	Dispersiv	ity רחו			-
<u>-</u>	·	SUSPECT White S	sulphates 6.4 m), 50 mm	laver		5P14	88						6	.1 m -	EC: 6.1 d	S/m			
-7	·	SILTSTONE, c	layey, trace sa	and, unweathered,	F	AU9		14.4		•			6 6	.1 m - .1 m -	SAR: 11.3 pH: 4.5	3			112
Ē	·	closely spaced	fractures, fine	ely stratified	-	AU10		16.0		•			6	.7 m -	LL = 45.0 PL = 13.3	% %			
	··· ·· ···	6.7 m - browr mottling	n with greyish	brown and oxide	V	ODTE	50							7 m	PI = 31.7	% 1 7%			771
8 E	<u></u>	7.6 m - SEEF	AGE/FREEW	ATER aminations		5P15	50							./ 111 -	Sand $= 1$ Silt $= 50.8$	3%			
Ē		SHALE, clayey	, silty, highly v	veathered, grey, moist,		AU11		14.6		•					Clay = 37	.5%			
Ē		nign plastic, ex	, inery issured	=	AU12		12.8		•									770-	
-9 -					SDTO	E0						9	.1 m -	SPT refus	sal; 50				
E		-	End of Borebold	@9.6 m	<b>_</b>  ▲	5010	50						F	10113					760
Ē																			109
<u> </u>		Notes:				1													L
		Target depth of	f 9 m achieved	d. Minor sloughing obs	ərve	ed upon	compl	etion.	Boreł	nole b	ackfille	ed witl	ı						
		bentonite chips										L	ogged	l By:		J. B	oyd		
16/11/2022	!												F	leview	ed By:		Т. С	urtis	



(		NT	Eastern Irrigation District			_ PRO	OJECT	NAME	Ş	Snake Lake Reservoir Expa	ansion			
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	OJECT	LOCATION		NE 1/4 32-19-16			
[	DATE	STARTED	07/14/2022	_ COMPLETED	)7/1	4/2022	GR0	OUND	ELEVATION	775.01m	N 5609454.200 E	41	5093.0	000
[	ORILL	ING CONTRACT	OR	Val's Drilling			GR	OUND	WATER ELEVAT	ION / DEPT	н			
[	ORILL	ING METHOD		6" SSA			DAT	E GR	OUND WATER R	ECORDED				
Depth (m)	SOIL SYMBOL	CLAY TILL, and	Soil Descript d silt, trace sa	ion nd, very damp, stiff to	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CI</li> <li>⊢ PLASTIC - LIC</li> <li>■ SPT (N) Blows</li> <li>10 20</li> <li>100 200 3</li> <li>▲ POCKET PEN</li> </ul>	ONTENT QUID /300 mm 30 40 00 400 (kPa)	REMARKS		Standpipe/ Instrument	Elevation (m)
		very stiff, block grey mottling, c crystals, sand p SHALE (Weath completely wea mottling, damp, staining, oxide 2.3 m - becon oxide staining 3.8 m - shale crystals SHALE, clayey damp, very wea staining, gypsu	y, high plastic coal staining, o cockets ered), clay ar athered, light l , extremely we staining, gyps ning very wea ning grey with fragments to , silty, mediun ak to weak, fir m crystals End of Borehold	, light brown to dark poxide staining, gypsum and silt, trace sand, prown to dark grey eak, blocky, coal sum crystals ik a brown mottling and 10 mm, some gypsum n weathered, grey, hely stratified, oxide a @5.1 m		AU1 AU2 SPT1 AU3 AU4 SPT2 AU5 AU6 SPT3	19 38 70				0.6 m - Organic Content = $4.0\%$ 0.6 m - Sand = $1.7\%$ Silt = $44.7\%$ Clay = $53.6\%$ 1.2 m - LL = $58.2\%$ PL = $17.5\%$ PI = $40.7\%$ 1.2 m - Sand = $1.5\%$ Silt = $51.5\%$ Clay = $47.0\%$			7774 7773 7772 7771 7770 769 768 768 767 766
_										. !	1			
16/11/2022	<u>!</u>	Notes: Target depth of bentonite chips	18 m not ach	ieved. No seepage or s	slou	ighing u	oon co	mplet	tion. Backfilled	with	Logged By: Reviewed By:	<u>J. E</u> <u>T. C</u>	<u>Boyd</u> Curtis	
16/11/2022	1										Reviewed By:	T. C	Curtis	_



PROJECT NUMBER 1560 DATE STARTED03/28/2022 COMPLE DRILLING CONTRACTOR Chilako D	193-00 TED 03/2 rilling Services Lt	28/2022	PRO				NE 1/4 32-19-16		
DATE STARTED <u>03/28/2022</u> COMPLE DRILLING CONTRACTOR Chilako D	rilling Services Lt	28/2022	GR					NE 1/4 32-19-16	
DRILLING CONTRACTOR Chilako D	rilling Services Lt		2022 GROUND ELEVATION 776.4		776.48m	N 5609453.300 E	414993.000		
DRILLING CONTRACTOR Chilako Drilling Services Ltd		td.	GR	GROUND WATER ELEVATION / DE			774.14 m	2.34 m	
DRILLING METHOD 6" SSA		DAT	_ DATE GROUND WATER RECORDED			10/12/2022			
Soil Soll Soll Soll Soll Soll Soll Soll	Sample Tvpe	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CON</li> <li>PLASTIC - LIQUI</li> <li>SPT (N) Blows/30 10 20 300 100 200 300</li> <li>POCKET PEN (KET ZEN (KET ZE</li></ul>	TENT D 0 mm 40 2a)	REMARKS	Standpipe/ Instrument Elevation (m)	
CLAY TILL, silty, trace sand, trace grave moist, stiff to very stiff, high plastic, brow oxidation staining, trace organics, gypsi 0.8 m - greyish brown, oxide specs SHALE (Weathered), clay and silt, som completely weathered, brown, some ox staining, moist, medium plastic, extreme blocky	el, very wn, some um crystals e sand, idation ely weak, taining trace	AU1 AU2 SPT1 AU3	22	20.9 26.7 17.3	•	1	l.2 m - LL = 56.1% PL = 16.9% PI = 39.2%	776	
gypsum crystals     BENTONITE (2.8 m), 200 mm layer     SHALE (Weathered), ""     SHALE (Weathered), ""	grey, moist, ured, oxide	AU4 SPT2 AU5 AU5 AU6 SPT3 AU7 AU8 SPT4	17 46 50	20.6 17.5 15.4 12.9 13.8	•		8 m - LL = 42.6% PL = 14.2% PI = 28.4% 8 m - Sand = 15.4% Silt = 48.8% Clay = 35.8% 8.7 m - EC: 6.2 8.7 m - SAR: 16.7 8.7 m - pH: 9.5 dS/m 6.1 m - SPT refusal; 50 blows for 6"	773-772-771-771-	
76.7 m - weak	-	AU9 AU10 SPT5	50	14.7 14.8	•		7.8 m - SPT refusal; 50 plows for 5"	769	
End of Borehole @8.2 m								768	
Notes: Target depth of 18 m not achieved. See completion. Borehole backfilled with be	page encounte ntonite chips. S	ered at 3. Standpipe	0 m. N e instal	/linor s lled to	loughing observe a depth of 8.2 m.	d upon L F	.ogged By: Reviewed By:	J. Boyd T. Curtis	


	CLIEI	NT	Eastern Irrigation District			_ PRO	DJECT	NAME	S	Snake Lake Reservoir Expans	ion	
	PRO	JECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16	
	DATE	STARTED	03/29/2022	_ COMPLETED	)3/2	9/2022	_ GRO	DUND	ELEVATION	776.32m	N_5609452.300 E	414893.000
	DRIL	LING CONTRACT	OR	Chilako Drilling Services	s Lto	ł.	GR	DUND	WATER ELEVATION	N / DEPTI	н	
	DRIL	LING METHOD		6" SSA			DAT	E GRO	OUND WATER REC	ORDED		
Depth (m)	SOIL SYMBOL		Soil Descript	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONT</li> <li>PLASTIC - LIQUII</li> <li>SPT (N) Blows/300</li> <li>10 20 30</li> <li>100 200 300</li> <li>POCKET PEN (kP</li> </ul>	ENT D 0 mm <u>40</u> 400 a)	REMARKS	Standpipe/ Instrument Elevation (m)
-1		CLAY TILL, silt medium plastic crystals, suspe SAND, silty, so wet, loose, brow SHALE (Weath completely wea staining, moist, blocky 2 m - SEEF 3 m - interbec 3 m - interbec 3.7 m - greyis 4.6 m - trace SHALE, clayey high plastic, ve white sulphate 6.3 m - trace	y, trace sand, s, brown, trace ct white sulph me clay, well wn ereed), clay ar athered, brown high plastic, or AGE ided oxide lar sh brown with gypsum crysta , silty, highly v ry weak, finely inclusions gypsum crysta	very moist, very stiff, root hairs, gypsum ate inclusions graded, fine grained, d silt, trace sand, n, some oxidation extremely weak, ninations oxidation mottling als veathered, grey, damp, r fissured, suspect als		AU1 AU2 SPT1 AU3 AU4 SPT2 AU5 AU5 AU5 AU5 AU5 AU5 AU5 AU5 AU5 AU5	6 30 50 50	23.5 21.3 23.4 22.6 21.2 18.8 15.6 15.8 29.2 18.9			1.2 m - Sand = 5.4% 1.2 m - Fines = 94.6% 3.7 m - LL = 54.1% PL = 18.1% PI = 36.0% 3.7 m - Sand = 2.6% Silt = 42.1% Clay = 55.3% 4.6 m - SPT refusal; 50 blows for 5" 6.1 m - SPT refusal; 50 blows for 6" 7.6 m - SPT refusal; 50 blows for 4"	776-
	2	Notes: Target depth of of 1.5 m upon o	15 m not ach completion. Bo	ieved. Seepage encour prehole backfilled with b	ntei	red at 1. tonite ch	2 m. S nips.	loughi	ing observed to a	depth	Logged By:	J. Boyd T. Curtis



	CLIE	NT		Eastern Irrigation District			_ PRO	OJECT	NAME	:	Snake Lake Reservoir Expans	ion	
	PRO	JECT NUMBER		1560-193-00			_ PRO	OJECT	LOCATION		NE 1/4 32-19-16		
	DATE	STARTED	03/29/2022		)3/2	9/2022	GR	OUND	ELEVATION	779.08m	nN5609451.400E	414793.000	0
	DRIL	LING CONTRACT	OR	Chilako Drilling Services	s Lto	1.	GR	OUND	WATER ELEVAT	ION / DEPT	н		
	DRIL	LING METHOD		6" SSA			_ DAT	E GRO	OUND WATER R	ECORDED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 20 3</li> <li>POCKET PEN</li> </ul>	DNTENT QUID /300 mm 30 40 /00 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation	(m)
		CLAY TILL, silt very stiff, mediu organic staining	y, trace to son um to high pla g, root hairs, ti	ie sand, moist, stiff to stic, brown with black race oxide staining	= = X	AU1 AU2 SPT1	8	19.7 21.4	•		0.6 m - EC: 2.7 dS/m 0.6 m - SAR: 2.1 0.6 m - pH: 7.6	71	78
-2 - - - - - - -		SHALE (Weath completely weath staining, moist, blocky, suspect	nered), clay an athered, browr high plastic, e t white sulpha	d silt, trace sand, a, some oxidation extremely weak, re inclusions	-	AU3 AU4		22.6 21.5	•	•	2.1 m - Sand = 1.3% Silt = 50.0% Clay = 48.7% 72.7 m - EC: 7.0 dS/m	77	77-
-3	· · · · · · · · · · · · · · · · · · ·	3 m - interbed	lded oxide lan	ninations	X	SPT2	21		•		2.7 m - SAR: 23.1 2.7 m - SO4-S: 2286.7 mg/kg	77	76-
- - 4 -	· · · · · · · · · · · · · · · · · · ·	3.7 m - browr oxidation staini	n with greyish ng	brown mottling and	= =	AU5 AU6		22.1 19.9	•		2.7 m - pH: 6.7 2.7 m - LL = 75.3% PL = 20.5% PI = 54.8%	77	75-
  5 5		4.4 m - trace	snale inclusio	15	X	SPT3 AU7	51	17.5	•			77	74-
		SHALE, silt and	d clay, highly v	veathered, grey, moist,	-	AU8		14.3	•				-
		Inign plastic, ve	ry weak, finely	rissured	X	SPT4	77				6 6 m - SPT refusal: 50	77	73-
- - -7 -					=	AU9		11.7	•		blows for 4" 6.7 m - Sand = 0.2% Silt = 55.6%	77	72-
					T T	AU10	50	11.6	•		Clay = 44.2% 7.3 m - EC: 7.4 dS/m		-
-8					<b>A</b>	AU11		11.5	•		7.3 m - pH: 7.4 7.3 m - LL = 53.5%	77	71-
- - - - - - - - -		9 m - SEEPA	GE	@9.6 m	Ŧ	AU12 SPT6	50	11.0	•		PL = 16.2% PI = 37.3% 7.8 m - SPT refusal; 50 blows for 5" <u>9.5 m - SPT refusal; 50</u>	77	70-
		Neter		ເພສ.ບ III									-
16/11/202	2	Target depth of completion. Bo	9 m achievec rehole backfill	. Seepage encountere ed with bentonite chips	d at	: 9.1 m.	Minor	slougł	ning observed u	upon	Logged By: Reviewed By:	J. Boyd T. Curtis	



C		νT		Eastern Irrigation Distric	t		_ PRO	OJECT	NAN	ΛE	_	5	Snake	Lake Reservoir E	xpans	ion	
F	PROJ	ECT NUMBER		1560-193-00				OJECT	LOC	ATION	ı _			NE 1/4 32-19-1	6		
[	DATE	STARTED	03/29/2022	COMPLETED	03/2	9/2022	_ GRO	OUND	ELE	VATIO	N _	784.90m	N	5609450.700	Ε_	414720	.100
0	DRILL	ING CONTRACT	OR	Chilako Drilling Service	es Lto	1.	GR	OUND	WAT	ER EL	EVATIO	ON / DEPT	н	782.77 m		2.13 m	I
[	RILL	ING METHOD		6" SSA			_ DAT	E GR	DUNI	D WAT	ER RE	CORDED		09/15	5/2022		
Depth (m)	SOIL SYMBOL		Soil Descripti	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLASTI SPT (N) <u>10 2</u> 100 20 POCKE	JRE COI C - LIQI Blows/3 20 30 00 30 T PEN (I	NTENT JID 00 mm ) 40 0 400 (Pa)		REMARKS		Standpipe/	Elevation (m)
- - - - - - - - - - - - - - - - - - -		CLAY FILL, silt stiff to hard, me root hairs, trace crystals	y, trace to son edium to high e oxide stainin	ne sand, moist, very plastic, brown, trace ig, trace gypsum	-	AU1 AU2		12.8 13.6		•		<b>A</b>					784
F	$\bigotimes$	1.5 m - suspe	ot white supr	lates	Y	SPT1	7										-
_2	$\bigotimes$						,	20.2				<b>A</b>			,	,	783-
-	$\bigotimes$				-	700		20.2							-		
-3	$\approx$	SHALE (Weath	ered) clav ar	nd silt_trace sand		AU4		18.4		•		<b>A</b>			_		782-
-	· · · ·	completely wea	athered, brown noist, high pla	n, light brown to dark stic. extremely weak.	X	SPT2	17			•							
-		blocky 3.2 m - interb	edded oxide la	aminations	=	AU5		15.0		•							781-
-4		4.3  m - brown	with grovish	brown and oxide	-	AU6		14.0		•							in d
-		mottling			Ţ	SPT3	37										
-5		4.7 111 - 11806	coal specks				07	15 1		•							. 780-
		5.4 m - trace	oxide specks		-	101				-							
6					=	AU8		13.7		•							779
-					X	SPT4	87										
			End of Borehole	e @6.6 m													778-
_/																	-
-																	-
-8																	777-
_																	
																	776-
-9													]				-
-																	
-																	775
		Notes:															•
		Target depth of with bentonite of	<sup>5</sup> 6.6 m not ach chips. Standpi	nieved. Minor sloughir pe installed to a depth	ig ob i of 6	served 6.1 m.	upon c	comple	etion	. Bore	hole b	oackfilled	Logg	ed By:		J. Boyd	
16/11/2022													I VE VIE	Gwea Dy.			,



### **GROUND WATER ELEVATION / DEPTH** 772.73 m 1.90 m DRILLING METHOD 6" SSA DATE GROUND WATER RECORDED 08/10/2022 Standpipe/ Instrument % Sample Number SOIL SYMBOL Moisture Content Sample Type MOISTURE CONTENT Elevation (m) SPT (N) Depth (m) Soil H PLASTIC - LIQUID REMARKS Description SPT (N) Blows/300 mm 10 20 30 100 200 300 POCKET PEN (kPa) 400 SHALE (Weathered), clay and silt, some sand, highly weathered, dark brown with oxidation specs, moist, high plastic, extremely weak to hard soil 774 AU1 18.5 1 m - Sand = 12.0% -Silt = 43.9% Clay = 44.1% 773 2.3 m - LL = 63.0% D2 17.8 -AU2 • PL = 24% 772 PI = 39.0% 2.3 m - Sand = 4.4% Silt = 52.5% Clay = 43.2% 2.5 m - LL = 56.6% 771 PL = 22.3% AU3 16.7 -PI = 34.3% ..4 m - becoming very weak 4 m - Sand = 2.9% Silt = 54.9% 770 Clay = 42.2% -5 AU4 15.2 5.5 m - LL = 74.6% -• 769 PL = 21.7% PI = 52.9% -6 End of Borehole @6.1 m 768 -7 767 -8 766 -9 765 Notes: No seepage or sloughing observed upon completion. 25 slotted PVC pipe installed to a depth of 6.1 m. Backfilled sand and bentonite.

16/11/2022

BOREHOLE No : 22BH402

Snake Lake Reservoir Expansion

NE 1/4 32-19-16

N 5609515.100 E 415474.100

PAGE 1 OF 1

C. Tams

T. Curtis

Logged By: Reviewed By:



	CLIEI	NT		Eastern Irrigation District			_ PRC	JECT	NAME	S	Snake Lake Reservoir Exp	ansion	
	PRO	IECT NUMBER		1560-193-00			_ PRC	JECT	LOCATION		NE 1/4 32-19-16		
	DATE	STARTED	06/22/2022	COMPLETED	)6/2	2/2022	_ GRO	DUND	ELEVATION	774.57m	N_5609524.500 E	415355.500	3
	DRIL	LING CONTRACT	OR	Chilako Drilling Service	s Lto	ł.	GRO	DUND	WATER ELEVAT	ION / DEPT	н		
	DRIL	LING METHOD		6" SSA			DAT	E GR	OUND WATER R	ECORDED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>⊢ PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 20 3</li> <li>100 200 3</li> <li>▲ POCKET PEN</li> </ul>	ONTENT QUID ;/300 mm 30 40 300 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation	(m)
-44		CLAY TILL, silt lenses, moist, f brown, some o SHALE (Weath highly weather some oxidation weak	y, some mediu firm, medium t xidation stainin nered), clay an ed, dark browr a staining, mois	m grained sand o high plastic, dark ng d silt, some sand, n to dark grey mottling, st, high plastic, very @6.1 m		AU1 D1 AU2 AU3 AU4		14.3 17.5 19.0			1 m - Dispersivity Classification = ND3 1 m - EC: 8.8 dS/m 1 m - SAR: 20.2 1 m - pH: 6.8 1 m - Sand = 7.9% Silt = 39.5% Clay = 52.6% 1.8 m - LL = 61.0% PL = 23% PI = 38.0% 1.8 m - Sand = 5.2% Silt = 52.1% Clay = 42.8% 2.5 m - LL = 57.5% PL = 18.9% PI = 38.6% 4 m - LL = 65.7% PL = 21.3% PI = 44.4% 4 m - Sand = 3.3% Silt = 50.2% Clay = 46.5%	77 77 77 77 77 77 77 76 76 76	74 773 772 771 669 668 67 667
												76	65
		Notes:											
16/11/2022	2	No seepage or	sloughing obs	erved upon completion	n. B	ackfilled	l with b	entor	nite chips.		Logged By:	C. Tams T. Curtis	



CLIENT	Eastern Irrigation District			_ PRO	OJECT	NAM	1E	-		S	inake La	ake Reservoir Exp	bansio	on	
PROJECT NUMBER	1560-193-00			_ PRO	DJECT	LOC	ATION	1			1	NE 1/4 32-19-16			
DATE STARTED	06/22/2022 COMPLETED 0	06/22/	2022	_ GR	OUND	ELE	/ATIO	N	77	7.26m	N	5609544.300	=	15224.	500
DRILLING CONTRACT	OR Chilako Drilling Services	s Ltd.		GR	OUND	WAT	ER EL	EVAT	ION / [	DEPTH	┥				
DRILLING METHOD	6" SSA			DA1	E GR	JUNE	D WAT	ER RI	ECOR	DED				1	
Depth (m) SOIL SYMBOL	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● N 	//OISTU PLAST SPT (N) 10 2 200 2 200CKE	JRE CC IC - LIC Blows/ 20 3 T PEN	DNTEN QUID 300 mr 30 4 00 40 (kPa)	Г n 0 00		REMARKS		Standpipe/ Instrument	Elevation (m)
CLAY TILL, CO (Weathered), s plastic, brownis inclusions SHALE (Weath weathered, ligh	mpletely weathered SHALE silty, dry, very soft, low to medium sh grey, suspect white sulphate nered), clayey, trace silt, highly nt brown to dark grey mottling, some ing, damp, medium plastic,	-	AU1		13.3										777-
-2	ĸ	-	AU2		12.6		•				2.5 m ·	- Sand = 1.7% Silt = 57.1% Clay = 41.2%			775-
BENTONITE (; SHALE (Weath	3.2 m), small seams	-	AU4 AU3		10.7		•	·			3.2 m · 3.2 m ·	- LL = 84.4% PL = 23.2% PI = 61.2% - Sand = 20.9% Silt = 25.7% Clay = 53.4%	)		774-
	End of Borehole @6.1 m	-	AU5		8.6	•	• • •				5.5 m ·	- LL = 53.8% PL = 18% PI = 35.8%			772-
															770-
															769
Notes:					<u> </u>										L
No seepage or	sloughing observed upon completior	n. Ba	ckfilled	with t	pentor	nite c	hips.				Logge Reviev	d By: ved By:	C 	. Tams . Curtis	i



c		١T		Eastern Irrigation District			_ PR(	OJECT	NAME	Snake Lake Reservoir Exp	ansion
F	ROJ	ECT NUMBER		1560-193-00			_ PR(	OJECT		NE 1/4 32-19-16	
C	DATE	STARTED	06/22/2022	COMPLETED	)6/2	2/2022	_ GR	OUND	ELEVATION778.15r	n <u> </u>	415130.900
C	RILL	ING CONTRACT	OR	Chilako Drilling Services	s Lto	l.	_GR	OUND	WATER ELEVATION / DEP	TH774.17 m	3.98 m
C	RILL	ING METHOD		6" SSA			_ DA1	E GR	OUND WATER RECORDED	09/15/20	)22
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>POCKET PEN (KPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
-1		CLAY TILL, so soft, low to me precipitates SHALE (Weath highly weather oxidation staini weak	me silt, some s dium plastic, b hered), silt and ed, brown with ng, damp, higi ning very wea ning very wea ning some sar End of Borehole	k md k md k md k md k md k md k md k md		AU1 AU2 AU3 AU4		9.4 14.2 11.8 13.9	POCKET PEN (kPa)	1  m - LL = 55.6% PL = 14.2% PI = 41.4% 2.5 m - Sand = 1.9% Silt = 53.6% Clay = 44.5% 4.5 m - \text{LL} = 41.9% PL = 16.5% PI = 25.4% 5 m - hard drilling 5.5 m - Sand = 10.5% Silt = 43.9% Clay = 45.6%	▼       778-         777-       777-         771-       770-         769-       769-
- - - -		Notes:								_	
		No seepade ar	nd minor sloua	hing observed upon co	amo	letion. 2!	5 mm	slotte	d PVC pipe installed to a		
		depth of 6.1 m.	Backfilled wit	h sand and bentonite.	Р				,,	Logged By:	C. Tams
16/11/2022										Reviewed By:	T. Curtis



CLIENT	Eastern Irriga	tion District		_ PRC	JECT	NAME				S	Snake Lak	e Reservoi	r Expa	nsion		
PROJECT NUMBER	1560-1	93-00		_ PRC	JECT	LOCA	TION	_			Ν	E 1/4 32-19	-16			
DATE STARTED	06/22/2022 COMPLET	ED06/2	2/2022	_ GRO	DUND	ELEVA		ı _	777	72m	N_5	609659.30	0_ E	41	5145.0	600
DRILLING CONTRACT	OR Chilako Dril	ling Services Lto	d.	GR0	DUND	WATE	R ELE	EVATIC	N / D	EPTI	Η					
DRILLING METHOD	6	S" SSA		DAT	E GRO	DUND	WATE	ER REG	CORE	ED						
Depth (m) SOIL SYMBOL	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MC</li> <li>⊢ PL</li> <li>■ SP</li> <li>10</li> <li>▲ PC</li> </ul>	DISTUI LASTIC T (N) I 0 20 0 20 0 20	RE CON C - LIQU Blows/30 0 300 PEN (k	ITENT IID 00 mm 40 0 400 Pa)	)		REMARK	S		Standpipe/ Instrument	Elevation (m)
CLAY TILL, silt plastic, greyish	y, some sand, stiff, dry, me brown, some oxidation sta nered), clayey, highly weat me oxidation staining, dan ely weak	edium aining hered, np, high	AU1 AU2		12.1 15.2		•				1 m - LL	_ = 51.8% PL = 19.6 PI = 32.2	%			777-
4 BENTONITE (4 5 SHALE (Weath 5 SHALE (Weath 6	BENTONITE (4.5 m), small seams SHALE (Weathered), "" 5.5 m - becoming some sand End of Borehole @6.1 m				13.3		• 1=				4 m - Ll 4 m - Sa 4.4 m - <u>4.4 m -</u> 5.5 m -	$_{-}$ = 48.8% PL = 17% PI = 31.8 and = 1.49 Silt = 49.3 Clay = 49 LL = 137.1 PL = 39% PI = 98.0 <u>Sand = 2.</u> Silt = 22.7 Clay = 75 LL = 44.7' PL = 12.9 PI = 31.8	% % 3% 0% % 3% % %			7774– 7773– 7772– 7771– 7770– 769–
Notes: No seepage or	sloughing observed upon	completion. B	ackfilled	l with t	pentor	lite ch	ips.				Logged	By: ed By:		<u>С.</u> Т. (	<u>Tams</u> Curtis	768-



	CLIEI	NT	Eastern Irrigation District			_ PRC	DJECT	NAME	Si	nake Lake Reservoir Expan	ision	
	PRO	JECT NUMBER		1560-193-00			_ PRC	DJECT			NE 1/4 32-19-16	
	DATE	STARTED	06/21/2022		06/2 <sup>-</sup>	1/2022	_ GRO	DUND	ELEVATION77	8.03m	N_5609688.400 E	415026.100
	DRIL	LING CONTRACT	OR	Chilako Drilling Service	s Lto	1.	GR0	DUND	WATER ELEVATION /	DEPTH	l	
	DRIL	LING METHOD		6" SSA			_ DAT	E GR	OUND WATER RECOP	RDED		
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTEN</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 m 10 20 30 100 200 300 4</li> <li>POCKET PEN (kPa)</li> </ul>	1T m 40	REMARKS	Standpipe/ Instrument Elevation (m)
-1		CLAY TILL, silt plastic, light bro SHALE (Weath highly weather staining, damp blocky	y, some sand own ered), clay ar ed, dark brow high plastic, ng less weath End of Borehold	, dry, soft, medium Ind silt, trace sand, n, some oxidation extremely weak, hered, lots of oxidation e @6.1 m	£ 5	AU1 AU2 AU3 AU4		8.1 12.7 13.3 12.4			1 m - LL = 37.7% PL = 12.6% PI = 25.1% 1 m - Sand = 11.7% Silt = 48.5% Clay = 39.8% 2.5 m - Sand = 0.9% Silt = 45.1% Clay = 54.0% 5.5 m - LL = 55.1% PL = 18.2% PI = 36.9%	777- 776- 7775- 7774- 7774- 7773- 7773- 7772- 7771- 7770- 7769-
Ē												
<u> </u>		Notes <sup>.</sup>							]			
16/11/2022	2	No seepage or	sloughing ob	served upon completio	n. B	ackfilled	with b	pentor	nite chips.	ļ	Logged By: Reviewed By:	<u>C. Tams</u> T. Curtis



C		NT	Eastern Irrigation District			_ PRC	DJECT	NAME				S	Snake Lake Reservoir Expans	ion	_	
F	PROJ	ECT NUMBER		1560-193-00			_ PRC	DJECT	LOCAT	ΓΙΟΝ				NE 1/4 32-19-16		_
[	DATE	STARTED	06/21/2022	COMPLETED 0	6/21	1/2022	GRO	DUND	ELEVA	TION	_	778.	50m	N 5609725.100 E	414931.800	_
[	ORILL	ING CONTRACT	'OR	Chilako Drilling Services	s Ltd	l.	GR0	DUND	WATEF	RELE	VATIO	N/D	EPT	н		
[	ORILL	ING METHOD		6" SSA			DAT	E GR		NATER	R REC	ORD	ED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MO</li> <li>⊢ PL.</li> <li>■ SP1 10</li> <li>100</li> <li>PO0</li> </ul>	NISTURI ASTIC T (N) BI 20 0 200 CKET F	E CON - LIQU ows/30 <u>300</u> 200 (kf	TENT ID 10 mm <u>40</u> 2400 Pa)	)	REMARKS	Standpipe/ Instrument Elevation	(m)
		CLAY TILL, so medium plastic SHALE (Weath highly weather staining, damp	me silt, some g ;, brown nered), clay an ed, greyish bro , medium plas	d silt, trace sand, bwn, some oxidation tic, extremely weak	#	AU1 AU2		4.5 14.1	•	•				1 m - LL = 31.5% PL = 12.6% PI = 18.9% 2.5 m - Sand = 3.6% Silt = 48.4%	778 777 776	7
- 13 		4 m - becomi	• @4.3 m		AU3		19.7					<b>1</b>	Clay = 48.0% 4 m - LL = 43.1% PL = 15.8% PI = 27.3% 4 m - Sand = 15.9% Silt = 48.9% Clay = 35.2% 4.3 m - Auger refusal	775 774 774 775 772 771 770 765		
		No seepage or	sloughing obs	served upon completior	η. Ba	ackfilled	l with b	pentor	nite chi	ps.						
														Logged By:	C. Tams	
16/11/2022														Reviewed By:	r. Curtis	_
																-



	CLIEN	NT	ern Irrigation District			_ PRO	DJECT	NAM	1E	-		S	nake La	ake Reserv	oir Expa	insion	I			
1	PROJ	IECT NUMBER			1560-193-00			_ PRO	DJECT	LOC	ATIO	N _			1	NE 1/4 32-	19-16			
1	DATE	STARTED	06/22/20	022 CC	MPLETED	06/22	2/2022	_ GR0	DUND	ELE\	/ATIO	N	778	8.36m	_ N _	5609818.2	00 E	41	4990.	600
1	DRILI	LING CONTRACT	OR _	Chi	ako Drilling Service	s Ltd	l.	GR0	DUND	WAT	ER EL	.EVAT	ION / E	DEPTH	ł					
ı	DRILI	LING METHOD	_		6" SSA			_ DAT	E GRO	DUNE	) wat	ER R	ECORI	DED						
Depth (m)	SOIL SYMBOL		Des	Soil scription		Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M	NOISTI PLAST SPT (N) 10 2 200 2	JRE CO IC - LIO Blows, 20 ( 200 3 T PEN	DNTEN QUID /300 mn 30 40 00 40 (kPa)	Г 1 0 10		REMAR	RKS		Standpipe/ Instrument	Elevation (m)
		SHALE (Weath residual soil, gr staining, damp SHALE (Weath highly weather with oxidation s	nered), cla reyish bro , low plas nered), cla ed, light b specs, da	ay and silt own, some stic, extrem ay and silt orown to da imp, high p	trace sand, oxidation hely weak trace sand, ark grey mottling, plastic, very weak	-	AU1 AU2 AU3 AU4		13.4 15.3 15.0 12.3		• • •				1 m - S 2.5 m - 2.5 m -	Gand = 0.9 Silt = 37 Clay = 6 PL = 18° PI = 36. Sand = 0 Silt = 43 Clay = 5 - LL = 51. PL = 18. PI = 33.	9% .4% 1.7% 6% 6% 0.5% .7% 5.8%			778 777- 7776 7775 7774 7773 7772 7771 7770 7769
		Notes:																		<u> </u>
16/11/2000		No seepage or	sloughin	g observe	d upon completio	n. B	ackfilled	with t	pentor	nite c	hips.				Logge Reviev	d By: ved By:		<u> </u>	<u>Tams</u> Curtis	<u>.</u>
16/11/2022	:															-				



(	CLIEN	NT	Eastern Irrigation District			PR	OJECT	NAM	E	_		Snal	ke Lake Reservoir Ex	oansio	n		
1	PROJ	IECT NUMBER		1560-193-00			_ PR	OJECT	LOC	ATION	_			NE 1/4 32-19-16			
ſ	DATE	STARTED	06/21/2022		06/2	1/2022	GR	OUND	ELEV	ATION	۱.	778.32	2m	N 5609875.400	<u> </u>	14853.0	)00
1	DRILI	ING CONTRACT	OR	Chilako Drilling Service	s Lto	1.	GR	OUND	WATE	ER ELI	EVATI	ON / DEF	PTH _				
ſ	DRILI	ING METHOD		6" SSA			DA	re gro	DUNE	WATI	ER RE	CORDE	D _				
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S 1 ▲ P	10ISTU PLASTIC PT (N) 10 2 00 20 00 20	RE CO C - LIQ Blows/3 0 30 7 PEN (	NTENT UID 300 mm 0 40 10 400 kPa)		REMARKS		Standpipe/ Instrument	Elevation (m)
- - - - - - - - - - - - - - - - - - -		CLAY TILL, silt plastic, brown, SHALE (Weath trace gravel, hi grey mottling, t	y, some sand, trace root hai nered), clay ar ghly weathere race oxidatior	dry, soft, medium rs id silt, trace sand, id, light brown to dark i staining, damp.	#	AU1		14.0		●⊢			 	1 m - LL = 56.3% PL = 16.5% Pl = 39.8%			778
		medium plastic	, extremely w	eak to hard soil	ŧ	AU2		17.3		•			1.1 1.1 2.5	1 m - Gravel = 0.2% 1 m - Sand = 8.1% Silt = 38.2% Clay = 53.5% 5 m - LL = 55.2% PI = 19.3%	b		776
3  4					-	AU3		17.0		•			4 r	PI = 35.9%			775
			End of Borehole	9 @4.3 m									4.3	Silt = 46.8% Clay = 49.5% 3 m - Auger refusal ry tight drilling			774-
6 6 6																	772-
- - - - - - - - - - - - - - - - - - -																	771-
																	770
- - - - - -		Netere															769
		Notes: No seepage or	sloughing ob	served upon completio	ackfilled	l with I	pentor	nite c	hips.			Lo	gged By:	C.	<u>Ta</u> ms		
16/11/2022	2												Re	eviewed By:	T.	Curtis	



PROJECT NUMBER         1500-102-00         PROJECT LOATION         NE 199 32-10-16           DATE STARTED         00202022         COMPLETED         00202022         GROUND ELEWITION         T78 dm         N 500931.800 gc         159085.700           DRILLING CONTRACTOR         Childing Drilling Services LLL         GROUND WATER RECORDED		CLIE	NT		Eastern Irrigation District			_ PRO	DJECT	NAME	Snake Lake Reservoir Expa	insion
Det ETARTE D         0.022/202         COMPLETE D         0.000	1	PROJ	IECT NUMBER		1560-193-00			_ PRO	DJECT		NE 1/4 32-19-16	
DRLLING CONTRACTOR       Chilaso Diffing Services Litt.       GROUND WATER RECORDED         get	1	DATE	STARTED	06/22/2022		)6/22	2/2022	_ GRO	DUND	ELEVATION 776.89r	n <u>N</u> 5609881.800 E	415068.700
DHILLING METHOD       IP SSA       DATE ERCURD WATER RECORDED         Image: Control of the second sec	1	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	l.	GR0	DUND	WATER ELEVATION / DEP	Ή	
general Control       Solid Description       general Control       REMARKS       general Control         1       CLAY TILL, some silt, damp, stiff, high plastic, dark       90, general Control       90, general	1	DRILI	LING METHOD		6" SSA			_ DAT	E GR	OUND WATER RECORDED	. <u></u>	
CLAY IILL, some siit, damp, suit, high plastic, dark brown, which bown,	Depth (m)	SOIL SYMBOL		So Descri	l otion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>POCKET PEN (kPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
P     P	-1		CLAY TILL, sor brown, trace of SHALE (Weath highly weather specs, damp, r trace gypsum of	me silt, dam kidation stair ed, dark bro nedium plas crystals	p, stiff, high plastic, dark hing and silt, some sand, wn, with oxidation tic, extremely weak,		AU1 AU2 AU3 AU4		15.0 15.4 12.9 16.5			7776- 7775- 7774- 7773- 7772- 7771- 7770- 7769- 769- 769- 769-
Notes: No seepage or sloughing observed upon completion. Backfilled with bentonite chips. Logged By: <u>C. Tams</u> Reviewed By: <u>T. Curtis</u>	9 										-	767-
No seepage or sloughing observed upon completion. Backfilled with bentonite chips.  Logged By: C. Tams  Reviewed By: T. Curtis			Notes:									
Logged By:     C. Tams       16/11/2022     Reviewed By:     T. Curtis			No seepage or	sloughing o	bserved upon completion	n. B	ackfilled	with t	pentor	nite chips.		
16/11/2022 Reviewed By: T. Curtis											Logged By:	C. Tams
	16/11/2022	2									Reviewed By:	T. Curtis



		NT		Eastern Irrigation District			_ PRO	OJECT	NAM	1E	_		S	Snake La	ake Re	eservoir E	Expans	sion		
1	PROJ	IECT NUMBER		1560-193-00			_ PRO	OJECT	LOC	ATION	_ ۱				NE 1/4	32-19-1	6			
ı	DATE	STARTED	06/22/2022	COMPLETED 0	06/22	2/2022	_ GRO	OUND	ELE	/ATIOI	N	775	5.67m	N	56098	358.800	Ε_	4152	200.6	00
۱ I	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	l.	GR0	OUND	WAT	ER EL	EVATI	ON / [	DEPTI	Η						
I	DRILI	LING METHOD		6" SSA			DAT	E GR	JUNE	) WAT	ER RE	ECOR	DED							
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● N 	MOISTU PLASTI SPT (N) 10 2 200CKE	JRE CC IC - LIQ Blows/ 20 3 00 3 T PEN	0NTEN 101D 300 mn 10 4 00 40 (kPa)	T n 0 00		REM	MARKS		Standnine/	Instrument	Elevation (m)
1		CLAY TILL, silt (Weathered), d brown, some o SHALE (Weath highly weather with oxidation s weak to hard so	y, some sand, amp, firm, me xidation stainin nered), clay an ed, light browr specs, damp, l oil	residual SHALE dium plastic, dark ng d silt, trace sand, to dark grey mottling, nigh plastic, extremely	*	AU1		15.8		•										775
-3		3 m - bentoni	te inclusions		-	AU2		20.8			•			2.5 m	- LL = PL = PI =	56.2% 19.2% 37.0%				773-
		4 m - becomi	ng grey, mediu	ım plastic, some sand	æ	AU3		11.2		•••				4 m - l 4 m - S	L = 4 PL = PI = Sand = Silt = Clay	5.2% : 15.5% : 29.7% = 13.6% : 49.8% y = 36.6	%			771
		Notes:	End of Borehole	@6.1 m		AU4		11.4												770 769 768 767 766
16/11/2022	!	No seepage or	sloughing obs	erved upon completion	n. B	ackfilled	with t	pentor	nite c	hips.				Logge Reviev	d By: wed B	y:		<u>C. Ta</u> T. Cu	ams urtis	



C		IT		Eastern Irrigation District			_ PR	OJECT	NAM	1E	_		Sr	nake La	ake Reservoir E	Expans	ion	
F	PROJ	ECT NUMBER		1560-193-00			_ PR	OJECT	LOC	ATION	_			١	NE 1/4 32-19-1	6		
[	DATE	STARTED	06/22/2022	COMPLETED	)6/22	2/2022	_ GR	OUND	ELE	/ATION	1 _	776	.15m	_ N _	5609941.400	Ε_	415203	.800
[	DRILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd		GR	OUND	WAT	ER ELI	EVATIO	ON / E	)EPTH		774.02 m		2.13 m	l
	DRILL	ING METHOD		6" SSA			_ DA	TE GRO		) wati	ER RE	CORI	DED		09/1	5/2022	15	
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● N 	10ISTU PLASTI SPT (N) 10 20 20 20 20CKE1	RE CO C - LIQI Blows/3 0 30 00 30 _ PEN (I	NTENT JID 600 mm <u>) 4(</u> 0 40 kPa)	- 1 2 0		REMARKS		Standpipe/	Elevation (m)
-1		CLAY, complete silty, dry, soft, lo SHALE (Weath highly weathere with oxidation s weak	ered), clay an ered), clay an ed, light brown pecs, damp, r	SHALE (Weathered), plastic, brown d silt, trace sand, to dark grey mottling, nedium plastic, very <u>ng sandy</u> @3.7 m		AU1 AU2 AU3		16.7 14.1 14.9		•				3.5 m - 3.5 m - 3.7 m -	L = 51.1% PL = 19.1% PI = 32.0% PI = 32.0% PL = 13.3% PI = 24.0% Sand = 30.5 Silt = 40.8% Clay = 28.3' Auger refus	9% % al		776 777 777 777 777 777 777 777 777 777
		Notes:											1				1	
16/11/2022		Seepage encou with sand and b	untered at 3.6 pentonite.	m. 25 mm slotted PVC	; pip	e install	ed to	a dept	h of	3.7 m	. Back	filled	L	₋oggeo Reviev	d By: ved By:		C. Tams I. Curtis	<u> </u>



C		IT		Eastern Irrigation District			_ PRO	DJECT	NAME	Snake Lake Reservoir Expa	nsion
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT		NE 1/4 32-19-16	
[	DATE	STARTED	06/22/2022	COMPLETED 0	)6/22	2/2022	_ GRO	DUND	ELEVATION 777.08r	n N 5609947.500 E	415064.600
[	RILL	ING CONTRACT	OR	Chilako Drilling Services	s Ltd	l	_GR(	DUND	WATER ELEVATION / DEP	ГН	
C	DRILL	ING METHOD		6" SSA			DAT	E GRO	OUND WATER RECORDED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>POCKET PEN (kPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
-1		SHALE (Weath some sand, cor oxidation staini weak, suspect bentonite seam SHALE (Weath highly weathere with oxidation s to hard soil, sus	ered), clay an mpletely weath ng, dry, high p white sulphate is ered), clay an ed, light brown specs, damp, h spect white su	d silt, trace sand, hered, brown, some lastic, extremely inclusions, trace		AU1 AU2 AU3 AU4		12.1 14.2 11.8 15.4	POCKET PEN (kPa)	<ul> <li>1 m - LL = 59.9% PL = 18.1% PI = 41.8%</li> <li>1 m - Sand = 0.7% Silt = 36.8% Clay = 62.5%</li> <li>2.5 m - LL = 55.6% PL = 21.6% PI = 34.0%</li> <li>4 m - Sand = 4.0% Silt = 52.3% Clay = 43.7%</li> <li>5.2 m - Auger refusal</li> </ul>	7776- 7775- 7774- 7774- 7773- 7772- 7772- 7771- 7770- 7769- 769- 769- 768-
-										_	
		Notes:									
		No seepage or	sloughing obs	erved upon completior	η. Β	ackfilled	with t	pentor	nite chips.	Logged By:	C. Tams
16/11/2022											



C		NT		Eastern Irrigation District			_ PRC	DJECT	NAM	1E	_		S	nake La	ake Reservoir E	Expans	sion	
F	PROJ	ECT NUMBER		1560-193-00			_ PRC	DJECT	LOC	ATION	_ ۱				NE 1/4 32-19-1	6		
[	DATE	STARTED	06/21/2022	COMPLETED	06/2 <sup>-</sup>	1/2022	_ GRO	DUND	ELE	/ATIO	N	778.	29m	_ N_	5609946.300	Ε_	41495	1.600
[	ORILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	1.	GR0	DUND	WAT	ER EL	EVATI	ON / D	EPTH	ł	774.96 m		3.33	m
[	DRILL	ING METHOD		6" SSA			_ DAT	E GR	JUNE	D WAT	ER RE	CORD	ED		09/1	5/2022		
Depth (m)	SOIL SYMBOL		Soil Descripti	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLASTI SPT (N) <u>10 2</u> POCKE	JRE CC IC - LIQ Blows// 20 3 00 30 T PEN 1	NTENT UID 300 mm 0 40 00 400 (kPa)	)		REMARKS		Standpipe/	Elevation (m)
-	/	CLAY TILL, sor	ne silt, trace g brown	gravel, dry, soft, low to														778-
-1		SHALE (Weath highly weather staining, damp	ered), clay ar ed, dark brown , high plastic,	nd silt, trace sand, n, some oxidation very weak	#	AU1 AU2		11.5 14.5		•				1 m - l 1 m - s 2.5 m	LL = 52.8% PL = 18.4% PI = 34.4% Sand = 1.3% Silt = 49.6% Clay = 49.1' - Sand = 1.29 Silt = 49.3% Clay = 49.5	%		777–
																	<b>⊻</b> ∣:∣	775-
-14			End of Borehole	e @4.0 m		AU3		14.4		•				3.7 m	- LL = 57.8% <u>PL = 21.3%</u> PI = 36.5%			774– 7773– 7772– 7771– 7770– 769–
		Notes:																
		No seepage or with sand and I	sloughing ob pentonite.	served upon completio	n. 2	5 mm sta	andpip	be inst	allec	l to 4.	0 m. I	Backfil	led	Logge	d By:	,	<u>C. Tar</u> T. Cur	ns
16/11/2022															NGU Dy.		i. Uul	



CLIENT	г		Eastern Irrigation District			_ PR	OJECT	NAN	1E	_		S	nake Lake	Reservoir	Expans	sion	
PROJE	CT NUMBER		1560-193-00			_ PR	OJECT	LOC	ATION	_ ۱			NE	1/4 32-19-	16		
DATE S	STARTED	06/21/2022	COMPLETED	)6/2 <i>^</i>	1/2022	_ GR	OUND	ELE	/ATIO	N	780	.40m	N56	09979.500	_ E _	414827	.500
DRILLIN	NG CONTRACT	OR	Chilako Drilling Service	s Ltd	Ι.	GR	OUND	WAT	ER EL	EVAT	ON / D	EPTH	۱				
DRILLIN	NG METHOD		6" SSA			DA	re gro	JUNI	D WAT	ER RI	ECORE	DED					
Depth (m) SOIL SYMBOL		Soil Descript	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLAST SPT (N) 10 2 POCKE	JRE CC IC - LIC Blows/ 20 3 7 PEN	0NTENT 1UID 300 mm 10 40 00 40 (kPa)	0	7	EMARK	5	Standpipe/	Elevation (m)
$\begin{array}{c} \mathbf{C} \mathbf{s} \\ \mathbf{s}$	2LAY TILL, silty oft, low to mec 3HALE (Weath highly weathere taining, damp, soil	y, trace grave dium plastic, b ng residual mi ered), clay ar ed, dark brown medium plas	, trace cobbles, dry, rown udstone d silt, trace sand, n, some oxidation tic, very weak to hard		AU1 AU2 AU3 AU4		6.9 13.3 12.4 13.7		•				1 m - LL = Pl 1 m - Gra 1 m - Sar C 2.5 m - Ll P 3.2 m - S Si C 3.5 m - A changed drilled to m 4 m - LL = P 4.6 m - A	= 46.6% L = 17.9% I = 28.7% ivel = 0.8 nd = 14.5% ilt = 42.0% L = 57.0% L = 20.2% I = 36.8% and = 5.9% ilt = 45.7% lay = 48.4% uger refus auger bit 4.6 = 48.8% L = 17.7% I = 31.1% uger refus	6 % % 7% 6 6 sal; and 6 6 sal		780- 779- 777 777 777 777 777 777 777 777 7
									!								
N	Notes: No seepage or	sloughing ob	served upon completio	n. B	ackfilled	with I	pentor	nite c	hips.				Logged E	Зу:		<u>C. Tam</u>	s
16/11/2022													Reviewed	d By:		T. Curti	s



c		NT		Eastern Irrigation Distric	:t		_ PR	OJECT		ΛE	_	Ş	Snake L	ake Reservoir E	xpans	ion	
F	PROJ	ECT NUMBER		1560-193-00			_ PR	OJECT	r loc		_ ۱			NE 1/4 32-19-1	6		
0	DATE	STARTED	06/21/2022	COMPLETED	06/2	1/2022	_ GR	OUND	ELE	VATIO	Ν.	775.36m	<u> </u>	5612279.300	Ε_	415285.	900
C	RILL	ING CONTRACT	OR	Chilako Drilling Servic	es Lto	1.	GR	OUND	WAT	ER EL	EVATI	ON / DEPT	н	770.94 m		4.42 m	
0	RILL	ING METHOD		6" SSA			_ DA	TE GR	OUN	D WAT	ER RE	CORDED		09/15	5/2022		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLASTI SPT (N) <u>10 2</u> POCKE	JRE CO IC - LIQ Blows/3 20 30 7 PEN (	NTENT UID 300 mm 0 40 10 400 kPa)	-	REMARKS		Standpipe/	Elevation (m)
-1		CLAY TILL, silt medium plastic SHALE (Weath weathered, bro weak	y, sandy, some , brown ered), clay an wn, damp, hig	e gravel, dry, soft, d silt, highly h plastic, extremely @5.5 m		AU1 AU2 AU3 AU4		5.8 8.8 15.6		•			1 m - Classi 1 m - 1 m - 2.5 m 4 m - <del>5.5 m</del>	Dispersivity ification = D2 LL = 39.6% PL = 14.7% PI = 24.9% Gravel = 15.5 Sand = 27.8% Silt = 32.8% Clay = 23.9° - LL = 49.3% PL = 17.4% PI = 31.9% LL = 56.2% PL = 19.8% PI = 36.4%	% %		7775 7774 7773 7772 7771 7770 769 769 768 768
-													-				-
		Notes:	eloughing and	served 25 mm DV/C -	ine i	netallad	to a d	onth a	of 5 5	m P	ackfill	ad with					
		sand and bento	onite.	561 VEU. 23 MIIII PVG (	ihe II	ISIGIIEU	เบลด	epuic	л <u>э</u> .с	, III. Di			Loaae	ed Bv:	(	C. Tams	;
													Revie	wed Bv:		T. Curtis	;
16/11/2022														- , .			



c		NT		Eastern Irrigation Distric	t		_ PRC	DJECT	NAN	1E	_	S	Snake Lake	e Reservoir Ex	oansio	n	
P	PROJ	ECT NUMBER		1560-193-00			_ PRC	DJECT	LOC	ATION	I _		NE	1/4 32-19-16			
C	DATE	STARTED	06/20/2022	_ COMPLETED	06/2	0/2022	_ GRO	DUND	ELE	VATIO	N _	775.41m	N_56	12305.900	E _4	15136.0	600
C	RILL	ING CONTRACT	OR	Chilako Drilling Servic	es Lto	l.	GR0	DUND	WAT	ER EL	EVATIO	ON / DEPT	н				
C	RILL	ING METHOD		6" SSA			_ DAT	E GR	JUNI	D WAT	ER RE	CORDED					
Depth (m)	SOIL SYMBOL		Soil Descript	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLASTI SPT (N) 10 2 POCKE	IRE COI C - LIQI Blows/3 20 30 00 30 T PEN (I	NTENT JID 00 mm 0 40 0 400 (Pa)	F	REMARKS		Standpipe/ Instrument	Elevation (m)
		CLAY TILL, silt fragments, dry, oxidation specs SHALE (Weath highly weather moist bidh play	y, some sand, stiff, high pla: s nered), clay ar ed, mottled da stic, extremely	trace bedrock stic, brown, with d silt, trace sand, rk greyish brown,	-	AU1		7.7		у			<sup>:</sup> 1 m - LL P	= 55.1% PL = 16.6% Pl = 38.5%			775
3		blocky, suspect	t white sulpha	te inclusions	-	AU2		12.6		•			2.5 m - S S C	Sand = 5.6% Silt = 44.7% Slay = 49.7%			773-
-4					-	AU3		15.9		••••			4 m - LL P P	= 66.8% PL = 19.6% Pl = 47.2%			771-
			End of Borehole	e @6.0 m	-	AU4		14.0		•			5.5 m - S S	Sand = 1.8% Sand = 45.0% Stay = 53.2%			770-
		Notes:															769
16/11/2022		Borrow search.	Backfilled wi	h bentonite chips.									Logged E Reviewe	Зу: d Ву:	<u>С.</u> Т.	Braun Curtis	l



	CLIEI	NT		Eastern Irrigation District			_ PRO	DJECT	NAME			S	inake La	ake Reservoi	r Expan	sion		
1	PRO	JECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATI	ON			1	VE 1/4 32-19	-16			
	DATE	STARTED	06/21/2022	COMPLETED	)6/2 <sup>-</sup>	1/2022	_ GRO	DUND	ELEVAT	ION	776	6.70m	N	5612388.200	<u>)</u> E	4152	247.500	)
1	DRIL	LING CONTRACT	OR	Chilako Drilling Services	s Ltd	l.	GR0	DUND	WATER	ELEVA	FION / [	DEPTI	۱					
	DRIL	LING METHOD		6" SSA			DAT	E GR	OUND W	ATER F	RECOR	DED						
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOIS</li> <li>⊢ PLA:</li> <li>■ SPT ( 10 100 ▲ POCI</li> </ul>	STURE C STIC - LI (N) Blows 20 200 KET PEN	ONTEN QUID s/300 mr 30 4 300 40 I (kPa)	T n 0 00		REMARK	S	Standpipe/	Elevation	(m)
-1		CLAY and SILT medium plastic SHALE (Weath highly weather damp, high plas 4.5 m - some	, some sand, , brown, some ed, light browr stic, extremely cobbles	some gravel, dry, soft, e oxidation staining d silt, trace sand, n to dark grey mottling, / weak		AU1 AU2 AU3 AU4		7.9 13.0 11.4		•••			1 m - L 1 m - C 1 m - S 4 m - S	L = 47.6% PL = 16% PI = 31.6' Gravel = 12 Sind = 10.2 Silt = 41.7 Clay = 35. Sand = 8.29 Silt = 50.6 Clay = 41. - LL = 54.4' PL = 17.9' PI = 36.5'	% .2% % 9% 9%		77 77 77 77 77 77 77 77 77 77 77 77 77	76 775 774 773 772 772 771 770 669 668 668
F																		-
	1	Notes:					1		<u> </u>									
16/11/2022	!	No seepage or	sloughing ob	served.									Loggeo Reviev	d By: ved By:		<u>C. Ta</u> T. Cu	ams urtis	



	CLIEN	NT		Eastern Irrigation District			_ PRO	DJECT	NAME		Snake	Lake Reservoir Expa	ansion	
1	PROJ	IECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION			NE 1/4 32-19-16		
	DATE	STARTED	06/20/2022	COMPLETED	06/2	0/2022	_ GRO	DUND	ELEVATION	775.4	<u>4m</u> N	5612329.500E	41	4979.000
	DRILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	1.	GR0	DUND	WATER ELE	VATION / DE	ртн			
	DRILL	ING METHOD		6" SSA			_ DAT	E GR	OUND WATE	R RECORDE	D			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTUR</li> <li>PLASTIC</li> <li>SPT (N) Bi</li> <li>10 20</li> <li>100 200</li> <li>POCKET F</li> </ul>	RE CONTENT - LIQUID lows/300 mm 30 40 ) 300 400 PEN (kPa)		REMARKS		Standpipe/ Instrument Elevation (m)
		CLAY TILL, silt to 40 mm, dry, SHALE (Weath completely wea staining, moist, hard soil, finely	y, some sand, firm, low plast rered), clayey, athered, dark t medium plasi fissured, bloc	bedrock fragments up c, light brown silty, some sand, prown, some oxidation ic, extremely weak to ky, suspect white	-	AU1		5.2	•••		1 m ·	- LL = 29.4% PL = 12.4% PI = 17.0%		775
-3					#	AU2		13.6	•		2.5 n	n - Sand = 11.6% Silt = 46.6% Clay = 41.8%		773–
-4		4 m - becomii	ng high plastic		æ	AU3		17.0	•		4 m ·	- LL = 61.4% PL = 21.2% PI = 40.2%		771
		5.5 m - becon	ning trace san	d @5.9 m		AU4		15.5	•		5.5 n 5.9 n	n - Sand = 1.7% Silt = 54.2% Clay = 44.1% n - Auger refusal		770- 769- 768- 767- 766-
16/11/2022	2	Borrow search.	Backfilled wit	h bentonite chips.							Logg Revi	ged By: ewed By:	C. I T. (	Braun Curtis



C		ΝT		Eastern Irrigation Distric	t		_ PRO	JECT	NAME	S	nake Lake Reservoir Expa	nsion
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	JECT	LOCATION		NE 1/4 32-19-16	
0	DATE	STARTED	06/20/2022	COMPLETED	06/20	0/2022	_ GRC	DUND	ELEVATION	777.98m	N_5612443.600 E	415100.800
0	DRILL	ING CONTRACT	OR	Chilako Drilling Service	es Lto	l.	GRC	DUND	WATER ELEVAT	FION / DEPTH	۱	
0	DRILL	ING METHOD		6" SSA			DAT	E GRO	OUND WATER R	RECORDED		
Depth (m)	SOIL SYMBOL		Soi Descriț	l otion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LII</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID \$/300 mm 30 40 300 400 I (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
-1-1		CLAY TILL, silt stiff, high plasti suspect white s SHALE (Weath highly weather	y, some san c, and some sulphate incl nered), claye ed, mottled t	d, trace gravel, moist, oxidation staining, usions, coal specs y, silty, trace sand, prown with dark grey,	*	AU1 AU1		12.0	• 1		1 m - LL = 51.7% PL = 16.8% PI = 34.9% 2.5 m - LL = 53.2% PI = 15.3%	777-
-4		4 m - becomin medium plastic	stic, extreme pecs, suspe	ily weak to hard soil, ct white sulphate	-	AU3 AU4		8.2	•		PL = $15.3\%$ PI = $37.9\%$ 4  m - LL = 39.7% PL = 14.2% PI = 25.5% 4  m - Gravel = 0.3% 4  m - Gravel = 0.3% 4  m - Sand = 34.7% Silt = 46.2% Clay = 18.8%	775-774-774-773-
		Notes:	End of Boreho	ole @6.0 m								772-771-7770-7769-
		Borrow search.	Backfilled v	vith bentonite chips.							Logged By:	C. Braun
16/11/2022												1. Curuo



	CLIEI	NT		Eastern Irrigation District			_ PRO	DJECT	NAME	S	nake Lake Reservoir Expans	ion
	PRO	JECT NUMBER		1560-193-00				DJECT			NE 1/4 32-19-16	
	DATE	STARTED	06/20/2022		06/20	0/2022	_ GRO	DUND	ELEVATION	777.55m	N5612400.100E	414892.800
	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	l.	GR0	DUND	WATER ELEVAT	ION / DEPTI	H	
	DRILI	LING METHOD		6" SSA			_ DAT	E GR	OUND WATER RE	ECORDED		
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CC</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows/</li> <li>10 20 3</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID 300 mm 30 40 00 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
		SHALE (Weath fragments, trac medium plastic	nered), clay ar e sand, dry, s e, brown, some	nd silt, some bedrock tiff, finely fissured, e oxidation staining								777-
-1 -2 -3 -4 -5		1.6 m - moist	ure increasing	J ≥ @4.2 m	<b>E</b>	AU1 AU2 AU3		7.2	•		1 m - Organic Content = 7.7% 1 m - LL = 46.2% PL = 15.2% PI = 31.0% 1 m - Sand = 7.0% Silt = 43.1% Clay = 49.9% 2.5 m - LL = 49.6% PL = 20.2% PI = 29.4% 2.5 m - Sand = 2.9% Silt = 46.8% Clay = 50.3% 3.5 m - Sand = 8.8% Silt = 38.0% Clay = 53.2% 4.2 m - Auger refusal	776- 775- 774- 773- 772-
												771- 770- 769- 768-
		Notes:										
16/11/2022	2	Borrow search.	. Backfilled wi	th bentonite chips.							Logged By:C	C. Braun T. Curtis



	CLIE	NT		Eastern Irrigation District			_ PRO	DJECT	NAME	S	nake Lake Reservoir Expar	ision
	PRO	JECT NUMBER		1560-193-00			_ PRO	DJECT			NE 1/4 32-19-16	
	DATE	STARTED	06/21/2022	COMPLETED	06/2 <sup>-</sup>	1/2022	_ GRO	DUND	ELEVATION	78.10m	N_5612450.000 E	414971.400
	DRIL	LING CONTRACT	OR	Chilako Drilling Service	s Lto	1.	GR0	DUND	WATER ELEVATION /	DEPTH	ł	
	DRIL	LING METHOD		6" SSA			DAT	E GR	OUND WATER RECOR	RDED		
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTEI</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 n 10 20 30 100 200 300</li> <li>POCKET PEN (kPa)</li> </ul>	NT 1m 40 400	REMARKS	Standpipe/ Instrument Elevation
1		CLAY, some sil	t, trace grave with oxidation	l, damp, firm, medium specs	#	AU1		7.8	····••		1 m - LL = 45.3% PL = 14.5% PI = 30.8%	778- 777- 776-
- - - - - - - - - - - -					-	AU2		10.9	•		2.5 m - LL = 50.6% PL = 17.1% PI = 33.5%	775-
		SHALE (Weath highly weather extremely weat	nered), clay ar ed, brown, da <	nd silt, trace sand, mp, medium plastic,	-	AU3		9.5	•		4 m - LL = 49.5% PL = 16.2% PI = 33.3% 4 m - Sand = 7.5% Silt = 43.6%	774-
					-	AU4		8.3	•		Clay = 48.9%	
		Notes:		a @o. i m								771-
16/11/2022	2	Borrow search	. Backfilled wi	th bentonite chips.							Logged By: Reviewed By:	C. Tams T. Curtis



CLIENT	Eastern Irrigation District	t		_ PROJI	ECT	NAME	Snake Lake Reservoir Expar	ision
PROJECT NUMBER	1560-193-00			_ PROJI	ECT	LOCATION	NE 1/4 32-19-16	
DATE STARTED	06/20/2022 COMPLETED	06/20/	/2022	_ GROU	JND	ELEVATION 778.48m	N 5612458.600 E	414859.800
DRILLING CONTRACT	OR Chilako Drilling Service	es Ltd.		_GROU	JND	WATER ELEVATION / DEPT	н	
DRILLING METHOD	6" SSA			_ DATE	GRO	OUND WATER RECORDED		
Depth (m) SOIL SYMBOL	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm         <ol> <li>20 30 40</li> <li>100 200 300 400</li> <li>POCKET PEN (kPa)</li> </ol> </li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL, sill is fine grained brown, some c SHALE (Weath gravel, comple oxidation stain extremely wea	ty, some gravel, some sand, Gravel up 15 mm, dry, stiff, medium plastic, ixidation staining		AU1 AU2 AU3	e E 1	3.0 3.1 4.6		1  m - LL = 45.0% PL = 17.1% PI = 27.9% 1 m - Gravel = 18.3% 1 m - Sand = 16.7% Silt = 34.2% Clay = 30.8% 2.5 m - L = 40.2% PL = 16.7% PI = 23.5% 2.5 m - Gravel = 0.7% 2.5 m - Sand = 29.1% Silt = 40.2% Clay = 30.0%	778- 777- 777- 776- 775- 774- 774- 774- 774- 774- 774- 777-
							-	
Notes:				I			1	
Borrow search	. Backfilled with bentonite chips.						Logged By: Reviewed By:	C. Braun T. Curtis



(		NT		Eastern Irrigation District			PR0	OJECT	NAME	S	Snake Lake Reservoir Expa	nsion
F	PROJ	ECT NUMBER	1560-193-00			_ PRO	OJECT	LOCATION		NE 1/4 32-19-16		
0	DATE	STARTED	06/20/2022		)6/2(	0/2022	_ GRO	OUND	ELEVATION	779.54m	N 5612462.500 E	414770.200
0	DRILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd	ł.	GR	OUND	WATER ELEVA	ATION / DEPTI	н	
[	ORILL	ING METHOD		6" SSA			DAT	E GR	OUND WATER	RECORDED		
Depth (m)	SOIL SYMBOL		Soil Descriptio	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE</li> <li>H PLASTIC - I</li> <li>SPT (N) Blov</li> <li>10 20</li> <li>100 200</li> <li>POCKET PE</li> </ul>	CONTENT LIQUID ws/300 mm <u>30 40</u> 300 400 :N (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
-1 -2 -3 -6 -7 -7 -8 -9		CLAY TILL, gra is medium glastic, coal specs SHALE (Weath trace gravel, co with oxidation s extremely weak	vely, some sa hed up to 60 m , brown some ered), clay an mpletely weat taining, moist, to hard soil End of Borehole	nd, some silt, Gravel nm, moist, dry, stiff, oxidation staining, d silt, some sand, hered, mottled brown medium plastic, @3.0 m		AU1 AU2		8.7			1 m - LL = 43.6% PL = 14.8% PI = 28.8% 2.5 m - LL = 48.0% PL = 16.2% PI = 31.8% 2.5 m - Gravel = 0.9% 2.5 m - Sand = 10.9% Silt = 44.6% Clay = 43.6% 3 m - Auger refusal	779– 778– 7777– 7776– 7776– 7774– 7774– 7774– 7772– 7772– 7771– 7770–
		Notes:							<u> </u>			
16/11/2022		Borrow search.	Backfilled witl	h bentonite chips.							Logged By: Reviewed By:	C. Braun T. Curtis

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PROJECT NUMBER	1560-193-00		PROJE	CT LOCATION		NE 1/4 32-19-16	
DATE STARTED	06/20/2022 COMPLETED	06/20/2022	GROUN	ID ELEVATION	779.50m	N 5612452.200 E	414667.800
DRILLING CONTRACT	TOR Chilako Drilling Se	ervices Ltd.	GROUN	D WATER ELEVA	TION / DEPT	н	
DRILLING METHOD	6" SSA	4	DATE G	ROUND WATER F	RECORDED		
Depth (m) SOIL SYMBOL	Soil Description	Sample Type Sample Number	SPT (N) Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>H PLASTIC - LI</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200</li> <li>POCKET PEN</li> </ul>	CONTENT QUID s/300 mm 30 40 300 400 √ (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL, grais medium to c mm, damp, firr oxidation stain -1 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2	avely, some sand, some silt, Gra coarse grained, well rounded up n, medium plastic, brown with ing ing sandy, trace gravel End of Borehole @2.2 m	AU1 AU2	6.	7 • • • • • • • • • • • • • • • • • • •		11 m - LL = 49.7% PL = 18.1% PI = 31.6% 1 m - Gravel = 58.8% 1 m - Sand = 5.1% Clay = 17.6% 2 m - LL = 42.6% PL = 15.4% PI = 27.2% 2 m - Gravel = 3.3% 2 m - Sand = 21.3% Silt = 39.6% Clay = 35.8% 2.2 m - Auger refusal	779– 778– 777– 777– 777– 777– 777– 777–
Notos							
Burrow search	n. Backfilled with bentonite chips					Logged By:	C. Braun
16/11/2022						Keviewed By:	I. Curtis



CLIENT	Eastern Irrigation Distric	ct		_ PRO	DJECT	NAME	Snake Lake Reservoir Expansic	n
PROJECT NUMBER	1560-193-00			_ PRC	DJECT		NE 1/4 32-19-16	
DATE STARTED	06/20/2022 COMPLETED	06/20/	/2022	_ GR0	DUND	ELEVATION775.58m	N 5612356.800 E 4	14709.200
DRILLING CONTRAC	TOR Chilako Drilling Servic	es Ltd.		GR0	DUND	WATER ELEVATION / DEPT	н	
DRILLING METHOD	6" SSA			DAT	E GR	OUND WATER RECORDED	09/15/2022	
Depth (m) SOIL SYMBOL	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>⊢ PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 400</li> <li>100 200 300 400</li> <li>▲ POCKET PEN (kPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL, sa damp, stiff, lov -1 -1 -1 	and, silty, some bedrock fragments, w plastic, brown, oxide staining thered), clayey, silty, trace sand, red, dark grey, moist, high plastic, ak, blocky, finely fissured, oxide ct white sulphate inclusions	<b></b>	AU1		6.0	•	1 m - Sand = 48.4% Silt = 32.3% Clay = 19.3%	775
		-	AU2		10.6	•	-2.5 m - LL = 50.5% PL = 18.2% PI = 32.3%	773-
4 4 5 5 5 5 5 5 5 5	(4.5 m), 100 mm layer hered), ""		AU3		15.1	•	4 m - LL = 57.8% PL = 19.4% PI = 38.4%	771-
	oming some sand End of Borehole @6.0 m	-	AU4		12.9	•	5.5 m - Sand = 16.9% Silt = 47.3% Clay = 35.8%	770-
-7 -7 -8 								769
Notes:	25 mm standning installed to 6.0 m		kfillod	with an	nd ar	nd hentonito chino		
BOITOW SEARC	<ol> <li>25 mm stanopipe installed to 6.0 ft</li> </ol>	n. bac	KIIIIEA V	vitri sa	inu ar	a pentonite chips.	Logged By:         C.           Reviewed By:         T.	Braun Curtis



PROJECT NUMBER         1560-193-00         PROJECT LOCATION         NE 1/4 32-19-16           DATE STARTED         06/20/2022         COMPLETED         06/20/2022         GROUND ELEVATION         774.54m         N         5612385.100         E         41457	
DATE STARTED	
	5.700
DRILLING CONTRACTORChilako Drilling Services LtdGROUND WATER ELEVATION / DEPTH	
DRILLING METHOD6" SSA DATE GROUND WATER RECORDED	
Depth     Soil     Soil     Soil     Soil     REMARKS       Description     Image: Soil Description     Spin (N)     Spin (N)     Spin (N)     Spin (N)	Elevation (m)
SHALE (Weathered), RESIDUAL, clay and silt, trace sand, trace sand, highly weathered, grey, some oxidation staining, damp high plastic, extremely weak to hard soil, finely fissured 	774 773 772 771 771 770 769 769 768 766
	765
Notes:	
Borrow search. 25 mm standpipe installed to 6.0 m. Backfilled with bentonite chips. Moved 5 m north. Logged By: <u>C. Bra</u>	ın
16/11/2022 Reviewed By: T. Curt	is



(		NT		Eastern Irrigation District			_ PRO	DJECT	NAME			Snake Lake Reserve	oir Expansi	on	
F	PROJ	IECT NUMBER	1560-193-00			_ PRO	DJECT	LOCATION	ı		NE 1/4 32-1	9-16			
[	DATE	STARTED	06/20/2022	COMPLETED 0	)6/20	)/2022	_ GRO	DUND	ELEVATION	N _	774.67	7mN5612394.8	<u>00</u> E	414478.	800
[	ORILL	LING CONTRACT	OR	Chilako Drilling Services	s Ltd		GR0	DUND	WATER ELE	EVATIO	N / DEF	РТН			
[	ORILL	LING METHOD		6" SSA			_ DAT	E GRO	DUND WATE	ER REC	ORDEI	D			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTU</li> <li>PLASTIC</li> <li>SPT (N) I</li> <li>10 20</li> <li>100 20</li> <li>POCKET</li> </ul>	IRE CON C - LIQU Blows/30 20 30 00 300 F PEN (ki	TENT ID 0 mm <u>40</u> 2a)	REMAR	KS	Standpipe/ Instrument	Elevation (m)
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		CLAY TILL, silt plastic, brown SHALE (Weath completely wea mottling, damp hard soil, block 2.2 m - becon	y, trace sand, athered, light b , medium plas y, finely fissur ning orangish, End of Borehole	dry, very stiff, medium d silt, trace sand, rown to dark grey tic, extremely weak to ed oxidation staining @3.7 m		AU1 AU2 AU3		8.7				T 1 m - LL = 46.99 PL = 15.1 PI = 31.2 1 m - Sand = 6.7 Silt = 45. Clay = 4 2.5 m - LL = 41.9 PL = 14.1 PL = 14.1 PI = 26.1 3.5 m - Sand = 1 Silt = 43. Clay = 44 3.7 m - Auger res 	5 3% 3% 7% 8% 7.5% 5% 3% 3% 3.3% fusal		774 777 772 771 771 770 769 768 766 766 766
		Notes:													<u> </u>
16/11/2022		Borrow search.	Backfilled wit	h sand and bentonite c	hips	5.						Logged By: Reviewed By:	C T	: Braur : Curtis	<u>1</u>
L															



(		IT		Eastern Irrigation Distric	t		_ PR	OJECT	NAM	IE	_		Sr	nake La	ke Reser	voir Expa	ansion		
F	PROJ	ECT NUMBER		1560-193-00				OJECT	LOC	ATION	I _			Ν	IE 1/4 32-	-19-16			
[	DATE	STARTED	06/20/2022		06/20	0/2022	_ GF	ROUND	ELE\	IOITA/	۹ _	776.	05m	_ N_	5612462.	<u>000</u> E	41	4464.2	200
[	DRILL	ING CONTRACT	OR	Chilako Drilling Service	es Lto	l.	GF	ROUND	WAT	ER EL	EVATIO	ON / DE	EPTH	l					
[	DRILL	ING METHOD		6" SSA			_ DA	TE GRO		) WAT	ER RE	CORD	ED			09/15/20	22		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M 	10ISTL PLASTI PT (N) 10 2 00 2 <u>0CKE</u>	IRE CO C - LIQI Blows/3 20 30 50 30 7 PEN (1	NTENT JID 300 mm <u>) 40</u> 0 400 kPa)			REMAI	RKS		Standpipe/	Elevation (m)
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		CLAY TILL, gra stiff, medium pl staining 1.2 m - moistr sulphates SHALE (Weath completely wea medium plastic blocky, oxide st BENTONITE (2 SHALE (Weath	vely, some sa astic, brown, s ure increasing ered), clayey, thered, mottle , extremely we aining 2.2 m), 125 mr ered), "" End of Borehole	nd, some silt, damp, some oxidation , suspect white silty, trace sand, ed dark brown, moist, eak to hard soil, n layer @3.0 m		AU1 AU2 AU2 AU3		8.7 24.3 14.0 15.3	· · · · · · · · · · · · · · · · · · ·					1 m - L 1 m - S 2.2 m - <del>2.7 m -</del>	L = 37.5 PL = 14 PI = 23 and = 1 Clay = 4 LL = 10 PL = 28 PI = 76 <del>LL = 39</del> PL = 14 PI = 25	% 4% i.1% 0.8% 17.8% 4.3% j.3% j.3% j.2%			7775 7774 7773 7772 7771 7770 769 769 768 767
_										:	: :	1							
16/11/2022		Notes: Borrow search. 10 m west	25 mm stand	pipe installed to 3.0 m	. Ba	ckfilled v	vith s	and an	id be	ntonit	e chip	os. Mo	ved L	_oggeo Review	l By: ved By:		<u> </u>	<u>Braun</u> Curtis	



0		NT		Eastern Irrigation District			_ PRO	DJECT	NAME	Snal	ke Lake Reservoir Expans	sion
F	PROJ	ECT NUMBER	1560-193-00			_ PRO	DJECT			NE 1/4 32-19-16		
[	DATE	STARTED	06/20/2022	COMPLETED	06/20	0/2022	_ GRO	OUND	ELEVATION77	5.29m	N_5612408.600 E_	414336.800
[	DRILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	l.	GR0	OUND	WATER ELEVATION /	DEPTH _		
ſ	ORILL	ING METHOD		6" SSA			_ DAT	E GR	OUND WATER RECOR	DED		
Depth (m)	SOIL SYMBOL		Soil Descripti	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTEN</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 m</li> <li>10 20 30 4</li> <li>100 200 300 4</li> <li>POCKET PEN (KPa)</li> </ul>	T n 10 00	REMARKS	Standpipe/ Instrument Elevation (m)
-1		CLAY, silt, som medium plastic CLAY TILL, sor Gravel is subar to medium plas inclusions	e sand, some s, brown me gravel, tran ngular up to 20 stic, brown, su End of Borehole	gravel, moist, soft, ce sand, trace silt, 0 mm, moist, stiff, low spect white sulphate		AU1 AU2		6.3		1 r 1 r 2.5 Cl; 2.5 3 r	m - LL = 37.9% PL = 14% PI = 23.9% m - Sand = 18.1% Silt = 41.7% Clay = 40.2% 5 m - Dispersivity assification = ND3 <u>5 m - LL = 51.9%</u> PL = 17.4% PI = 34.5% m - Auger refusal	775– 7774– 7774– 7773– 7772– 7771– 7770– 769– 768– 768– 768– 767–
												766
		Notes:							<u>-</u>	<b>I</b>		
		Borrow search.	. Backfilled wit	th bentonite chips.						Lo Re	ogged By:	C. Braun T. Curtis
16/11/2022												



CLIEN	NT		Eastern Irrigation District			_ PR	OJECT	NAM	E	_		S	Snake Lake Reservoir Expar	ision	
PROJ	IECT NUMBER		1560-193-00			_ PR	OJECT	LOC	ATION				NE 1/4 32-19-16		
DATE	STARTED	06/20/2022		06/20	0/2022	_ GR	OUND	ELEV	ATION	_ ۱	775.	70m	N_5612465.900 E	414341	.900
DRILL	LING CONTRACT	OR	Chilako Drilling Service	s Ltd	Ι.	GR	OUND	WATE	ER EL	EVATIO	DN / DE	EPTł	н		
DRILL	LING METHOD		6" SSA			DA	re gro	DUND	WATI	ER RE	CORD	ED			
Depth (m) SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ SI 11 ▲ P	IOISTU PLASTI PT (N) 10 20 00 20 OCKET	RE COI C - LIQU Blows/3 0 30 0 30 F PEN (k	NTENT JID 00 mm ) <u>40</u> 0 400 (Pa)		REMARKS	Standpipe/ Instrument	Elevation (m)
	CLAY TILL, silt brown, trace su SHALE (Weath completely wea plastic, extreme staining	, sandy, dry, fii ispect white su hered), clayey, athered, dark t ely weak to ha End of Borehole	rm, low plastic, light Jphate inclusions silty, trace sand, prown, moist, high rd soil, blocky, oxide @3.0 m		AU1 AU2		4.5						1 m - LL = 29.3% PL = 12.1% PI = 17.2% 1 m - Sand = 24.6% Silt = 45.6% Clay = 29.8% 2.5 m - LL = 55.7% PL = 16.8% PI = 38.9% 2.5 m - Sand = 8.8% Silt = 42.2% Clay = 49.0%		775 774 773 772 777 771 770 769 768 768
	Notes:														
16/11/2022	Borrow search.	. Backfilled wit	h bentonite chips.										Logged By: Reviewed By:	<u>C. Brau</u> T. Curtis	n 3



PROLECT NUMBER         1580-158.00         PROJECT LOCATION         N. 1912426000         E         41201700           DATE STARTED         COMPLETED         06202022         OROUND ELEVATION         77.5 cm         912426000         E         414201700           DRILING CONTRACTOR         COMUND ELEVATION         07.5 cm         912426000         E         414201700           DRILING CONTRACTOR         COMUND CERTER         DATE GROUND WATER RECORDED         00152022         00152022           Embody         Solil         Description         90 group         90 group </th <th>C</th> <th></th> <th>NT</th> <th></th> <th>Eastern Irrigation District</th> <th></th> <th></th> <th>_ PR</th> <th>OJECT</th> <th>NAME</th> <th>Si</th> <th>nake Lake Reservoir Ex</th> <th>pansion</th> <th></th>	C		NT		Eastern Irrigation District			_ PR	OJECT	NAME	Si	nake Lake Reservoir Ex	pansion	
DE STARTED         0.0202022         COMPLETED         0.0215022           0	F	PROJ	IECT NUMBER		1560-193-00			_ PR	OJECT			NE 1/4 32-19-16		
Dellung Contractor       Chilako Delling Services Let.       ORKUMS WATER RECORDED       Outsign of the control o	[	DATE	STARTED	06/20/2022	COMPLETED	06/20	0/2022	GR	OUND	ELEVATION _	775.06m	N_5612426.600	E _ 4142	201.700
DRILLING METHOD	[	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	l.	GR	OUND	WATER ELEVATIC	N / DEPTH	ł		
Soil     Soil     Description     Image: Soil     Point of the source contrent     REMARKS     Image: Soil of the source contrent       Image: Soil Description     Image: Soil Description     Image: Soil Open of the source contrent     REMARKS     Image: Soil Open of the source contrent       Image: Soil Description     Image: Soil Open of the source contrent     Image: Soil Open of the source contrent     REMARKS     Image: Soil Open of the source contrent       Image: Soil Open of the source contrent     Image: Soil Open of the source contrent     Image: Soil Open of the source contrent     Image: Soil Open of the source contrent       Image: Soil Open of the source contrent of the source contren		DRILL	LING METHOD		6" SSA			DA	TE GR	OUND WATER REG		09/15/2	2022	
CLAY ILL, silly, sandy, some gravel, gravel is the gravel is the gravel substructure to 15 mm, dravel inclusions inclusions inclusions and the substructure inclusions inclusions inclusions and the substructure inclusions inclusions in the substructure inc	Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CON</li> <li>PLASTIC - LIQU</li> <li>SPT (N) Blows/30 10 20 300</li> <li>POCKET PEN (k</li> </ul>	ITENT IID 20 mm <u>40</u> ) 400 Pa)	REMARKS	3 Standhine	Elevation (m)
Notes: Borrow search. Backfilled with and bentonite chips. 25 mm standpipe to 3.0 m 16/11/2022	-1		CLAY TILL, silt grained, suban plastic, light or staining, suspe SHALE (Weath completely wea oxidation spec: weak to hard s	y, sandy, some gular up to 15 angish brown, act white sulpha nered), clayey, athered, greyis s, moist, high p oil, blocky, fine	e gravel, gravel is fine mm, dry, stiff, high with oxidation ate inclusions silty, trace sand, h brown, with plastic, extremely ly fissured		AU1 AU2 AU3		<ul><li>4.8</li><li>9.7</li><li>10.5</li></ul>			1 m - LL = 40.1% PL = 16.5% PI = 23.6% 1 m - Gravel = 10.3% 1 m - Sand = 31.2% Silt = 32.2% Clay = 26.3% 2.5 m - Sand = 3.6% Silt = 43.7% Clay = 52.7% 4 m - LL = 50.3% PL = 19.7% PI = 30.6%		774 7773 7772 7772 7771 7770 769 769 768 768
Notes: Borrow search. Backfilled with and bentonite chips. 25 mm standpipe to 3.0 m Logged By: <u>C. Braun</u> Reviewed By: <u>T. Curtis</u>	-													-
Borrow search. Backfilled with and bentonite chips. 25 mm standpipe to 3.0 m          Logged By:       C. Braun         16/11/2022       Reviewed By:       T. Curtis			Notes:					-			I		I	
Logged By:     C. Braun       16/11/2022     Reviewed By:     T. Curtis			Borrow search	. Backfilled wit	h and bentonite chips	. 25	mm sta	ndpipe	e to 3.	0 m			-	
16/11/2022 Reviewed By: <u>T. Curtis</u>												Logged By: _	C. Br	aun
	16/11/2022											Reviewed By:	Τ. Οι	irtis



CLIE	ENT	Eastern Irrigation Distric	t		_ PRO	DJECT	NAME	S	Snake Lake Reservoir Expar	ision	
PRO	JECT NUM	BER	1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16	
DATI	E STARTED	06/20/2022	COMPLETED	06/2	0/2022	_ GRO	DUND	ELEVATION	781.31m	N 5612553.400 E	414904.800
DRIL	LING CON	FRACTOR	Chilako Drilling Servic	es Lto	1.	GR0	DUND	WATER ELEVAT	TION / DEPTI	н	
DRIL	LING METH	10D	6" SSA			_ DAT	E GR	OUND WATER F	ECORDED		
Depth (m) SOIL SYMBOL		So Descr	bil iption	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LI</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200 :</li> <li>POCKET PEN</li> </ul>	ONTENT QUID \$/300 mm 30 40 300 400 I (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
	CLAY TII grained, mm, dry, oxidation 2.9 m - 3.4 m -	L, silty, sandy, so Gravel is coarse of stiff, medium plas staining becoming fine gr moisture increasi <u>becoming very har</u> End of Boreh	ained gravel and gravel ang ard, suspect bedrock.		AU1 AU2 AU3		4.5			1 m - LL = 44.8% PL = 19.2% PI = 25.6% 1 m - Gravel = 17.0% 1 m - Sand = 24.6% Silt = 29.3% Clay = 29.1% 4 m - LL = 45.2% PL = 15.5% PI = 29.7% 4 m - Gravel = 4.3% 4 m - Sand = 43.4% Silt = 24.0% Clay = 28.3% 4.6 m - Auger refusal	781– 780– 779– 7778– 7778– 7776– 7776– 7775– 7774– 7774– 7773– 7772–
									•		
16/11/2022	Notes: Borrow s	earch. Backfilled	with bentonite chips.							Logged By: Reviewed By:	C. Braun T. Curtis


	CLIEN	NT		Eastern Irrigation District			_ PRO	DJECT	NAME	Snake Lake Reservoir Expan	sion
	PROJ	IECT NUMBER		1560-193-00			_ PRC	DJECT		NE 1/4 32-19-16	
1	DATE	STARTED	06/22/2022	COMPLETED	06/22	2/2022	_ GR0	DUND	ELEVATION 779.04m	N 5610655.600 E	414876.600
1	DRILI	ING CONTRACT	OR	Chilako Drilling Service	s Lto	l.	_GR0	DUND	WATER ELEVATION / DEPT	H774.59 m	4.45 m
1	DRILI	ING METHOD		6" SSA			_ DAT	E GR	OUND WATER RECORDED	08/10/2022	2
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm 10 20 30 40 100 200 300 400     </li> <li>POCKET PEN (KPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
		CLAY TILL, silt weathered SH/ plastic, brown, SHALE (Weath highly weather yellow oxidation extremely weather extremely weather stremely weather extremely weather stremely weath	, trace sand, s ALE (Weathere some oxidatio ed, light brown n staining, dan c	ome completely         ed), dry, firm, high         n staining         d silt, trace sand,         to dark grey mottling,         np, high plastic,         @6.1 m		AU1 AU2 AU3 AU4		14.0 11.7 12.5 13.3		1 m - LL = 54.4% PL = 19.1% PI = 35.3% 1 m - Sand = 1.2% Silt = 42.0% Clay = 56.8% 2.5 m - Sand = 1.2% Silt = 43.2% Clay = 55.6% 4 m - LL = 49.6% PL = 19.9% PI = 29.7% 5 m - hard drilling from 5 m	▼
F										-	
	1	Notes:						I	1	1	
		Borrow search.	25 mm stand	pipe installed to 6.0 m.	Ba	ckfilled w	/ith sa	ind an	d bentonite chips.	Logged By: Reviewed By:	<u>C. Tams</u> T. Curtis
16/11/2022	2									·	

### BOREHOLE No : 22BH435b



CL	.IEN	IT		Eastern Irrigation District			_ PR	OJECT	NAN	1E		Snake Lak	e Reservoir Ex	pansi	on	
PR	ROJ	ECT NUMBER		1560-193-00			_ PR	OJECT	LOC	ATION		NE	1/4 32-19-16			
DA	ΛTE	STARTED	07/27/2022	COMPLETED 0	)7/27	7/2022	GR	OUND	ELE	VATION	l 769.06m	N56	612166.600	E	414626.3	300
DR	RILL	ING CONTRACT	OR	Chilako Drilling Services	s Lto	l.	GR	OUND	WAT	ER ELE	EVATION / DEPT	н				
DR	RILL	ING METHOD		6" SSA			DAT	TE GR	JUNI	) WATE	ER RECORDED					
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTUI PLASTIC SPT (N) E 10 20 POCKET	RE CONTENT C - LIQUID Blows/300 mm 0 30 40 00 300 400 PEN (kPa)		REMARKS		Standpipe/ Instrument	Elevation (m)
		CLAY TILL, silty plastic, dark bro inclusions, trace sulphate inclusi	y, trace sand, i own to grey, si e gypsum crys ions	noist, soft, high ıspect white sulphate tals, suspect white	#	AU1 AU2		15.8		•		0.6 m - 0 Content 0.6 m - 5	Organic = 5.4% Sand = 9.3% Silt = 43.7%			768
2												( 1.2 m - l F	Clay = 47.0% _L = 56.7% PL = 13.7%			767-
		2.1 m - some	medium grain	ed sand lenses		AU3 AU4		16.9		•			91 = 43.0%			-
-3		SHALE (Weath weathered, ligh oxidation stainin weak to hard so inclusions, trace	ered), clayey, t brown to dar ng, moist, high bil, blocky, sus e gypsum crys	silty, completely k grey mottling, some a plastic, extremely pect white sulphate tals	-	AU5		12.6		• +		3.7 m - l	LL = 72.1% PL = 19%			766
		4 m - becomir SHALE, silt and weathered, gre	ng grey I sand, clayey y, damp, medi	completely um plastic, very weak,	-	AU6		12.9		•		F	9 = 53.1%			
		ground up			*	AU7		11.0		•		5.2 m - 8 8 0	Sand = 33.9% Silt = 39.7% Clay = 26.4%	6		704
			End of Borehole	@6.1 m	-	700		0.0								763
-7																762
																761-
-9																760
		Nataa														
16/11/2022		NW Borrow sea	arch. Backfille	d with bentonite chips.								Logged Reviewe	By:	<u>с</u> т	. Tams . Curtis	i



CLIE	NT		Eastern Irrigation Distric	t		_ PRO	OJECT		1E	-		S	nake La	ake Reservoir E	xpans	sion	
PRO	JECT NUMBER		1560-193-00			_ PRO	OJECT	LOC	ATION	_ ۱				NE 1/4 32-19-1	6		
DATE	E STARTED	06/22/2022	COMPLETED	06/22	2/2022	_ GRO	OUND	ELE	/ATIO	N	778	3.15m	N	5610428.900	Ε_	414948	.100
DRIL	LING CONTRAC	TOR	Chilako Drilling Service	es Lto	1.	GR0	OUND	WAT	ER EL	EVAT	ON / [	DEPTH					
DRIL	LING METHOD		6" SSA			_ DAT			D WAT	ER RI	ECOR	DED				- Is	
Depth (m) SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLAST SPT (N) 10 2 200CKE	JRE CC IC - LIG Blows/ 20 3 7 PEN	0NTEN 201D 300 mr 300 40 (kPa)	Г n 0 00		REMARKS		Standpipe/ Instrument	Elevation (m)
	CLAY TILL, sil completely we firm, high plas trace gypsum	ty, some sand, athered SHAL tic, brown, son crystals End of Borehole	some gravel, E (Weathered), dry, ne oxidation staining,		AU1 AU2		7.0						1 m - l 1 m - ( 1 m - S 2.1 m	LL = 51.3% PL = 15.6% PI = 35.7% Gravel = 16.2 Sand = 17.4% Clay = 36.09 - Auger refusa	% % al		778– 7777– 7776– 7775– 7774– 7773– 7772– 7771– 7770– 769–
	Notes:	r oloughing ch	aniad upon several di-	~ ^	)E m	ton-!!	no !	toll.	d ta 0	1	Der	fille					
	with sand and	bentonite chip	served upon completic s.	n. 2	រច ៣៣ S	landpi	pe ins	sialle	u (0 6	. i m.	раск	mea	l oque	d Bv <sup>.</sup>		C Tame	
													Review	wed Bv <sup>.</sup>		T. Curtis	 3
16/11/2022																	

### BOREHOLE No : 22BH436b

# an **Englobe** company

PROJECT NUMBER       1560-193-00       PROJECT LOCATION       NE 1/4 32-19-16         DATE STARTED       07/27/2022       COMPLETED       07/27/2022       GROUND ELEVATION       769.34m       N 5612115.300       E       41519         DRILLING CONTRACTOR       Chilako Drilling Services Ltd.       GROUND WATER ELEVATION / DEPTH	9.400 Instrument Elevation (m) 769
DATE STARTED       07/27/2022       COMPLETED       07/27/2022       GROUND ELEVATION       769.34m       N       5612115.300       E       41519         DRILLING CONTRACTOR       Chilako Drilling Services Ltd.       GROUND WATER ELEVATION / DEPTH	9.400 Instrument
DRILLING CONTRACTOR       Chilako Drilling Services Ltd.       GROUND WATER ELEVATION / DEPTH         DRILLING METHOD       6" SSA       DATE GROUND WATER RECORDED         Image: Contract of the second sec	Instrument Elevation (m)
DRILLING METHOD       6" SSA       DATE GROUND WATER RECORDED         u       10       Soil       u	Elevation (m)
Ham       Soil       Soil       Soil       MOISTURE CONTENT         Description       adxL       adw       adw       Busic       Soil       Soil         Description       adxL       adw       adw       Soil	Instrument Elevation (m)
CLAY TILL, silt, some sand, moist, firm, high plastic, dark brown, suspect white sulphate inclusions, salt lenses, trace gypsum crystals AU1 18.9	769-
<ul> <li>AU2</li> <li>AU2</li> <li>AU2</li> <li>AU3</li> <li>BHALE (Weathered), silt and clay, trace sand, trace s</li></ul>	767 766 765 764 763 763 762 761
	760
NOTES:	
16/11/2022     Logged By:     C. Tam       16/11/2022     Reviewed By:     T. Curt	<u>1s</u>



	CLIEI	NT		Eastern Irrigation District				OJECT	NAME	S	nake Lake Reservoir Expa	nsion	
1	PRO	IECT NUMBER		1560-193-00			_ PRO	OJECT	LOCATION		NE 1/4 32-19-16		
ı	DATE	STARTED	07/27/2022	COMPLETED 0	)7/27	7/2022	_ GR	OUND	ELEVATION	768.34m	N 5612003.300 E	415264.90	)0
ı	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	1.	GR	OUND	WATER ELEVATI	ON / DEPTH	ł		
1	DRILI	LING METHOD		6" SSA				E GR	OUND WATER RE	ECORDED	08/10/202	22	
Depth (m)	SOIL SYMBOL		Soil Descripti	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>PLASTIC - LIQ</li> <li>SPT (N) Blows/3</li> <li>10 20 3</li> <li>100 200 30</li> <li>POCKET PEN (</li> </ul>	UNTENT UID 300 mm 0 40 300 400 (kPa)	REMARKS	Standpipe/ Instrument	Elevation (m)
		SHALE (Weath weathered, gre high plastic, ex suspect white s	y, sandy, trace own to dark br ions, salt lens rered), silty, cl y, some oxida tremely weak, sulphate inclus	a gravel, damp, firm, own, suspect white es ayey, completely tion staining, moist, thinly laminated, sions, salt lenses	*	AU1 AU2 AU3		7.1 10.3 13.7	•		0.6 m - LL = 86.8% PL = 15.7% PI = 71.1% 0.6 m - Gravel = 1.0% 0.6 m - Sand = 22.1% Silt = 27.1% Clay = 49.8%	7 7 7	768
		2.5 m - becor layers, with ber	ny beadea sanastone	* * *	AU4 AU5 AU6 AU7 AU8		7.6 9.1 11.2 10.9 14.8	•		2.7 m - LL = 102.6% PL = 20.3% PI = 82.3% 2.7 m - Sand = 8.3% Silt = 47.5% Clay = 44.2%	7	765	
			End of Borehole	9 @6.1 m								7	762
16/11/2022	2	Notes: NW Borrow sea bentonite chips	arch. Complet	ed as a well. 25 mm st	and	pipe inst	talled	to 6.1	m. Backfilled wi	ith	Logged By: Reviewed By:	C. Tams T. Curtis	



		NT		Eastern Irrigation District			_ PRO	DJECT	NAME	5	Snake Lake Reservoir Expar	nsion
F	PROJ	IECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16	
	DATE	STARTED	07/28/2022	COMPLETED	07/28	8/2022	_ GRO	DUND	ELEVATION	775.21m	N 5612272.100 E	415433.000
	ORILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	ł.	GR	DUND	WATER ELEVAT	FION / DEPT	н	
	DRILL	ING METHOD		6" SSA			_ DAT	E GR	OUND WATER F	RECORDED		
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LI</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID s/300 mm 30 40 300 400 I (KPa)	REMARKS	Standpipe/ Instrument Elevation (m)
	///////////////////////////////////////	CLAY TILL, silt stiff, medium pl staining, suspe	, sandy, trace lastic, dark bro ct white sulph	gravel, damp, firm to own, some oxidation ate inclusions	-	AU1		10.5	•			775
		1 m - becomii	ng moist		-	AU2		9.6	• +		1.2 m - LL = 49.8% PL = 16% PI = 33.8%	774-
-2	///////////////////////////////////////				æ	AU3		12.8	•		1.2 m - Gravel = 4.1% 1.2 m - Sand = 22.5% Silt = 45.6% Clay = 27.8%	773-
-3		SHALE (Weath completely wea	ered), clay ar athered, grey,	id silt, trace sand, some oxidation	-	AU4		13.6	•			772-
	· · · · ·	blocky	, nigri piasuc,	extremely weak,	*	AU5		16.0 17 4	• ⊢		3.7 m - LL = 60.9% PL = 21.3% PI = 39.6%	771–
 5	· · · · ·										Silt = 48.7% Clay = 48.5%	770
	· · · ·				-	AU7		17.4	•			
-6	<u> </u>		End of Borehole	e @6.1 m		100		17.0				769-
7												
-												768-
												767-
												766-
											1	
		Notes: NW Borrow sea	arch. Backfille	ed with bentonite chips							Logged By:	C. Tams
16/11/2022											Reviewed By:	T. Curtis



	CLIEI	NT		Eastern Irrigation District			_ PRO	OJECT	NA	ИE	-		S	Snake La	ake Reser	voir Expa	ansior	1	
	PRO	JECT NUMBER		1560-193-00			_ PRO	OJECT	LOC		N _			I	NE 1/4 32-	19-16			
	DATE	STARTED	07/28/2022	COMPLETED	)7/2	8/2022	GR	OUND	ELE	VATIO	N	74	.76m	N	5612264.	500 E	41	5721.	800
	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	ł.	GR	OUND	WAT	ER EL	EVAT	ION / E	DEPT	Η					
	DRILI	LING METHOD		6" SSA			DAT	E GR	DUN	d wat	ER RI	ECOR	DED						
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTI PLAST SPT (N) <u>10 2</u> POCKE	JRE CO IC - LIC I Blows/ 20 3 7 PEN	DNTEN QUID 300 mn 30 4 00 40 (kPa)	Г 1 2 10		REMA	RKS		Standpipe/ Instrument	Elevation (m)
Ē		CLAY TILL, silt	y, gravelly, sor lastic_brown	ne cobbles, damp, suspect white															-
		sulphate inclus	ions		=	AU1		7.9						0.6 m	- Gravel :	= 39.0%	, 0		
														0.6 m	- Sand =	16.6%			//4-
		1 m - becomi 1.1 m - becor	ng some grave ning moist, so	me oxidation staining	æ	AU2		10.3		•					Clay = 2	2.0% 22.4%			-
-			-	-															773
-2	$\geq$	2 m - becomi	na trace arave	I		A.U.O		44.0											
Ē	1		ig trace grave	1		AU3		14.3		•									-
Ē		27 m - becor	nina hiah nlasi	tic	-	AU4		11.5		•				2.7 m	- LL = 61	.2%			772-
-3			ining high plast												PL = 18	.2%			
															FI <b>-</b> 43	.0 /0			
Ē					=	AU5		12.3		•									771-
-4	·	SHALE (Weath	iered), clayey,	silty, completely															
È.	·	weathered, gre	y, some oxidat	tion staining, damp,	=	AU6		10.8		•									
_	· _ · ·	white sulphate	inclusions																770-
—5 -	· · ·	•			-	AU7		127		•									
-	· · · · ·	-				/.0/													
Ę	·	-			-	AU8		13.0		•	-			5.8 m	- LL = 69	.8%			769-
- 0		-	End of Borehole	@6.1 m											PL = 22 PI = 46	.9% _9%			
È																			
-7																			768-
È																			-
Ē																			707
-8																			/6/-
É																			-
Ē																			766-
-9																			-
Ē																			-
-																			765-
<u> </u>																			-
		Notes:																	
		NW Borrow sea	arch. Backfilled	d with bentonite chips.													_	_	
														Logge	a By:		<u> </u>	lams	' <u> </u>
16/11/2022	2													Keviev	vea Ву:		1. (	Jurtis	;



CLIENT		Eastern Irrigation Distric	t		_ PRC	DJECT	NAME	S	nake Lake Reservoir Expar	nsion
PROJECT NU	MBER	1560-193-00			_ PRC	DJECT	LOCATION		NE 1/4 32-19-16	
DATE STARTE	D 07/27/202	2 COMPLETED	07/27	7/2022	_ GRO	DUND	ELEVATION	771.46m	N_5612271.400 E	416034.100
DRILLING CO	NTRACTOR	Chilako Drilling Service	es Lto	1.	GR0	DUND	WATER ELEVAT	ION / DEPTH	ł	
DRILLING ME	THOD	6" SSA			DAT	E GRO	OUND WATER R	ECORDED		
Depth (m) SOIL SYMBOL	S Desc	oil ription	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 20 3</li> <li>POCKET PEN</li> </ul>	DNTENT QUID /300 mm 30 40 00 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
2 SHALE SHALE weather high pla white su	dark brown, some t white sulphate in (Weathered), clay red, grey, some o astic, extremely we ulphate inclusions	e oxidation staining, clusions, trace gypsum rey, silty, completely kidation staining, damp, eak to hard soil, suspect		AU1 AU2 AU3 AU4		<ul><li>10.8</li><li>14.1</li><li>12.5</li><li>13.6</li></ul>	•		0.6 m - Organic Content = 5.1% 0.6 m - Sand = 16.0% Silt = 25.9% Clay = 58.1% 1.2 m - LL = 54.5% PL = 16.9% PI = 37.6% 2.1 m - LL = 57.9% PL = 16.4% PI = 41.5%	771– 770– 769– 768–
-4 			-	AU5 AU6		19.2	•			767
			#	AU7 AU8		15.8 16.3	•		5.2 m - Sand = 3.3% Silt = 57.2% Clay = 39.5%	766
	End of Bore	hole @6.1 m								765- 764- 763- 762-
Notes:										
NW Boi 16/11/2022	rrow search. Back	filled with bentonite chips	-						Logged By: Reviewed By:	C. Tams T. Curtis



		NT		Eastern Irrigation Distric	t		_ PR	OJECT	NAN	ΛE	_		Sna	ake Lake	Reservoir E	Expans	ion	
	PROJ	IECT NUMBER		1560-193-00			_ PR	OJECT	LOC	OITA	N _			NE 1	/4 32-19-1	6		
	DATE	STARTED	07/06/2022	COMPLETED	07/0	6/2022	_ GR	OUND	ELE	VATIO	N	769.0	9m	N_561	2266.000	E_	416334	1.600
	DRILL	LING CONTRACT	OR	Chilako Drilling Service	es Lto	l.	GR	OUND	WAT	ER EL	EVATI	ON / DE	PTH					
l	DRILL	LING METHOD		6" SSA			_ DA	TE GR	DUNI	D WAT	ER RE	ECORDE	D					
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTI PLAST SPT (N) 10 2 POCKE	JRE CC IC - LIG Blows/ 20 3 700 3 T PEN	ONTENT UID 300 mm <u>0 40</u> 00 400 (kPa)		R	EMARKS		Standpipe/	Elevation (m)
-1		CLAY TILL, silt brown, some o sulphate inclus 2.5 m - becor SHALE (Weath completely wea oxidation spec: weak to hard s	, trace sand, c xidation staini ions ming trace san rered), clayey, athered, browr s, damp, high oil	ry, firm, high plastic, ng, suspect white d silty, trace sand, nish grey, with plastic, extremely		AU1 AU2 AU3 AU4		11.5 12.9 18.9 22.7		• •	•	<u>kPa</u> )	1 1 1 2. 2. 5.  5. 	m - LL = PI m - San Sil Cl: 5 m - LL PI 5 m - Sa Sil Cl: PI 5 m - Sa Sil Cl:	63.2% = 14.5% = 48.7% d = 8.3% t = 50.1% ay = 41.6° = 91.0% = 68.0% and = 0.6% t = 55.1% ay = 44.3° 83.7% = 61.4% and = 1.3% t = 56.5% ay = 42.2°	% % %		769 768 767 766 765 765 765 765 765 765 765 765
		Notes:																
		NE Borrow sea	arch. Trace see	epage encountered at	a de	pth of 5	.2 m.	Backfi	lled	with b	enton	ite chip	s. Lu	ogged B	y: Bv:		<u>C. Tam</u>	<u>s</u>
16/11/2022	2												۲۲	evieweu	υу.		i. Guil	3



CLIE	ΕN	т		Eastern Irrigation Distric	t			OJECT	NAME	Sr	nake Lake Reservoir Expa	nsion
PRO	OJE	ECT NUMBER		1560-193-00			_ PRC	DJECT	LOCATION		NE 1/4 32-19-16	
DAT	ΓE	STARTED	07/06/2022	_ COMPLETED	07/06	6/2022	_ GRO	OUND	ELEVATION	768.20m	N_5612274.800 E	416630.800
DRI	ILL	ING CONTRACT	OR	Chilako Drilling Service	es Lto	1.	GR0	OUND	WATER ELE	VATION / DEPTH	l	
DRI	ILL	ING METHOD		6" SSA			_ DAT	E GR	OUND WATE	R RECORDED		
Depth (m) SOIL SYMBOL			Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTUR</li> <li>PLASTIC</li> <li>SPT (N) BI</li> <li>10 200</li> <li>100 200</li> <li>POCKET F</li> </ul>	E CONTENT - LIQUID lows/300 mm 30 40 ) 300 400 PEN (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
		CLAY TILL, silty weathered SHA damp, firm, high SHALE (Weath completely weat oxidation stainin extremely weak 3 m - hard dril	y, some sand, LE (Weather n plastic, dark ered), silt and thered, brown ng, damp to n t to hard soil, ling GE	some completely ed), trace gravel, brown		AU1 AU2 AU3 AU4		22.8 21.3 18.8 23.0		PEN (kPa)	1 m - LL = 77.0% PL = 17.6% PI = 59.4% 1 m - Gravel = 0.4% 1 m - Sand = 15.1% Silt = 22.0% Clay = 62.5% 2.5 m - Sand = 1.6% Silt = 50.6% Clay = 47.8% 5.5 m - LL = 60.7% PL = 15.7% PI = 45.0%	768 766 766 765 764 764 763 764 763 763 764 763 763 763 763 763 763 763
										1 1		
16/11/2022		Notes: NE Borrow sea	rch. Backfilleo	I with bentonite chips.						l	Logged By: Reviewed By:	C. Tams T. Curtis



		T		Eastern Irrigation District			_ PRO	OJECT	NAM	E		Snake Lak	ke Reservoir Expa	nsion	
F	PROJ	IECT NUMBER		1560-193-00			_ PRO	OJECT	LOC	ATION		N	E 1/4 32-19-16		
(	DATE	STARTED	07/27/2022	_ COMPLETED	)7/2	7/2022	_ GR	OUND	ELEV	ATION	1770.33m	<u>N_5</u>	5611890.500 E	414	4881.700
	ORILL	LING CONTRACT	OR	Chilako Drilling Service	s Lto	1.	GR	OUND	WATE	ER ELI	EVATION / DEPT	н			
ſ	ORILL	LING METHOD		6" SSA			DAT	E GR	DUNE	) WATE	ER RECORDED				
Depth (m)	SOIL SYMBOL		Soil Descripti	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S 1 1 ▲ P	10ISTU PLASTIC PT (N) I 10 2 00 20 <u>00 20 00 20</u>	RE CONTENT C - LIQUID Blows/300 mm 0 30 40 0 300 400 PEN (kPa)	-	REMARKS		Standpipe/ Instrument Elevation (m)
		CLAY TILL, silt high plastic, bro inclusions	, trace sand, r own, suspect v	noist, firm, medium to white sulphate	-#	AU1		17.1		•		0.6 m -	Sand = 2.3% Silt = 47.4%		770-
	· · · · · · · · · · · · · · · · · · ·	SHALE (Weath completely wea mottling, some plastic, extreme	iered), clay ar athered, light k oxidation stai ely weak, bloc	nd silt, trace sand, prown to dark grey ning, damp, high ky, suspect white	-	AU2		16.6		●⊦		1.2 m -	Clay = 50.3% LL = 69.8% PL = 18.6% PI = 51.2%		769-
-2	·· <u>·</u> ·		IONS		₽	AU3		15.2		٠					768-
					-	AU4		13.2		•		2.7 m -	Sand = 5.5% Silt = 51.1% Clay = 43.4%		767-
-4	· ·	3.7 m - trace	bentonite sea	ms	æ	AU5		24.6			•	3.7 m -	LL = 188.2% PL = 24.4%		-
		. <u>4.3 m - becor</u>	ning strong ca	<u>ilcified shale</u> ⇒ @4.4 m		AU6		26.4				<del>3.7 m -</del> 4.3 m - 4.3 m -	PI = 163.8% Sand = 3.2% Silt = 43.7% Clay = 53.1% Auger refusal Sand = 2.7% Silt = 56.9% Clay = 40.4%		766– 765– 764– 763– 762– 761–
		Notes: NW Borrow sea	arch. Backfille	d with bentonite chips.											
16/11/2022												Logged Review	By: ed By:	<u>С.</u> Т Т. С	<u>ľams</u> Curtis
10/11/2022															



CLIENT	Eastern Irrigation District		_ PROJECT	NAME	Snake Lake Reservoir Expans	ion
PROJECT NUMBER	1560-193-00		_ PROJECT		NE 1/4 32-19-16	
DATE STARTED	07/27/2022 COMPLETED	07/27/2022	_ GROUND	ELEVATION774.51	mN_5611834.400E	415249.200
DRILLING CONTRACT	OR Chilako Drilling Service	s Ltd.	GROUND	WATER ELEVATION / DEP	тн	
DRILLING METHOD	6" SSA		DATE GR	OUND WATER RECORDED	)	
Depth (m) SOIL SYMBOL	Soil Description	Sample Type Sample Number	SPT (N) Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>⊢ PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>▲ POCKET PEN (kPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL, sa high plastic, br suspect white s crystals 2.7 m - becon 2.7 m - becon SHALE (Weath weathered, ligh oxidation stain weak, suspect 4 m - becomi	nd, silty, trace gravel, damp, firm, own, some oxidation staining, sulphate inclusions, trace gypsum ming some sand, no gravel nered), clayey, silty, completely nt brown to dark grey mottling, some ing, damp, high plastic, extremely white sulphate inclusions ng some fine grained sand End of Borehole @6.1 m	<ul> <li>AU1</li> <li>AU2</li> <li>AU3</li> <li>AU4</li> <li>AU5</li> <li>AU6</li> <li>AU7</li> <li>AU8</li> </ul>	9.6 9.1 11.1 15.0 15.5 14.4 16.4 13.2		0.6 m - Gravel = 4.8% 0.6 m - Sand = 35.4% Silt = 30.0% Clay = 29.8% 1.2 m - LL = 64.4% PL = 16.8% PI = 47.6% 2.7 m - LL = 50.1% PI = 32.6% 2.7 m - Sand = 12.6% Silt = 41.1% Clay = 46.3% 3.7 m - LL = 53.3% PL = 19.6% PI = 33.7%	774- 773- 772- 771- 770- 769- 768- 768- 766- 766-
					_	765-
Notes:						
NW Borrow se	arch. Backfilled with bentonite chips.				Logged By:	C. Tams T. Curtis



	CLIE	NT		Eastern Irrigation District			_ PRO	DJECT	NAM	IE	_		S	nake La	ke Reservoir	Expans	ion	
1	PRO	IECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	ATION	_			Ν	IE 1/4 32-19-	16		
	DATE	STARTED	07/27/2022	COMPLETED	)7/27	7/2022	_ GRO	DUND	ELE\	/ATION	1	768	.32m	N	5611984.100	_ E _	41537	5.200
1	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Ltd	l.	GR0	DUND	WAT	ER EL	EVATI	ON / D	EPTI	┥				
1	DRILI	LING METHOD		6" SSA			_ DAT	E GRO	DUNE	) WAT	ER RE	CORE	DED					
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● N ⊢ I ■ S 1 ▲ F	10ISTU PLASTI PT (N) 10 20 200 20 POCKET	RE CC C - LIQ Blows/ 0 30 0 30 PEN 0	0NTENT UID 300 mm 0 40 00 40 (kPa)	)		REMARKS	3	Standpipe/	Elevation (m)
-		CLAY TILL, silt stiff, high plasti	. some sand, t ic, dark brown	race gravel, moist, to grey, suspect white														768-
-		sulphate inclus	ions		-	AU1		16.0		•				0.6 m -	LL = 79.9%	5		
-1															PL = 19.7% PI = 60.2%	5 6		
					▰	AU2		16.9		•				1.2 m -	Sand = 12.	8%		767-
-		1													Sint = 42.4% Clay = 44.8	'° 3%		
2 E	<u> </u>	SHALE (Weath	nered), clayey,	silty, completely	-	AU3		14.3		●⊢				2.1 m -	LL = 92.4%	ò		
	· _ · ·	weathered, gre high plastic, ex	ey, some oxida tremely weak,	tion staining, moist, thinly laminated,											PL = 16.6%	5		766
Ē	· · · · ·	suspect white s	sulphate inclus	ions, trace gypsum	▰	AU4		15.7		•					11 70.07	,		-
	·	ci ystais																765-
-	· <u>·</u> ··	-								_				~ <del>-</del>				100
-4	· ·				=	AU5		16.3		•				3.7 m -	Sand = 1.0 Silt = 49.5%	% ⁄o		
-	··				-	AU6		15.9		•					Clay = 49.5	5%		764-
-	·																	
-5	· ·																	-
-	··	• 			-	AU7 AU8		16.1		•								763-
-	·																	
-6	···	-	End of Borehole	@6.1 m														
-				0														762-
																		-
- '																		761-
_ _																		-
-8																		-
-																		760
-																		
-9																		-
È E																		759-
Ē																		
		Notes:	arch Backfill-	d with hontonite chir-														
		INVV DUITOW SEA	arch. Dackille	a with bentonite chips.										Logaed	By:	(	C. Tarr	IS
10/11/2														Review	, ved By:		<u>Г. C</u> urt	is
16/11/2022															-			



C	CLIEN	IT		Eastern Irrigation Distric	t		PRC	JECT	NAME		Sr	nake Lake Reservoir Expans	ion
F	PROJ	ECT NUMBER		1560-193-00			_ PRC	JECT	LOCATION			NE 1/4 32-19-16	
[	DATE	STARTED	07/28/2022	COMPLETED	07/28	3/2022	_ GRO	DUND	ELEVATION	774.	34m	N_5612026.600 E_	415725.900
0	DRILL	ING CONTRACT	OR	Chilako Drilling Service	es Lto	l.	GR0	DUND	WATER ELEV	ATION / D	EPTH		
0	RILL	ING METHOD		6" SSA			_ DAT	E GRO	OUND WATEF	R RECORD	ED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE</li> <li>PLASTIC -</li> <li>SPT (N) Bio 10 200</li> <li>POCKET P</li> </ul>	E CONTENT - LIQUID pws/300 mm 30 400 300 400 PEN (kPa)	1	REMARKS	Standpipe/ Instrument Elevation (m)
		CLAY TILL, silt cobbles, dry, fir brown, suspect 1.5 m - becon SHALE (Weath weathered, gre high plastic, exi suspect white s	y, some sand, m, medium pla white sulphat ning damp ered), clay an y, some oxida tremely weak sulphate inclus	trace gravel, trace astic, light brown to e inclusions d silt, completely tion staining, damp, to hard soil, blocky, ions		AU1 AU2 AU3 AU4 AU5 AU6 AU7 AU8		10.1 8.2 6.7 14.9 18.2 16.4 17.7				<ul> <li>).6 m - Gravel = 7.4%</li> <li>).6 m - Sand = 16.9% Silt = 36.0% Clay = 39.7%</li> <li>I.2 m - LL = 47.2% PL = 12.9% PI = 34.3%</li> <li>2.7 m - Gravel = 5.3%</li> <li>2.7 m - Gravel = 5.3% Silt = 37.6% Clay = 41.0%</li> <li>3.7 m - LL = 63.5% PL = 18.4% PI = 45.1%</li> </ul>	774 773- 7772- 7771- 7770- 769- 768-
		Notes: NW Borrow sea	arch. Backfilled	d with bentonite chips								_ogged By:	
16/11/2022											Г		



	CLIEN	NT		Eastern Irrigation District			_ PRO	DJECT	NAN	ΛE	_		S	Snake Lake Reservoir Expar	sion		
	PROJ	IECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	ATION	I _			NE 1/4 32-19-16			
	DATE	STARTED	07/27/2022		)7/27	7/2022	_ GRO	DUND	ELE	VATIO	N.	773	.16m	N 5612020.100 E	4160	008.7	00
	DRILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd		GR	DUND	WAT	ER EL	EVATI	ON / D	EPT	н			
	DRILL	ING METHOD		6" SSA			_ DAT	E GR	JUNI	D WAT	ER RE	CORE	DED				
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLASTI SPT (N) <u>10 2</u> 200CKE	IRE CC C - LIQ Blows/: 20 30 00 30 7 PEN (	NTENT UID 300 mm 0 40 00 40 (kPa)	) 0	REMARKS	Standpipe/	Instrument	Elevation (m)
- - - - - - - - - - - - - - - - - - -		plastic, light bro	idy, some grav	vei, ary, iirm, meaium vhite sulphate	æ	AU1 AU2		5.1 11.9	•	•				0.6 m - LL = 37.2% PL = 13.9% PI = 23.3% 1.2 m - Gravel = 11.0% 1.2 m - Sand = 22.2%			773
-2		SHALE (Weath completely wea mottling, some plastic, extreme suspect white s	ered), clay an athered, light b oxidation stair ely weak to ha sulphate inclus	d silt, trace sand, rown to dark grey ning, damp, high rd soil, blocky, ions, trace gypsum	- <b>E</b> :	AU3 AU4		16.0 16.0		•				Silt = 31.3% Clay = 35.5% 2.1 m - LL = 75.1% PL = 18.8% PI = 56.3%			771-
		3 m - becomir	ng grey		æ æ	AU5 AU6		17.3 16.8		•				3.7 m - Sand = 1.8% Silt = 47.4% Clay = 50.8%			769
-5		5.5 m - becon	ning high plas	ic	<b>-</b>	AU7 AU8		17.4 25.3		•	•						768
- 6 		Notes:	End of Borehole	@6.1 m													767
16/11/2022	2	NW Borrow sea	arch. Backfilled	d with bentonite chips.										Logged By: Reviewed By:	<u>C. Ta</u> T. Cu	ams urtis	

# an **Englobe** company

# BOREHOLE No : 22BH452

0		NT		Eastern Irrigation District			_ PRO	OJECT	NAN	ΛE	_		S	Snake Lake Reservoir Expa	nsion	
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	OJECT	LOC		۱ _			NE 1/4 32-19-16		
C	DATE	STARTED	07/28/2022	COMPLETED	)7/28	3/2022	GR	OUND	ELE	VATIO	N	77	1.43m	N_5611949.700 E	41633	6.900
C	RILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd	l.	GR	OUND	WAT	ER EL	EVAT	ION / I	DEPT	н		
	RILL	ING METHOD		6" SSA			_ DAT	E GR	OUN	D WAT	ER RI	ECOR	DED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLAST SPT (N) <u>10 2</u> POCKE	JRE CC IC - LIC Blows/ 20 3 7 PEN	0NTEN QUID 300 mr 30 4 00 4 (kPa)	T n 10 00	REMARKS	Standpipe/	Instrument Elevation (m)
-1	●、中●、中●、中●、中●、●・・・・・・・・・・・・・・・・・・・・・・・・	CLAY AND GR firm, low to me	AU1		6.6				(Kra)		1 m - Gravel = 29.5% 1 m - Sand = 33.7% Silt = 20.7% Clay = 16.1% 1.5 m - Auger refusal due to suspect boulders		771– 770– 769– 768– 766– 766– 765– 764– 763– 763–			
																-
		Notes:														
16/11/2022		NE Borrow sea	rch. Backfilleo	d with bentonite chips.										Logged By: Reviewed By:	C. Tan T. Curl	is



		T		Eastern Irrigation District			_ PRO	DJECT	NAME	S	Snake Lake Reservoir Expan	sion	
F	PROJ	IECT NUMBER		1560-193-00				DJECT	LOCATION		NE 1/4 32-19-16		
	DATE	STARTED	07/28/2022	_ COMPLETED	)7/2	8/2022	GR0	DUND	ELEVATION	770.76m	N_5611941.900 E	416625.70	0
	DRILI	ING CONTRACT	OR	Chilako Drilling Services	s Lto	ł.	GR0	DUND	WATER ELEVAT	TION / DEPTI	н		
	RILI	ING METHOD		6" SSA			DAT	E GR	OUND WATER R	RECORDED			
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID s/300 mm 30 40 300 400 I (kPa)	REMARKS	Standpipe/ Instrument Flevation	(m)
-3		SAND, gravelly graded, fine gra brown 1 m - becomin CLAY TILL, silt stiff, medium pl oxidation staini inclusions 2.5 m - becom mudstone inclu SHALE (Weath highly weathere moist, high plas laminated 4 m - becomin SHALE, clayey medium to high	r, some silt, tra ained, sub-rou ng some clay, y, some grave astic, brown t ng, suspect w ning some co sions ered), silt and ered), silt and ed, grey, som stic, extremely ng some grou , silty, highly w n plastic, very	ace clay, poorly inded, damp, loose, low plastic el, trace sand, damp, o dark brown, some thite sulphate mpletely weathered d clay, trace sand, e oxidation staining, / weak, thinly nd up shale inclusions veathered, grey, damp, weak, ground up		AU1 AU2 AU3 AU4 AU5 AU6 AU7 AU8		4.3 4.1 18.6 17.1 18.6 15.7 14.8 14.0	POCKET PEN     I	I (kPa)	0.6 m - LL = 23.9% PL = 12.1% PI = 11.8% 1.2 m - Gravel = 18.1% 1.2 m - Sand = 50.2% Silt = 11.1% Clay = 20.6% 2.1 m - LL = 71.2% PL = 16.1% PI = 55.1% 3.7 m - Sand = 5.9% Silt = 51.8% Clay = 42.3%		769 768 766 766 765 765
												7	
		Notes:											
16/11/2022		NE Borrow sea	rch. Backfille	d with bentonite chips.							Logged By: Reviewed By:	C. Tams T. Curtis	



PROJECT NUMBER       1690-103-00       PROJECT LOATION       N. 151 32-10-16         DATE STATTED       0.7255022       COMPLETED       0.7255022       COMPLETED       0.725         DRILLING ONTRACTOR       Chalko billing Services Ld.       GROUND WATER LELVATION / DETTH       0.755       0.755       0.755       0.755         DRILLING ONTRACTOR       DIATE GROUND WATER RECORDED       0.755 <td< th=""><th>C</th><th>LIEN</th><th>IT</th><th></th><th>Eastern Irrigation Distri</th><th>ct</th><th></th><th>_ PRO</th><th>DJECT</th><th>NAME</th><th></th><th>Sna</th><th>ake Lake Reservoir Expan</th><th>sion</th></td<>	C	LIEN	IT		Eastern Irrigation Distri	ct		_ PRO	DJECT	NAME		Sna	ake Lake Reservoir Expan	sion
DUE STARTED         D7252022         COMPLETED         07252022         COMPLETED         0725202         0725202         0700 MAD         0725202         0700 MAD         0725202         0700 MAD         0700 MAD <th< td=""><td>F</td><td>ROJ</td><td>ECT NUMBER</td><td></td><td>1560-193-00</td><td></td><td></td><td></td><td>DJECT</td><td>LOCATION</td><td>I</td><td></td><td>NE 1/4 32-19-16</td><td></td></th<>	F	ROJ	ECT NUMBER		1560-193-00				DJECT	LOCATION	I		NE 1/4 32-19-16	
DRILLING METHOD         Chilako Dilling Service LLS.         OROUND WATER RELEVATION (DEPTH           DRILLING METHOD         8' SA         DATE GROUND WATER RECORDED           general content         Sell         Date GROUND WATER RECORDED           general content         Sell         Sell         Sell           Description         general content         Sell         Sell         Sell           CAV TILL, silly, some sand, some completity         Sell         Sell         Sell         Sell           CAV TILL, silly, some sand, some completity         Accest PAN 000         The -Organic Content         1 mOrganic Content           subphate inclusions         Sell         Accest PAN 000         1 mOrganic Content         1 mOrganic Content           subphate inclusions         Sell         AU1         8.9         14.1         Sell         1 mOrganic Content           subphate inclusions         Sell         AU1         8.9         1 mOrganic Content         1 mOrganic Content           subphate inclusions         Sell         AU2         1 4.1         Sell         1 mGraphic Content           subphate inclusions         Sell         AU2         1 4.1         Sell         1 mGraphic Content           subphate inclusions         Sell         AU3<	C	ATE	STARTED	07/25/2022	COMPLETED	07/25	5/2022	_ GRO	DUND	ELEVATION	N	14m	N_5611525.100 E	414968.800
DHILLING METHOD         0 'SSA         DATE ERCUND WATER RECORDED           Image: Sell Description         Sell Description         Image: Sell Description<	C	RILL	ING CONTRACT	OR	Chilako Drilling Servio	es Ltd	l.	GR0	DUND	WATER EL	EVATION / DE	EPTH		
general gener	D	RILL	ING METHOD		6" SSA			_ DAT	E GR	OUND WAT	ER RECORD	ED		
CLAY TILL, silly, some sand, some or moletely tamp, silf, high plastic, light brown to dark grey multiplate inclusions	Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTU</li> <li>PLASTI</li> <li>SPT (N)         <ol> <li>2</li></ol></li></ul>	IRE CONTENT C - LIQUID Blows/300 mm 20 30 400 00 300 400 I PEN (kPa)		REMARKS	Standpipe/ Instrument Elevation (m)
a       End of Borehole @6.1 m       a       AU4       18.7       a       5.5 m - LL = 70.7% PL = 20.1% Pl = 50.6%       769-769-769-769-769-769-769-769-769-769-			CLAY TILL, silt weathered mud damp, stiff, hig mottling, some sulphate inclus SHALE (Weath highly weathere damp, high pla laminated	y, some sand, Istone inclusio h plastic, light oxidation stai ions hered), clay an ed, grey, some stic, extremely	some completely ons, some gravel, brown to dark grey ning, suspect white d silt, trace sand, e oxidation staining, v weak, thinly		AU1 AU2 AU3		8.9 14.1 16.6	•		1 = 1 1 1 1 2	m - Organic Content 1.3% m - LL = 53.6% PL = 16.1% PI = 37.5% m - Gravel = 12.9% m - Sand = 16.8% Silt = 30.6% Clay = 39.7% .5 m - Sand = 8.9% Silt = 44.7% Clay = 46.4%	775- 774- 773- 772- 771- 770-
16/11/2022 SW Borrow search. Backfilled with bentonite chips. Logged By: <u>C. Tams</u> Reviewed By: <u>T. Curtis</u>			Notes:	End of Borehole	e@6.1 m		AU4		18.7			5	.5 m - LL = 70.7% PL = 20.1% PI = 50.6%	770- 
16/11/2022 Logged By: <u>C. Tams</u> Reviewed By: <u>T. Curtis</u>			SW Borrow sea	arch. Backfille	d with bentonite chips	6.								
16/11/2022 Reviewed By: <u>T. Curtis</u>												L	ogged By:	C. Tams
	16/11/2022											R	eviewed By:	T. Curtis



PROJECT NUMBER	07/2		_ PRO	JECT	LOCATION		NE 1/4 32-19-16	
DATE STARTED 07/27/2022 COMPLETED	07/2						NL 1/4 32-13-10	
		7/2022	_ GRO	UND	ELEVATION	773.41m	N_5611704.900 E_4	15487.300
DRILLING CONTRACTOR Chilako Drilling Servi	ces Lt	d.	GRO	UND	WATER ELEVAT	ION / DEPTH	۱	
DRILLING METHOD 6" SSA			DATE	E GRO	OUND WATER R	ECORDED		
Soil Soil Soil Soil Soil Soil Soil Soil	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CI</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 20 3</li> <li>POCKET PEN</li> </ul>	DNTENT QUID /300 mm 30 40 000 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL, silty, some sand, trace gravel, damp, firm to stiff, medium plastic, brown to dark brown, suspect white sulphate inclusions	æ	AU1		7.5	•		0.6 m - Sand = 23.2%	773-
	æ	AU2		11.0	•		Silt = $41.4\%$ Clay = $34.4\%$ 1.2 m - LL = $43.2\%$ PL = $14.3\%$ PI = $28.9\%$	772
-2 plastic, trace said	=	AU3		14.0	•		2.1 m - LL = 56.5% PL = 17.2% PI = 39.3%	771–
<ul> <li>mudstone inclusions</li> <li>SHALE (Weathered), clayey, silty, light brown to dark grey mottling, some oxidation staining, damp high plastic, extremely weak, blocky, suspect whi</li> </ul>	 , e	AU4		14.8	•		2.7 m - Sand = 7.4% Silt = 65.4% Clay = 27.2%	770-
	=	AU5 AU6		17.2 16.7	•		3.7 m - LL = 53.7% PL = 16.9% PI = 36.8%	769
	-	AU7		16.2	•			769
	æ	AU8		16.2	•			
End of Borehole @6.1 m								767-
								766-
								765
								764
Notes:								
NE Borrow search. Backfilled with bentonite chips	5.						Logged By: <u>C</u> . Reviewed By: <u>T</u> .	Tams Curtis



CLIENT	Eastern Irrigation Distri	ict		_ PROJEC	T NAME	S	ake Lake Reservoir Expansi	ion
PROJECT NUMBE	ER1560-193-00			_ PROJEC	T LOCATION		NE 1/4 32-19-16	
DATE STARTED	07/27/2022 COMPLETED	07/27/	/2022		DELEVATION	767.95m	N_5611676.200 E_	415733.100
DRILLING CONTR	RACTOR Chilako Drilling Servi	ces Ltd.			WATER ELEVA	TION / DEPTH	н	
DRILLING METHO	DD 6" SSA			_ DATE GF	ROUND WATER F	RECORDED		
Depth (m) SOIL SYMBOL	Soil Description	Sample Type	Sample Number	SPT (N) Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LI</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200</li> <li>POCKET PEN</li> </ul>	CONTENT IQUID s/300 mm 30 40 300 400 v (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
firm, mediu staining, su	., silt, some sand, trace gravel, damp, un plastic, brown, some oxidation uspect white sulphate inclusions	±	AU1 AU2	9.7 7.7	•		0.6 m - LL = 49.2% PL = 12.9% PI = 36.3% 1.2 m - Sand = 22.5% Silt = 48.2% Ciny = 20.2%	767-
22.1 m - tr	ace suspect bentonite seams ecoming some completely weathered	=	AU3 AU4	13.2 15.0	2		2.1 m - LL = 100.0% PL = 14.9% PI = 85.1%	766–
4 completely mottling, support of the support of th	(eathered), clay and silt, trace sand, v weathered, light brown to dark grey ome oxidation staining, damp, hight gremely weak, blocky, suspect white aclusions	=	AU5 AU6	14.8 14.7	3		3.7 m - Sand = 1.8% Silt = 55.4% Clay = 42.8%	764
		æ	AU7	16.2	2 •			763–
	End of Borehole @6.1 m	-	AU8	17.9	•			762-
								761
9								759-
Notes: NE Borrow	<i>v</i> search.Backfilled with bentonite chips	<u> </u>					Logged By:	C. Tams



	CLIE	NT		Eastern Irrigation District			PR0	OJECT	NAME	_		S	Snake La	ke Reservoir Expa	nsion		
	PROJ	JECT NUMBER		1560-193-00			_ PRO	OJECT	LOCATIO	N			Ν	IE 1/4 32-19-16			
	DATE	STARTED	07/27/2022		)7/27	7/2022	GR	OUND	ELEVATIO	DN .	771	.37m	N	5611668.700 E	41	6033.7	700
	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Ltd	1.	GR	OUND	WATER E	LEVATI	ON / E	DEPTI	Η				
	DRILI	LING METHOD		6" SSA			DA1	E GR	OUND WA	TER RE	CORI	DED					
Depth (m)	SOIL SYMBOL		Soil Descript	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOIST</li> <li>⊢ PLAST</li> <li>SPT (N 10 100 POCKE</li> </ul>	URE CC TIC - LIQ I) Blows/3 200 30 ET PEN (	0NTEN1 UID 300 mm 0 40 (kPa)	Г 1 2 10		REMARKS		Standpipe/ Instrument	Elevation (m)
- - - - - - - - - - - - - - - - - - -		stiff, low to me	Jium plastic, b	rown, trace root hairs	#	AU1		6.0	•				0.6 m - 0.6 m -	Gravel = 17.3% Sand = 47.5% Silt = 25.3%	j.		771-
- - - - - - - - - - - - - - - - - - -		1.5 m - becor 2 m - becomi	ning some to t	irace gravel	-	AU2		17.2		•			1.2 m -	Clay = 9.9% LL = 33.9% PL = 17.2% PI = 16.7%			770
- - - - - - 3		2.5 m - becor mudstone inclu SHALE (Weath weathered, ligh	ning some con sions nered), clayey, nt brown to da	npletely weathered silty, completely rk grey mottling, some	æ	AU4		19.7		•			2.7 m -	Sand = 1.9% Silt = 50.1% Clay = 48.0%			769-
4 4 4		oxidation stain weak to hard s inclusions, trac	ng, damp, hig oil, suspect wl e gypsum cry	h plastic, extremely nite sulphate stals	# #	AU5 AU6		17.6 18.4		•			3.7 m -	LL = 67.2% PL = 23.9% PI = 43.3%			767-
- - 		4.5 m - becor throughout	ning high plas	tic, bentonite seams	Ŧ	AU7		23.3		•			5.2 m -	LL = 190.2% PL = 20%			766-
6	·		End of Borehole	2 @6.1 m	=	AU8		39.5			•			PI = 170.2%			
- - - - - - - - - - - - - - - - - - -		Notes:															765– 764– 763–
		NE Borrow sea	ırch. Backfilleo	d with bentonite chips.									Logged	d By:	C. <sup>-</sup>	Tams	
16/11/2022	2												Review	/ed By:	T. (	Curtis	



C	LIEN	T		Eastern Irrigation Distric			_ PRC	JECT	NAM	E	_		Snake L	ake Reservoir Expa	nsion	
F	ROJ	ECT NUMBER		1560-193-00			_ PRC	JECT	LOC	ATION	_			NE 1/4 32-19-16		
0	DATE	STARTED	07/27/2022	COMPLETED	07/27	7/2022	GRO	DUND	ELEV	ATION	ı _	771.92	2mN_	5611673.400 E	41634	1.900
0	RILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd	l.	GR0	DUND	WATE	ER ELE	EVATIO	ON / DEI	PTH			
C	RILL	ING METHOD		6" SSA			DAT	E GRO	DUNE	) WATE	ER RE	CORDE	D			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S 1 1 A P	10ISTU PLASTIC PT (N) I 10 20 00 20 OCKET	RE COI C - LIQU Blows/3 0 300 0 300 PEN (F	NTENT JID 00 mm ) 40 0 400 (Pa)		REMARKS	Standpipe/	Instrument Elevation (m)
-1		GRAVEL, silty, well graded, co loose, grey and CLAY TILL, gra medium plastic inclusions 2.5 m - becomir plastic SHALE, clayey damp, medium	clayey, some arse grained, I brown Neelly, silty, sor , brown, suspe ning some gra ng some oxida , silty, complet plastic, very v End of Borehole	sand, some cobbles, sub-rounded, damp, ene sand, moist, stiff, ect white sulphate vel tion staining, high ely weathered, grey, <i>r</i> eak, ground up @5.2 m	*	AU1 AU2 AU3 AU4 AU5 AU6 AU7		6.4 4.7 5.0 13.8 16.1 13.0	•	•			<ul> <li>0.6 m</li> <li>1.2 m</li> <li>1.2 m</li> <li>2.1 m</li> <li>3.7 m</li> <li>3.7 m</li> <li>3.7 m</li> <li>5.2 m</li> <li></li> </ul>	- LL = 46.0% PL = 18.8% PI = 27.2% - Gravel = 29.2% - Sand = 26.0% Silt = 23.5% Clay = 21.3% - LL = 43.6% PL = 13.2% PI = 30.4% - LL = 57.0% PL = 15.1% PI = 41.9% - Gravel = 30.1% - Sand = 15.4% Silt = 27.8% Clay = 26.7% - Auger refusal		771 770 769 768 767 766 765 764 764
-													_			
		Notes:														
		NE Borrow sea	rch. Backfilled	with bentonite chips.									Logge	d By:	C. Tan	ns
16/11/2022													Kevie	wea By:	i. Cur	us



CL	IEN	Т		Eastern Irrigation District			_ PRO	OJECT	NAM	1E	_		S	Snake La	ke Reserv	oir Expa	ansior	ı	
PF	roj	ECT NUMBER		1560-193-00			_ PRO	OJECT	LOC	ATION	ı _			N	E 1/4 32-1	9-16			
DA	λΤΕ	STARTED	07/27/2022		)7/2	7/2022	GR0	OUND	ELE	/ATIO	N _	768	8.49m	N	5611660.0	00 E	41	6636.	500
DF	RILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	1.	GR	OUND	WAT	ER EL	EVATI	ON / E	DEPTI	Η					
DF	RILL	ING METHOD		6" SSA			DAT	E GR	OUN	D WAT	ER RE	CORI	DED						
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLASTI SPT (N) 10 2 200 2 200CKE	IRE CO C - LIQI Blows/3 20 30 00 30 7 PEN (	NTEN UID 300 mn <u>) 4</u> 1 0 40 kPa)	Г D D		REMAR	KS		Standpipe/ Instrument	Elevation (m)
		CLAY TILL, gra cobbles, moist, hairs SHALE, silt and weathered, gre weak, trace cla	and, some silt, some stic, brown, trace root and, completely plastic, extremely s		AU1 AU2 AU3 AU4 AU5		4.3 16.7 14.5 13.8 14.0	•	• •		·····		0.6 m - 0.6 m - 1.2 m - 2.1 m - 2.7 m - 3.6 m - 3.7 m -	Gravel = Sand = 7 Silt = 5.1 Clay = 4 LL = 55. PL = 19. PI = 35. LL = 68. PL = 16. PI = 52. Sand = ( Silt = 52. Clay = 4 LL = 59. PL = 17. PI = 41. Auger re	75.1% 5.3% % 5% 0% 3% 4% 3% 1% 0.5% 4% 7.1% 4% 5% fusal	6		768- 766- 765- 764- 763- 762- 761- 760-	
-9																			759
		Notes:							-					-					
16/11/2022		NE Borrow sea	rch. Backfilleo	with bentonite chips.										Logged Review	By: ed By:		С. Т.	<u>Tams</u> Curtis	



CLIENT		Eastern Irrigation District			_ PRO	DJECT	NAM	E	_		S	nake La	ake Res	servoir E	Expans	sion		
PROJECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	ATION	_				NE 1/4	32-19-1	6			
DATE STARTED	07/25/2022	COMPLETED	07/2	5/2022	_ GRO	DUND	ELEV	ATION	۱.	777	'.52m	N	561122	28.900	E_	4149	956.30	00
DRILLING CONTRACT		Chilako Drilling Service	s Lto	l.	GR	DUND	WATE	R EL	EVATI	ON / [	DEPTI	┥						
DRILLING METHOD		6" SSA			DAT	E GR	DUND	WATE	ER RE	COR	DED							
Depth (m) SOIL SYMBOL	Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M ⊢ P ■ SI 10 ▲ P	OISTU PLASTIC PT (N) I 0 20 00 20 00 20 00 20	RE CO C - LIQ Blows/3 0 30 7 PEN (	NTEN <sup>-</sup> UID 300 mn 0 4 00 40 kPa)	Г D Ю		REM	IARKS		Standnine/	Instrument	Elevation (m)
CLAY TILL, silf stiff, medium p staining, trace sulphate inclus SHALE (Weath weathered, dat staining, damp hard soil 	ty, some sand, lastic, light bro gypsum crysta sions nered), clayey, rk brown to gre , medium plast ing some sand ing high plastic End of Borehole	some gravel, damp, wn, some oxidation ls, suspect white silty, completely y, some oxidation ic, extremely weak to		AU1 AU2 AU3 AU4		16.5 13.4 11.2 5.8	•	•				1 m - l 1 m - 0 1 m - 5 2.5 m 4 m - 5	LL = 44 PL = PI = Gravel Sand = Clay PL = PI = Sand = Silt = Clay	4.6% 13.5% 31.1% = 7.3% = 26.7% 27.4% = 38.6° 49.5% 36.7% = 12.5% 48.2% = 39.3°	6 6 7%			7777 7776 7775 7774 7772 7771 7770 7769 768
Notes																[		
SW Borrow se	arch. Backfilleo	l with bentonite chips.										Logge Reviev	d By: wed By	/:		<u>С. Та</u> Т. Сі	ams urtis	



CLIENT	E	astern Irrigation District			_ PRC	JECT	NAME	S	nake Lake Reservoir Expa	ansion
PROJECT NUMBE	R	1560-193-00			_ PRC	JECT	LOCATION		NE 1/4 32-19-16	
DATE STARTED	07/26/2022	COMPLETED 0	7/26	6/2022	_ GRC	DUND	ELEVATION	776.66m	N_5611233.300 E	415262.100
DRILLING CONTR	ACTOR	Chilako Drilling Services	s Ltd		GRC	DUND	WATER ELEVA	TION / DEPTH	4	
DRILLING METHO	D	6" SSA			_ DAT	E GRO	OUND WATER F	RECORDED		
Depth (m) SOIL SYMBOL	Soil Descriptior	n	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - L</li> <li>SPT (N) Blow</li> <li>10 20</li> <li>100 200</li> <li>POCKET PET</li> </ul>	CONTENT IQUID /s/300 mm 30 40 300 400 N (kPa)	REMARKS	Standpipe/ Instrument Elevation
SAND, som grained, su 0.8 m - be 0.8 m - be CLAY TILL, damp, firm, white sulph 1.5 m - be staining, da hard soil, b	e silt, trace clay, po b-rounded, damp, lo ecoming clayey , sand and silt, some medium plastic, bro ate inclusions ecoming trace sand eathered), silt and c weathered, grey, so amp, medium plastic locky, suspect white End of Borehole (	orly graded, fine bose, light brown e gravel, some sand, own to grey, suspect lay, trace sand, ome oxidation c, extremely weak to a sulphate inclusions	-	AU1 AU2 AU3 AU4		6.8 11.7 12.3 11.2			1 m - Sand = 39.1% Silt = 36.5% Clay = 24.4% 2.5 m - LL = 43.2% PL = 13.1% PI = 30.1% 4 m - Sand = 13.4% Silt = 48.1% Clay = 38.5%	776- 775- 774- 773- 772- 771- 771- 770- 769- 769- 768- 768-
Notes:							1			1
SW Borrow	search. Backfilled	with bentonite chips.							Logged By: Reviewed By:	C. Tams T. Curtis

											BO	REHOLE No	22BH4	64
	V			an <b>Englob</b>	e cor	npar	ıу						PAGE 1	0F 1
	CLIEN	NT		Eastern Irrigation D	District		_ PRO	DJECT	NAME			Snake Lake Reservo	ir Expansion	
	PROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATIO	DN		NE 1/4 32-19	<del>}</del> -16	
	DATE	STARTED	07/27/2022		07/2	7/2022	_ GRO	DUND	ELEVATIO	NC	768.6	04m N 5611377.80	0 E <u>415744.</u>	500
	DRILL	ING CONTRACT	OR	Chilako Drilling S	ervices Lto	l.	GR0	DUND	WATER E	LEVA	TION / DE	EPTH		
	DRILL	ING METHOD		6" SSA	۹ ۱		DAT	E GRO		TER I	RECORDE	ED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOIS</li> <li>⊢ PLAS</li> <li>SPT (I 100 100 POCK</li> </ul>	TURE ( TIC - L N) Blow 200 ET PEI	CONTENT IQUID /s/300 mm <u>30 40</u> 300 400 N (kPa)		(\$) Standpipe/ Instrument	Elevation (m)
		CLAY TILL, silt, damp, stiff, high	sandy, grave plastic, brow	lly, some cobbles /n	2									768-
		E	End of Borehole	e@1.1 m		AU1		7.2	• +			1 m - Auger refus due to cobbles 1 m - LL = 54.8% PL = 14% PI = 40.8 1 m - Sand = 30.7	al	767-
												Silt = 37.0 Clay = 32	1% .3%	766
- - - - - - - - - - - - - - - - - - -														765
- - - - - - - - - - - -														764
- - - - - -														763
- - - - - - - -														762
- - - - - - - - -														761
- - - - - - -														760
- - - - -		Neter												759
16/11/2022	2	Notes: NE Borrow sea	rch. Backfilleo	l with bentonite cl	hips.							Logged By: Reviewed By:	<u> </u>	



(		ΝT		Eastern Irrigation District			_ PR	OJECT	NAME		S	nake Lake Re	servoir Exp	ansior	1	
F	PROJ	ECT NUMBER		1560-193-00			_ PR	OJECT	LOCA	TION		NE 1/4	32-19-16			
[	DATE	STARTED	07/27/2022		07/27	7/2022	_ GR	OUND	ELEVA	TION	768.79m	N_56113	72.600 E	41	6025.8	300
[	DRILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	1.	GR	OUND	WATEF	R ELE	VATION / DEPTH	1				
[	DRILL	ING METHOD		6" SSA			_ DA	TE GRO	DUND \	WATER	R RECORDED					
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MC</li> <li>H PL</li> <li>SP<sup>-</sup></li> <li>10</li> <li>100</li> <li>PO</li> </ul>	ASTIC	E CONTENT - LIQUID ows/300 mm 30 40 300 400 EN (kPa)	REM	<i>M</i> ARKS		Standpipe/ Instrument	Elevation (m)
-1-1-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-		CLAY TILL, silt, damp, firm, hig suspect white s staining SHALE (Weath completely wea	, some sand, t h plastic, light ulphate inclus ered), clay an thered. light b	race gravel, dry to brown to brown, ions, trace coal d silt, trace sand, rown to dark grey	#	AU1 AU2 AU3		9.4 12.2 14.2	•	•		0.6 m - Orga Content = 1 0.6 m - San Silt = Clay 1.2 m - LL = PL = PI =	anic .7% d = 13.4% = 51.1% = 35.5% 82.0% = 16.8% = 65.2%			768
		mottling, some plastic, extreme sulphate inclus	oxidation stain ely weak to ha ions, trace gyp	ning, damp, high rd soil, suspect white osum crystals	=	AU4		13.7		•						766-
	· · · · · · · · · · · · · · · · · · ·				#	AU5 AU6		16.8 15.6		•		3.7 m - LL = PL = PI = 3.7 m - San Silt = Clay	93.5% 18.1% 75.4% d = 0.5% = 44.0% = 55.5%			765
-	· · · ·				=	AU7		17.1		•						
- 6			End of Borehole	@6.1 m		AU8		18.4		•						762-
7 7 																
																760
		Notes:														l
16/11/2022		NE Borrow sea	rch. Backfilled	with bentonite chips.								Logged By: Reviewed B	y:	<u>С.</u> Т. (	<u>Tams</u> Curtis	



CLIENT		Eastern Irrigation Distric	t		PRC	DJECT	NAME		S	nake Lake Reservoir Expar	nsion
PROJECT NUME	3ER	1560-193-00			_ PRC	DJECT	LOCATION			NE 1/4 32-19-16	
DATE STARTED	07/07/2022	_ COMPLETED	07/07	7/2022	_ GRO	DUND	ELEVATION	778	.10m	N_5610905.300 E	414944.600
DRILLING CONT	RACTOR	Chilako Drilling Service	es Lto	1.	GR0	DUND	WATER ELEV	ATION / D	EPTH	ł	
DRILLING METH	OD	6" SSA			DAT	E GR	OUND WATER	RECORE	DED		
Depth (m) SOIL SYMBOL	Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE</li> <li>PLASTIC -</li> <li>SPT (N) Blov</li> <li>10 20</li> <li>100 200</li> <li>POCKET PE</li> </ul>	CONTENT LIQUID ws/300 mm <u>30 40</u> 300 40 EN (kPa)	) 0	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TIL medium p staining, t SHALE (V highly we damp, hig blocky, tra	L, silty, sandy, grav plastic, light brown, race gypsum crysta Weathered), clay ar athered, grey, som ph plastic, extremel ace gypsum crystal End of Borehole	elly, dry, stiff, low to trace oxidation als ad silt, trace sand, e oxidation staining, y weak to hard soil, s		AU1 AU2 AU3 AU4		3.9 16.4 18.9 16.8				1 m - LL = 44.9% PL = 16.5% PI = 28.4% 1 m - Gravel = 30.8% 1 m - Sand = 19.5% Silt = 21.7% Clay = 28.0% 2.5 m - LL = 54.7% PL = 21% PI = 33.7% 4 m - Sand = 1.5% Silt = 41.2% Clay = 57.3%	778– 777– 777– 777– 777– 777– 777– 777–
											769–
Notes:											
SW Borro	w search. Backfille	d with bentonite chips	-							Logged By: Reviewed By:	C. Tams T. Curtis



PROJECT NUMERER         150:153:00         PROJECT LOCATION         NE 1/4 32:15-16           DATE STARTED         07206/022         COMPLETED         07206/022         GROUND VERVER LEVATION         775:16         95:1038.900         c         415203.000           DRULING KOTRACTOR         Chalko Olding Bervice LLd         GROUND WATER RELEVATION / DEFTI	(	CLIEI	NT		Eastern Irrigation District			_ PR	OJECT	NAN	ЛE	_		Sr	nake Lak	e Reservoir	Expar	nsion		
DER E STARTED         07/28/202         COMPLETED         07/28/202         GROUND ELEVATION         77.16m         N         6 51039.000         e         415253.000           DRILLING CONTRACTOR         ONLIAD DRIING Bendee Lui.         GROUND WATER RECORDED	1	PRO	JECT NUMBER		1560-193-00			_ PR	OJECT	LOC	ATION	ı _			NE	E 1/4 32-19-	-16			
DRILING CONTRACTOR       Chilado Drilling Services Ltd.       GROUND WATER RELATION / DEPTH         DRILLING METHOD       6* SSA       DATE GROUND WATER RECORDED         generation       generation       generation       generation         generation       generation       generation       generation       generation         generation       generation       generation       generation       generation         generation       generation       generation       generation       generation         generation       generation       generation       generation       generation         generation       generation       generation       generation       generation         generation       ge	1	DATE	STARTED	07/26/2022	_ COMPLETED	)7/26	6/2022	_ GR	OUND	ELE	VATIO	N _	775.	16m	_ N_56	610938.900	<u> </u>	415	253.0	000
DRILLING METHOD <u>6'SSA</u> DATE GROUND WATER RECORDED           Image: Constraint of Bosenble (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0	1	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	1.	GR	OUND	WAT	ER EL	EVATI	ON / DE	EPTH						
Image: Solid Description     Image: Solid De	1	DRILI	LING METHOD		6" SSA			DA	re gro	OUNI	D WAT	ER RE	CORD	ED						
SAND some silt, trace clay, poorty graded, fine gravel, trace sand, damp, transfered), clayes, stilt, highly weathered, grey, some oxidation staining, suspect while sulphate inclusions       1 m - LL = 45.8% PL = 13.3 m - 14.6% Still = 45.6% Clay = 38.6% PL = 14.6% PL = 45.6% Clay = 38.6% Clay = 38.6% PL = 14.6% PL = 46.6% PL = 44.6% PL = 44.6	Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLASTI SPT (N) <u>10 2</u> 100 20 POCKET	JRE CO C - LIQI Blows/3 20 30 00 30 T PEN (	NTENT UID 300 mm 0 40 kPa)			REMARK	S	- č	Standpipe/ Instrument	Elevation (m)
Notes: SW Borrow search. Backfilled with bentonite chips.	-1		SAND, some s grained, sub-ro brown CLAY TILL, silt sand, damp, fir oxidation staini inclusions SHALE (Weath weathered, gre high plastic, ve white sulphate	ilt, trace clay, p unded, damp, , some sand, s m, medium pla ng, suspect w ered), clayey, y, some oxida ry weak, thinly inclusions	and, completely um plastic, very weak, @6.1 m		AU1 AU2 AU3 AU4 AU5 AU6		13.3 19.1 18.7 20.3 15.4 18.6		<u>РОСКЕ</u>	■	<u>kPa</u> )		I m - LL F I m - Sa S.5 m - L F 5.8 m - S C	= 45.8% PL = 13.69 Pl = 32.29 and = 14.6 Silt = 45.60 Clay = 39.8 LL = 55.29 PL = 14.69 Pl = 40.69 Sand = 2.9 Silt = 48.60 Clay = 48.60	6 % 8% 6 6 6 6 6 %			775– 7774– 7773– 7772– 7771– 7770– 769– 768– 768– 766–
Notes: SW Borrow search. Backfilled with bentonite chips. Logged By: C. Tams	_																			
16/11/2022 Reviewed By: <u>T. Curtis</u>	16/11/2022	<u>!</u>	Notes: SW Borrow sea	arch. Backfilleo	d with bentonite chips.									L	₋ogged Reviewe	By: ed By:		<u>С. Т</u> Т. С	äms urtis	



C		T		Eastern Irrigation District			_ PRO	OJECT	NAM	1E	_		S	Snake Lake Reservoir Expan	sion
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	JECT	LOC	ATION	ı _			NE 1/4 32-19-16	
[	DATE	STARTED	07/26/2022	COMPLETED	07/26	6/2022	_ GRO	OUND	ELE\	/ATIO	N _	777	.15m	N_5611070.800 E	415426.500
[	ORILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd		GR0	OUND	WAT	ER EL	EVATI	ON / D	EPTI	н	
[	ORILL	ING METHOD		6" SSA			_ DAT	E GR	DUNE	) WAT	ER RE	CORE	DED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M 	//OISTU PLASTI 6PT (N) 10 2 00 2 20CKE	IRE CO C - LIQI Blows/3 20 30 00 30 7 PEN (	NTENT UID 300 mm <u>) 40</u> 0 40 kPa)	0	REMARKS	Standpipe/ Instrument Elevation (m)
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		CLAY TILL, silt sand, dry, firm, oxidation staini inclusions 2.5 m - becor mudstone inclu 3.5 m - becor SHALE (Weath highly weather damp, high pla laminated, susj	, some sand, t medium plast ng, suspect w ning some cor sions ning some coa nered), silt and ed, grey, some stic, extremely pect white sulp End of Borehole	race gravel, trace ic, light brown, some nite sulphate npletely weathered al staining clay, trace sand, e oxidation staining, weak, thinly shate inclusions @6.1 m	-	AU1 AU2 AU3 AU4		9.9 11.2 11.9 19.0		• • • •				$\begin{array}{l} 0.6 \text{ m} - \text{EC: } 1.8 \text{ dS/m} \\ 0.6 \text{ m} - \text{SAR: } 7.7 \\ 0.6 \text{ m} - \text{pH: } 8.2 \\ 1 \text{ m} - \text{Gravel} = 9.7\% \\ 1 \text{ m} - \text{Sand} = 15.2\% \\ \text{Silt} = 38.9\% \\ \text{Clay} = 36.2\% \\ \hline 2.5 \text{ m} - \text{LL} = 44.3\% \\ \text{PL} = 13.4\% \\ \text{PI} = 30.9\% \\ \hline 5.5 \text{ m} - \text{LL} = 60.5\% \\ \text{PL} = 18.3\% \\ \text{PI} = 42.2\% \\ \hline 5.5 \text{ m} - \text{Sand} = 7.4\% \\ \text{Silt} = 54.2\% \\ \text{Clay} = 38.4\% \\ \hline \end{array}$	777- 776- 775- 774- 773- 7772- 7771- 7770- 769- 768-
		Notes:													
1011-15		SW Borrow sea	arch. Backfilleo	d with bentonite chips.										Logged By: Reviewed By:	<u>C. Tams</u> T. Curtis
16/11/2022														·	

												BOR	EHOLE No	: 22	3H4	171
	Q			an <b>Englobe</b> d	cor	mpar	у							I	PAGE 1	1 0F 1
	CLIE	NT		Eastern Irrigation Distric	t		PR	OJECT	NAM	E		:	Snake Lake Reserve	oir Expansi	on	
	PROJ	IECT NUMBER		1560-193-00			PR	OJECT	LOCA	ATION	I		NE 1/4 32-1	9-16		
	DATE	STARTED 0	7/27/2022		07/2	7/2022	GR	OUND	ELEV	ATION	۱ _	774.21m	n N 5611071.1	)0 E	415735.	.000
	DRILI	LING CONTRACTOR	र	Chilako Drilling Service	es Lte	d.	GR	OUND	WATE	R ELI	EVATIO	N / DEPT	ТН			
	DRILI	LING METHOD		6" SSA			DA		DUND	WAT	ER REC	ORDED				
Depth (m)	SOIL SYMBOL	CLAY THE cond	Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H P ■ SF 1 10 ▲ P0	OISTU PLASTIC PT (N) 0 2 00 20 OCKET	RE CON C - LIQUI Blows/300 00 300 7 PEN (kF	FENT D 0 mm <u>40</u> 400 2a)	REMAR	KS	Standpipe/ Instrument	Elevation (m)
Ē		dry, firm, low plas	tic, light bro	wn	,											774-
Ē					-	AU1		5.8	•				0.6 m - Gravel =	17.0%		-
<u>–</u> 1													0.6 m - Sand = 5	0.3% 6%		
Ē					=	AU2		6.5	•	⊢			Clay = 1	2.1%		773-
Ē		En	d of Borehole	e @1.5 m									1.2  m - LL = 29.8 PL = 13.	5% 7%		] -
-2													. PI = 16.	1%		
Ē													1.5 m - Auger re due to cobbles	iusal		772-
-																
-3																
Ē																771-
-																
-4																
Ē																770-
-																
-5													-			
Ē																769
-																
-6									 							-
Ē																768-
Ē																-
-7																
-																767-
Ē																-
-8																-
Ē																766-
Ē																-
-9																
ŧ																765-
Ē																-
F													-			
	1	Notes:							<u> </u>				1			<u> </u>
		SE Borrow search	h. Backfilled	with bentonite chips.												
													Logged By:		<u>). Tams</u>	\$
16/11/202	2												Reviewed By:	<u> </u>	. Curtis	\$
L <sup>10/11/202</sup>	_															



C		NT		Eastern Irrigation District			_ PRC	DJECT	NAME	S	Snake Lake Reservoir Expan	sion
F	PROJ	ECT NUMBER		1560-193-00			_ PRC	DJECT	LOCATION		NE 1/4 32-19-16	
0	DATE	STARTED	07/26/2022		7/26	6/2022	GR0	DUND	ELEVATION	773.36m	N 5611055.800 E	416022.300
0	RILL	ING CONTRACT	OR	Chilako Drilling Services	s Ltd		GR0	DUND	WATER ELEVA	TION / DEPTI	н	
0	RILL	ING METHOD		6" SSA			_ DAT	E GRO	OUND WATER	RECORDED		
Depth (m)	SOIL SYMBOL		Soil Descriptio	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE</li> <li>PLASTIC - L</li> <li>SPT (N) Blov</li> <li>10 20</li> <li>100 200</li> <li>POCKET PE</li> </ul>	CONTENT LIQUID vs/300 mm 30 40 300 400 N (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
-1		GRAVEL, sand medium graine brown CLAY TILL, silt moist, firm, higl oxidation staini inclusions, trac SHALE (Weath weathered, ligh oxidation staini weak to hard so	y, some silt, tra d, Rounded, d , some sand, ti h plastic, dark ng, suspect wł e gypsum crys egypsum crys iered), clayey, ti brown to dar ng, damp, higł oil, trace gypsu End of Borehole	ace clay, well graded, ry, loose, grey to race to some gravel, brown, some nite sulphate itals silty, completely k grey mottling, some n plastic, extremely um crystals @6.1 m	* * *	AU1 AU2 AU3 AU4 AU5 AU6 AU7 AU8		9.7 4.2 17.6 15.3 15.7 14.2 19.6 18.5			0.6 m - Gravel = 51.2% 0.6 m - Sand = 26.0% Silt = 13.0% Clay = 9.8% 2.1 m - LL = 54.4% PL = 19.6% PI = 34.8% 2.7 m - Gravel = 2.9% 2.7 m - Sand = 18.2% Silt = 38.2% Clay = 40.7% 3.7 m - LL = 48.4% PL = 15.9% PI = 32.5% 5.2 m - LL = 69.2% PL = 22.3% PI = 46.9%	7773- 7772- 7771- 7770- 769- 769- 768- 766- 766- 766- 765-
												764
		Notes:										
16/11/2022		SE Borrow sea	rch. Backfilled	with bentonite chips.							Logged By: Reviewed By:	C. Tams T. Curtis
i												



(		NT		Eastern Irrigation Distric	t		_ PRC	JECT	NAME			Snake L	ake Reservoir Ex	pansior	า	
F	PROJ	ECT NUMBER		1560-193-00			_ PRC	JECT	LOCAT	ION			NE 1/4 32-19-16			
[	DATE	STARTED	07/27/2022	_ COMPLETED	07/2	7/2022	GRC	DUND	ELEVA	TION	768.0	1m_N_	5611071.900	E _4	6313.30	00
[	DRILL	ING CONTRACT	OR	Chilako Drilling Servic	es Lto	d.	GRC	DUND	WATER	RELEVAT	ION / DE	ртн				
[	ORILL	ING METHOD		6" SSA			DAT	E GRO	OUND V	VATER R	ECORDE	D				
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOI</li> <li>⊢ PLA</li> <li>■ SPT</li> <li>10</li> <li>100</li> <li>POO</li> </ul>	ISTURE C ASTIC - LIO (N) Blows 20 200 3 CKET PEN	ONTENT QUID 3/300 mm <u>30 40</u> 300 400 I (kPa)		REMARKS		Standpipe/ Instrument	Elevation (m)
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		CLAY TILL, silt moist, stiff, med white sulphate 1.6 m - becor SHALE (Weath completely weat trace oxidation extremely weat 5.5 m - becor inclusions	y, sandy, some dium plastic, d inclusions ning trace grav nered), clay an athered, light b staining, dam k to hard soil, l ming some gro End of Borehole	e gravel, damp to ark brown, suspect vel, high plastic d silt, trace sand, frown to grey mottling p, high plastic, blocky		AU1 AU2 AU3 AU4 AU5 AU6 AU7		8.1 20.9 17.4 18.4 20.4 20.6 17.5				0.6 m 0.6 m 2.1 m Classi 2.1 m 3.7 m 5.2 m 5.8 m	- Gravel = 30.9 - Sand = 32.1% Silt = 18.3% Clay = 18.7% - Dispersivity fication = ND3 - LL = 71.0% PL = 21.6% PL = 21.6% PL = 49.4% - LL = 61.8% PL = 17.6% PI = 44.2% - Sand = 1.3% Silt = 54.7% Clay = 44.0% - Auger refusal	%		767 766 765 764 763 762 761 762
9		Notes:														759
		SE Borrow sea	rch. Backfilled	with bentonite chips.								Logge	d By:	<u>С.</u> Т	<u>Tams</u> Curtis	
16/11/2022												1.0010			04110	



	CLIEN	T		Eastern Irrigation District			_ PRO	OJECT	NAME		S	Snake Lake Reservoir Expa	insion	
1	PROJ	IECT NUMBER		1560-193-00			_ PRO	OJECT	LOCATION			NE 1/4 32-19-16		
	DATE	STARTED	07/27/2022		)7/2	7/2022	GR	OUND	ELEVATION	767	'.34m	N_5611071.900 E	41	6626.300
	DRILI	ING CONTRACT	OR	Chilako Drilling Service	s Lto	ł.	GR	OUND	WATER ELE	EVATION / [	DEPT	н		
1	DRILI	ING METHOD		6" SSA			_ DAT	E GR	OUND WATE	R RECOR	DED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTUF</li> <li>PLASTIC</li> <li>SPT (N) B</li> <li>10 200</li> <li>100 200</li> <li>POCKET</li> </ul>	RE CONTEN C - LIQUID Blows/300 mm 0 30 4 0 300 40 PEN (kPa)	Г 1 2 10	REMARKS		Standpipe/ Instrument Elevation (m)
-1		CLAY TILL, silt firm to stiff, hig sulphate inclus 1 m - becomin SHALE (Weath completely wea mottling, some plastic, extreme sulphate inclus	y, some grave h plastic, dark ions ng trace grave grave ng trace grave ng trace grave ng trace grave	I, trace sand, moist, brown, suspect white		AU1 AU2 AU3 AU4 AU5 AU6 AU7		16.4 18.1 18.3 24.1 21.9 18.2 14.9	•	•		0.6 m - LL = 70.1% PL = 13.6% PI = 56.5% 1.2 m - Organic Content = 4.4% 2.1 m - Sand = 2.5% Silt = 45.1% Clay = 52.4% 3.7 m - Sand = 2.1% Silt = 47.4% Clay = 50.5% 5.2 m - LL = 79.0% PL = 16%		767- 766- 765- 764- 763- 762-
		5.6 m - becor	ning grey shal	e @6.1 m		AU8		14.9	•			PI = 63.0%		761– 760– 759–
16/11/2022	2	Notes: SE Borrow sea	rch. Backfilled	with bentonite chips.				<u> </u>	1			Logged By: Reviewed By:	<u> </u>	Tams Curtis



CLIENT	Eastern Irrigation District		F	PROJECT	NAME	Sn	ake Lake Reservoir Expar	nsion
PROJECT NUMBER	1560-193-00		F	ROJECT			NE 1/4 32-19-16	
DATE STARTED	07/07/2022 COMPLETED	07/07/2022	20	GROUND	ELEVATION 77	8.51m	N 5610638.100 E	414960.600
DRILLING CONTRAC	CTOR Chilako Drilling Service	s Ltd.	0	GROUND	WATER ELEVATION /	DEPTH		
DRILLING METHOD	6" SSA		C	DATE GRO	OUND WATER RECOR	DED		
Depth (m) SOIL SYMBOL	Soil Description	Sample Type Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTEN</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mi 10 20 30 4 100 200 300 4</li> <li>POCKET PEN (kPa)</li> </ul>	T n 10 00	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL, s plastic, light b SHALE (Wea trace gravel, brownish grey plastic, extrer	ilty, trace gravel, dry, stiff, medium rown, some oxidation staining thered), silt and clay, trace sand, trace cobbles, completely weathered, y, some oxidation staining, damp, high nely weak to hard soil ning grey End of Borehole @3.7 m	<ul> <li>AU:</li> <li>AU:</li> <li>AU:</li> </ul>	2	7.3 14.1 16.4		2	m - LL = 49.1% PL = 18.5% PI = 30.6% PI = 30.6% PL = 20.3% PL = 20.3% PI = 33.0% B.4  m - Sand = 2.2% Silt = 52.5% Clay = 45.3% B.7  m - Auger refusal	778-777-777-777-7776-7776-7775-
								7774– 7773– 7772– 7771– 7770– 769–
Notes:								
SW Borrow s	earcn. Backfilled with bentonite chips.					L	.ogged By: Reviewed By:	C. Tams T. Curtis



CLIENT			Eastern Irrigation District				_ PRC	JECT	NAME	Sr	nake Lake Reservoir Expansion		
PROJECT NUMBER			1560-193-00				_ PRC	PROJECT LOCATION			NE 1/4 32-19-16		
DATE STARTED 07			07/07/2022 COMPLETED 0			)7/07/2022		GROUND ELEVATION776.57m			_ N_5610631.000 E	415258.600	
DRILLING CONTRACTOR Chilako Drilling Services						Ι.	GR0	_GROUND WATER ELEVATION / DEPTH					
DRILLING METHOD 6" SSA								DATE GROUND WATER RECORDED					
Depth (m)	SOIL SYMBOL	Soil Description			Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CON</li> <li>PLASTIC - LIQU</li> <li>SPT (N) Blows/30</li> <li>10 20 30</li> <li>100 200 300</li> <li>POCKET PEN (k</li> </ul>	NTENT ND 00 mm 40 0 400 Pa)	REMARKS	Standpipe/ Instrument Elevation (m)	
-1		CLAY TILL, silt mm, dry, firm to trace oxidation inclusions SHALE (Weath trace gravel, co oxidation staini	A TILL, sitty, some sand, some gravel up to 50 dry, firm to stiff, medium plastic, light brown, e oxidation staining, suspect white sulphate isions ALE (Weathered), silt and clay, trace sand, e gravel, completely weathered, grey, some lation staining, damp, high plastic, extremely			AU1		4.7	•		m - LL = 37.8% PL = 13.2% PI = 24.6%	776- - 775-	
-3			JII, DIOCKY		æ	AU2		14.9	•		2.5 m - Sand = 6.8% Silt = 46.9% Clay = 46.3%	774-	
4		4 m - trace coal staining 4.5 m - becoming ground up shale inclusions			æ	AU3		18.4	•	d	⊧ m - LL = 69.3% PL = 22.1% PI = 47.2%	772-	
5			End of Borehole	e @5.8 m	-	AU4		21.4	•	Ę	5.5 m - Sand = 3.7% Silt = 52.1% Clay = 44.2% 5.8 m - Auger refusal	771-	
-7												770-	
9												768-	
		Notes:											
16/11/2022		SW Borrow sea	arch. Backfille	d with bentonite chips.						L	Logged By:	C. Tams T. Curtis	


(		Τ		Eastern Irrigation Distric	t		_ PR	OJECT	NAME		Snake Lake Reservoir Expan	sion
F	PROJ	ECT NUMBER		1560-193-00			_ PR	OJECT		۱	NE 1/4 32-19-16	
[	DATE	STARTED	07/26/2022	COMPLETED	07/2	6/2022	_ GR	OUND	ELEVATIO	N775.77	<u>m N 5610682.300</u> E	415430.500
[	ORILL	ING CONTRACT	OR	Chilako Drilling Servic	es Lto	1.	GR	OUND	WATER EL	EVATION / DEF	РТН	
[	DRILL	ING METHOD		6" SSA			_ DA		OUND WAT	ER RECORDE	D	
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTL</li> <li>PLASTI</li> <li>SPT (N)         <ul> <li>10</li> <li>2</li> <li>100</li> <li>2</li> <li>POCKE</li> </ul> </li> </ul>	JRE CONTENT IC - LIQUID Blows/300 mm 20 30 40 00 300 400 T PEN (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
		CLAY TILL, sill cobbles, dry, fi	ry, gravelly, soi rm, medium pl	ne sand, some astic, light brown	æ æ	AU1 AU2		5.1 5.1	• ⊢		0.6 m - LL = 32.7% PL = 13.5% PI = 19.2% 1.2 m - Gravel = 39.5% 1.2 m - Sand = 14.1% Silt = 24.2% Clay = 22.2%	775-
2 			End of Borehole	e @2.2 m		AU3		3.0			Clay = 22.2% 2 m - Auger refusal due to cobbles 	7773- 7772- 7771- 7770- 7669- 7668- 7667- 7666-
		Notes: SW Borrow se	arch. Backfille	d with bentonite chips	i.						Logged By:	<u>C. Tams</u>
16/11/2022												



C		IT		Eastern Irrigation Distric	t		_ PRC	DJECT	NAME	Sr	nake Lake Reservoir Expans	ion
F	PROJ	ECT NUMBER		1560-193-00			_ PRC	DJECT			NE 1/4 32-19-16	
[	DATE	STARTED	07/26/2022	_ COMPLETED	07/26	6/2022	GR0	DUND	ELEVATION77	75.09m	N_5610666.200 E	415730.800
[	DRILL	ING CONTRACT	OR	Chilako Drilling Service	es Ltd	Ι.	GR0	DUND	WATER ELEVATION /	DEPTH	772.42 m	2.67 m
[	DRILL	ING METHOD		6" SSA			_ DAT	E GRO	OUND WATER RECOP	RDED	08/10/2022	
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTEN</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 m</li> <li>10 20 30</li> <li>100 200 300 4</li> <li>POCKET PEN (kPa)</li> </ul>	NT Im 40	REMARKS	Standpipe/ Instrument Elevation
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		CLAY TILL, silt mm, moist, stiff brown, some o crystals, trace i 1.5 m - trace SHALE (Weath completely wea staining, moist, hard soil, block	race gravel up to 25 stic, brown to dark ng, trace gypsum usions		AU1 AU2 AU3 AU4 AU5 AU6 AU7 AU8		14.5 19.2 19.8 15.9 21.6 19.6 20.1			<ul> <li>).6 m - Organic Content = 4.3% PL = 17.8% PI = 30.1% 1.2 m - Gravel = 17.0% 1.2 m - Sand = 14.1% Silt = 43.2% Clay = 25.7%</li> <li>3.7 m - Sand = 5.1% Silt = 53.9% Clay = 41.0%</li> <li>5.2 m - Dispersivity Classification = D2 5.2 m - LL = 59.2% PL = 17.7% PI = 41.5%</li> </ul>	<ul> <li>▼ 775-</li> <li>774-</li> <li>773-</li> <li>777-</li> <li>777-</li> <li>777-</li> <li>777-</li> <li>777-</li> <li>777-</li> <li>777-</li> <li>770-</li> <li>769-</li> <li>768-</li> </ul>	
												767-
		Notes:										
16/11/2022		SW Borrow sea	arch. Backfille	d with bentonite chips.						L	_ogged By:( Reviewed By:	C. Tams T. Curtis



	CLIEI	NT		Eastern Irrigation District			_ PRO	DJECT	NAME	-		S	Snake Lake Reservoir E	xpansio	n	
1	PRO	JECT NUMBER		1560-193-00			PRO	DJECT	LOCATIO	N _			NE 1/4 32-19-16	<u>;</u>		
	DATE	STARTED	07/26/2022		)7/2	6/2022	GR0	DUND	ELEVATIO	N	770	).07m	N 5610677.300	E _4	16030.9	900
	DRIL	LING CONTRACT	OR	Chilako Drilling Service	s Lto	ł.	GR0	DUND	WATER EL	EVAT	ION / E	DEPTI	н			
	DRIL	LING METHOD		6" SSA			DAT	E GR		TER RE	ECOR	DED				
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTI</li> <li>PLAST</li> <li>SPT (N) 10 100 2</li> <li>POCKE</li> </ul>	URE CC TC - LIC ) Blows/ 20 3 200 3 T PEN	ONTEN QUID 300 mn 30 4 00 40 (kPa)	Г n 0 00	REMARKS		Standpipe/ Instrument	Elevation (m)
-		SAND, clayey, brown, trace ro	silty, trace gra ot hairs	vel, moist, loose, dark												
					æ	AU1		14.2	•				0.6 m - Sand = 45.3 Silt = 25.4%	%		-
					=	AU2		14.1	●ŀ				Clay = 29.3% 1.2 m - LL = 25.9% PL = 17.3%	ó		769
-2		stiff, high plasti	, trace sand,, c, dark brown ct white sulph	some oxidation									PI = 8.6%			768-
				d silt somplotoly	-	AU3		22.3		⊢●			2.1 m - LL = 53.3% PL = 18.4%			
-3		weathered, gre	tion staining, moist, thinly laminated	=	AU4		25.4		•			2.7 m - Sand = 8.2% Silt = 47.6%	>		767-	
	· ·			·									Clay = 44.2%	ó		-
-4 4	· ·	-			=	AU5		21.8		•						766-
	· · · · ·	•			-	AU6		21.0		•			4.3 m - LL = 75.7% PL = 20.8%			-
5 5	· <u> </u>	-	End of Borehole	@5.0 m	Ŧ	AU7		37.6			•		91 = 54.9% 5 m - Auger refusal			765-
																-
-6																764-
																-
7 																763-
																-
8																762-
																-
-9																761-
E																
-																-
	<u> </u>	Notes:					I	I	<u> </u>				1			L
		SE Borrow sea	rch. Backfilleo	with bentonite chips.									Logged By:	C	Tams	
													Reviewed By:	 	Curtis	
16/11/2022	2															



C		Т		Eastern Irrigation District			_ PRC	DJECT	NAME	5	Snake Lake Reservoir Expans	sion	
F	PROJ	ECT NUMBER		1560-193-00			_ PRC	DJECT	LOCATION		NE 1/4 32-19-16		
0	DATE	STARTED	07/26/2022	COMPLETED	07/26	6/2022	_ GRO	DUND	ELEVATION	770.16m	N_5610673.000 E	416338.100	
C	RILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	l.	GRO	DUND	WATER ELEVAT	ION / DEPT	н		
C	RILL	ING METHOD		6" SSA			_ DAT	E GRO	OUND WATER R	ECORDED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID ;/300 mm 30 40 300 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation	(m)
-1		CLAY TILL, silt plastic, brown, white sulphate SHALE (Weath completely wea mottling, some to high plastic, white sulphate	y, trace gravel some oxidatio inclusions etered), silt and athered, light b oxidation stair extremely wea inclusions	, moist, stiff, medium n staining, suspect clay, trace sand, rown to dark grey ning, damp, medium ak, blocky, suspect	* *	AU1 AU2 AU3 AU4 AU5		10.5 12.8 20.2 19.2 20.4			0.6 m - LL = 43.4% PL = 11.5% PI = 31.9% 1.2 m - Gravel = 59.8% 1.2 m - Sand = 17.1% Silt = 10.9% Clay = 12.2%	765	9 9 7 7
-5		4.5 m - becon	ning grey		*	AU6 AU7		23.4 21.1	•		4.3 m - Sand = 2.0% Silt = 53.3% Clay = 44.7%	766	5
		Netos	End of Borehole	@6.1 m		AU8		18.7				764 763 764 764	4
16/11/2022		Notes: SE Borrow sea	rch. Backfilled	with bentonite chips.							Logged By: Reviewed By:	<u>C. Tams</u> T. Curtis	



PROJECT NUMBER       1660-193-00       PROJECT LOCATION       NE 1/4 32-19-16         DATE STARTED       07/26/2022       COMPLETED       07/26/2022       GROUND ELEVATION       769.00m       N       5610678.600       E       416638.         DRILLING CONTRACTOR       Chilako Dnilling Services Ltd.       GROUND WATER RECORDED       09/15/2022       09/15/2022         DRILLING METHOD       6° SSA       DATE GROUND WATER RECORDED       09/15/2022         000000000000000000000000000000000000	
DATE STARTED       07/26/2022       COMPLETED       07/26/2022       GROUND ELEVATION       769.00m       N       5610678.600       E       416638.         DRILLING CONTRACTOR       Chilako Drilling Services Ltd.       GROUND WATER ELEVATION / DEPTH       766.43 m       2.57 m         DRILLING METHOD       6" SSA       DATE GROUND WATER RECORDED       09/15/2022         Image: Description       0	
DRILLING CONTRACTOR       Chilako Drilling Services Ltd.       GROUND WATER ELEVATION / DEPTH       766.43 m       2.57 m         DRILLING METHOD       6" SSA       DATE GROUND WATER RECORDED       09/15/2022         Image: Contraction of the second secon	100
DRILLING METHOD       6'SSA       DATE GROUND WATER RECORDED       09/15/2022         Image: Contract of the second secon	
undergenergy       Soil Description       adv full and the substance of the	
CLAY TILL, silty, some sand, some gravel, dry, firm, low plastic, brown to light grey, trace root hairs, suspect white sulphate inclusions ■ AU1 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU2 AU3 AU4 AU3 AU4 AU3 AU4 AU5	Elevation (m)
-6 -7 -7 -9	768 766 765 764 763 762 761 761 760
SE Borrow search. 25 mm standpipe installed to 4.6 m. Backfilled with sand and bentonite.	
Logged By: <u>C. Tams</u>	
16/11/2022 Reviewed By: 1. Curtis	



(	CLIE	NT		Eastern Irrigation District			_ PRO	DJECT	NAME	Ξ	_		Sn	ake Lake	e Reservoir	Expan	sion		
1	PROJ	IECT NUMBER		1560-193-00			_ PRO	DJECT	LOCA	TION	_			NE	1/4 32-19-	16			
1	DATE	STARTED	07/06/2022	COMPLETED	07/06	6/2022	GR0	DUND	ELEV	ATION	I _	777.0	)9m	_ N_56	10332.000	_ E _	414	964.3	00
1	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	1.	GR0	DUND	WATE	REL	EVATIO	ON / DE	PTH						
1	DRILI	LING METHOD		6" SSA			DAT	E GRO	DUND	WATE	ER RE	CORDE	Ð						
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>M<sup>1</sup></li> <li>H P</li> <li>II</li> <li>II</li> <li>IC</li> <li>PC</li> </ul>	OISTU LASTIC PT (N) I 0 20 00 20 DCKET	RE CO C - LIQI Blows/3 0 30 0 30 . PEN (I	NTENT UID 300 mm 0 400 kPa)		ł	REMARK	6	Otorial and	Juliariument	Elevation (m)
		CLAY TILL, silt brown, some o SHALE (Weath weathered, gre high plastic, ex	y, trace sand, xidation staini nered), silt and y, some oxida tremely weak	dry, firm, high plastic, ng I clay, highly tion staining, damp, to hard soil, blocky	-	AU1 AU2		15.8		<b>⊦</b> ⊕	•		2	m - LL F F	= 54.3% PL = 12.8% PI = 41.5% Dispersivit	6 6			777-
-45						AU3		16.2		•				Classific 2.5 m - L F F	ation = NL L = 51.6% L = 21.4% I = 30.2%	D3 6 6			7774
	BENTONITE (5.3 m), 40 mm layer SHALE (Weathered), "" SHALE (Weathered), "" End of Borehole @6.1 m					AU4		16.2					5	5.5 m - L F 5.5 m - S S	L = 49.19 PL = 13.29 1 = 35.99 Sand = 14 Silt = 45.30 Clay = 40.0	6 6 7% % 0%			771
16/11/2000	, ,	Notes: SW Borrow sea	arch. Backfille	d with bentonite.									L	.ogged I Reviewe	By: d By:		<u>С. Та</u> Т. С	ams_ urtis_	
10/11/2022	-																		



C		νT		Eastern Irrigation District			_ PRC	DJECT	NAN	ΛE	_		Sr	nake Lake Reservoir Expa	nsion	
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	ATION	_ ۱			NE 1/4 32-19-16		
0	DATE	STARTED	07/06/2022	_ COMPLETEDC	7/06	6/2022	_ GR0	DUND	ELE	VATIO	N	775	.87m	N 5610340.500 E	415249.600	
0	RILL	ING CONTRACTO	OR	Chilako Drilling Services	Ltd		_GR0	DUND	WAT	ER EL	EVAT	ON / D	EPTH	l		
0	RILL	ING METHOD		6" SSA			DAT	E GR	DUNI	D WAT	ER RI	ECORE	DED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLAST SPT (N) 10 2 100 2 POCKE	JRE CC IC - LIG Blows/ 20 3 00 3 T PEN	0NTENT UID 300 mm <u>0 40</u> 00 400 (kPa)	)	REMARKS	Standpipe/ Instrument Elevation	(E)
-1		CLAY TILL, silty SHALE (Weath brown, some o SHALE (Weath highly weathere damp, high plas blocky	letely weathered stiff, high plastic, dark ng, trace sand pockets I clay, some sand, e oxidation staining, / weak to hard soil,	-	AU1 AU2 AU3		16.8 22.2 20.9						1 m - Organic Content = 4.5% 1 m - LL = 58.5% PL = 16.3% PI = 42.2% 2.5 m - Dispersivity Classification = D2 2.5 m - LL = 61.9% PL = 19.4% PI = 42.5% 4 m - Sand = 10.0% Silt = 57.2% Clay = 32.8% 4.3 m - Auger refusal	775 774 773 772 771 771 770 769 769 769 769		
-															766	j
16/11/2022		Notes: SW Borrow sea	rch. Backfille	d with bentonite.									L	_ogged By: Reviewed By:	C. Tams T. Curtis	



C		NT		Eastern Irrigation Distric	t		_ PR	OJECT	NAME	Snake Lake Reservoir Expans	sion
F	PROJ	IECT NUMBER		1560-193-00			_ PR	OJECT		NE 1/4 32-19-16	
[	DATE	STARTED	07/26/2022	_ COMPLETED	07/2	6/2022	_ GR	OUND	ELEVATION 774.88n	N 5610357.100 E	415436.300
[	DRILL	ING CONTRACT	OR	Chilako Drilling Service	es Lto	1.	GR	OUND	WATER ELEVATION / DEPT	H 770.92 m	3.96 m
[	DRILL	ING METHOD		6" SSA			DA	re GR	OUND WATER RECORDED	09/15/2022	2
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>POCKET PEN (kPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
		SHALE (Weath	y, some grave lastic, dark bri- ct white sulph nered), clay ar	I, trace sand, moist, own, some oxidation ate inclusions d silt, completely	*	AU1 AU2		14.6 20.6	•	0.6 m - Sand = 8.6% Silt = 24.7% Clay = 66.7%	774–
3	· · · · ·	weathered, dar oxidation staini weak, blocky, s	K brown to gre ng, moist, hig suspect white s	ay mottling, some n plastic, extremely sulphate inclusions	- -	AU3 AU4		18.0 19.3	•	2.1 m - LL = 56.9% PL = 17.7% PI = 39.2%	772-
-4		BENTONITE (4 SHALE (Weath	n layer		AU5 AU6		14.9 12.4	•	-4.3 m - LL = 51.2% PL = 13.9% PI = 37.3%	▼ 771	
5		5 m - becomi	ng grey	toly woothorod, gray	#	AU7		16.9	•		770–
		damp, medium	End of Borehole	e@6.1 m	-	AU8		15.3	•	5.8 m - Sand = 5.4% Silt = 51.9% Clay = 42.7%	769-
/											767-
9											766
		Notes:								-	765
		SW Borrow sea	arch. 25 mm s	tandpipe installed to 6	6.1 m	. Backfil	led wi	th san	d and bentonite.	Logged By:	<u>C. Tams</u> T. Curtis
16/11/2022										<u> </u>	



	CLIEI	NT		Eastern Irrigation Distric	t		_ PRO	DJECT	NAME	1			S	Snake Lak	e Reservoir Expa	nsion	
1	PRO	IECT NUMBER		1560-193-00			_ PRO	DJECT	LOCA	TION	_			N	E 1/4 32-19-16		
	DATE	STARTED	07/26/2022	COMPLETED	07/2	6/2022	GR	DUND	ELEVA	TION	_	774	.80m	N_5	610374.300 E	4157	732.100
1	DRILI	LING CONTRACT	OR	Chilako Drilling Servic	es Lto	ł.	GR	DUND	WATE	R ELE	EVATIO	ON / C	EPT	Η			
1	DRILI	LING METHOD		6" SSA			DA1	E GR	OUND	WATE	ER RE	COR	DED				
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● MC H PL ■ SP 10 ▲ PC	DISTUF _ASTIC PT (N) E 0 20 0 20 DCKET	RE COI C - LIQI Blows/3 D 30 0 30 PEN (I	NTENT JID 00 mm <u>0 40</u> (Pa)	- ) 0		REMARKS	Standnine/	Elevation (m)
- - - - - - - - - -		dry, stiff, mediu suspect white s	y, sandy, grav im plastic, ligh sulphate inclus	t brown to brown, sions	æ	AU1		6.7	•					0.6 m - 0.6 m - 0 6 m -	EC: 3.4 dS/m SAR: 10.6 nH: 8 2		774-
					æ	AU2		7.3	•	i				0.6 m - 0.6 m - 0.6 m -	pH: 8.2 Gravel = 4.9% Sand = 46.5% Silt = 28.0%		773-
-2			End of Borehole	e@2.1 m	- #	AU3		8.7	•					1.2 m -     2.1 m - /	Clay = 20.6% LL = 40.6% PL = 15.5% PI = 25.1% Auger refusal		772-
																	771-
5   6																	769-
- - - - - 7 - - - -																	768-
8																	767-
																	766-
		Notes:			_												I
		SW Borrow sea	arch. Backfille	d with bentonite.										Logged	By:	C. Ta	ams
16/11/2022	2													Reviewe	еч Бу	1. Ul	ii US



(	CLIEN	NT		Eastern Irrigation District			_ PRO	DJECT	NAM	IE	_		S	Snake Lake Reservoir Expa	nsion	
1	PROJ	IECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	ATION	I _			NE 1/4 32-19-16		
1	DATE	STARTED	07/26/2022	COMPLETED	07/26	6/2022	GR0	DUND	ELE\	ATION	١.	772	2.63m	N_5610375.500 E	41603	4.300
1	DRILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	1.	GR	DUND	WATI	ER EL	EVATI	ON / [	DEPTI	н		
1	DRILL	ING METHOD		6" SSA			DAT	E GR	OUNE	) WAT	ER RE	ECOR	DED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S 	10ISTU PLASTI PT (N) 10 2 00 2 POCKE	RE CC C - LIQ Blows/ 0 30 0 30	0NTEN 2UID 300 mr 30 40 00 40 (kPa)	T n 0 00	REMARKS	Standpipe/	Instrument Elevation (m)
-		CLAY TILL, silt low to medium	y, gravelly, sor plastic, light b	me cobbles, dry, stiff, rown to brown												-
-					=	AU1		6.8	•	⊢				0.6 m - LL = 29.4% PL = 12.7%		772-
1 						AU2		6.8	•	+				PI = 16.7%		-
_			End of Borehole	e @1.5 m	-	7.02		0.0						1.2 m - EC: 1.1 dS/m 1.2 m - SAR: 4.9		771-
-2				-										1.2 m - pH: 7.8 1.5 m - Auger refusal		
-																-
-																770
-3																-
-																700
																769-
-4																-
-																768-
5																
_																
-																767-
6 																-
_																766-
7									 							
-																-
-																765-
																-
-																
																/64
-9																-
-																763-
_														1		
		Notes:														
		SE Borrow sea	rch. Backfilled	with bentonite.											_	
														Logged By:	C. Tam	is
16/11/2022	2															15



(		T		Eastern Irrigation District			PR0	DJECT	NAM	1E	_		S	ake Lake Reservoir	Expansi	on	
I	PROJ	ECT NUMBER		1560-193-00			PR0	DJECT	LOC	ATION	I _			NE 1/4 32-19-	16		
I	DATE	STARTED	07/26/2022	COMPLETED	07/26	6/2022	GR	DUND	ELE\	ATION	۱ _	770	.76m	N 5610377.900	_ E _	416332.	800
I	ORILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	l.	GR	DUND	WAT	ER ELI	EVATI	ON / D	EPTH	Η			
I	ORILL	ING METHOD		6" SSA			DAT	E GR	DUNE	) WATI	ER RE	CORE	DED				
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● N 	NOISTU PLASTI SPT (N) 10 2 00 20 POCKET	RE CO C - LIQI Blows/3 0 30 0 30 FPEN (	NTENT JID 00 mm 0 400 kPa)	)	REMARKS	3	Standpipe/ Instrument	Elevation (m)
-	$\square$	CLAY TILL, silt firm, high plast	y, some grave ic. vellowish b	l, trace sand, damp, rown, some oxidation													-
-	$\square$	staining, suspe	ct white sulph	ate inclusions	-	AU1		9.8		•							-
-1	$\square$																//0
-	$\geq$				=	AU2		6.4	•	- H				1.2 m - LL = 50.6%	)		
-	$\sim$	1.5 m - becor	ning gravelly v	vith some cobbles										PL = 13.2% PI = 37.4%	) / D		769-
2	$\geq$		End of Porobolo	@2.1 m	-	AU3		16.1		•				2.1 m - Auger refu	<del>sal – –</del>		-
-			Lind of Dorenoie											due to cobbles			-
-																	768-
-3																	-
-																	
																	767-
-																	-
-																	700
5																	/66-
-																	-
_																	765-
-6																	
-																	-
-																	764-
-7																	-
-																	
_																	763-
																	-
-																	
9																	762-
-																	-
-																	764
		Notes:												1			1
		SE Borrow sea	rch. Backfillec	l with bentonite.													
														Logged By:	(	C. Tams	;
16/11/2022														Reviewed By:	T	. Curtis	6



0	CLIEI	NT		Eastern Irrigation District	t		_ PRO	OJECT	NAM	E	_		S	nake La	ke Reservoir	Expans	ion	
F	PRO	JECT NUMBER		1560-193-00			_ PRO	OJECT	LOC	ATION	I _			Ν	IE 1/4 32-19-	16		
[	DATE	STARTED	07/26/2022	COMPLETED	07/2	6/2022	_ GR	OUND	ELEV	ATION	۰ ۱	768	.97m	_ N_	5610376.500	_ E _	41662	6.100
ſ	ORIL	LING CONTRACT	OR	Chilako Drilling Service	es Lto	ł.	GR	OUND	WATE	ER ELI	EVATI	D / NC	EPTH	ł				
[	ORIL	LING METHOD		6" SSA			DA1	E GR	DUNE	) WATI	ER RE	CORE	DED					
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S 1 1 ▲ P	10ISTU PLASTIC PT (N) 1 10 2 00 20 00 20 00 20	RE CO C - LIQI Blows/3 0 30 0 30 FPEN (	NTENT UID 300 mm <u>) 40</u> 0 40 kPa)	) 0		REMARKS	\$	Standpipe/	Instrument Elevation (m)
- - - - - - - - - - - - - - - - - - -		SAND, trace si graded, fine gra light brown	It, trace clay, t ained, sub-rou	race gravel, poorly inded, damp, loose,	æ	AU1		2.2	•					0.6 m - 0.6 m -	Gravel = 0. Sand = 83. Silt = 9.7%	4% 5%		768-
		1.5 m - becor	ning medium	grained, some clay	-	AU2		3.4	•					1.2 m - Classifi 1.2 m -	Clay = 6.4% Dispersivity cation = ND Organic	6 7 94		767-
		2.5 m - becor	ning moist		-	AU4		15.8		•				2.1 m -	Sand = 77. Silt = 4.0% Clay = 18.9	1% %		766-
  4		3.5 m - becor	ning clayey v. moist. firm.	medium plastic.	-	AU5		14.5		•								765–
5		brown, some o crystals SHALE, silt and damp, medium	xidation staini d clay, comple plastic, very	ng, trace gypsum tely weathered, grey, weak	=	AU6		23.2			•							764-
					*	AU7 AU8		14.3 22.0		•	•	4		5.2 m -	Sand = 12. Silt = 56.4% Clay = 30.7	9% % "%		-
		Notes:	onstone inclu: End of Borehole	sions 9 @6.1 m											PI = 20.2%			763- 762- 761- 760-
		SE Borrow sea	rch. Backfilled	with bentonite.														
16/11/2022														Loggec Review	l By: ved By:		<u>C. Tar</u> T. Cur	ns tis
L																		



(	CLIEN	NT		Eastern Irrigation District			_ PRO	OJECT	NAME	S	Snake Lake Reservoir Expan	sion	
1	PROJ	JECT NUMBER		1560-193-00			_ PRO	OJECT			NE 1/4 32-19-16		
1	DATE	STARTED	07/26/2022	_ COMPLETED	07/2	6/2022	_ GRO	OUND	ELEVATION	774.88m	N 5610063.900 E	415427.500	0
1	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	d.	GR0	OUND	WATER ELEVAT	ION / DEPTI	н		
1	DRILI	LING METHOD		6" SSA			_ DAT	E GR	OUND WATER RE	ECORDED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CC</li> <li>PLASTIC - LIG</li> <li>SPT (N) Blows/ 10 20 3</li> <li>100 200 33</li> <li>POCKET PEN</li> </ul>	DNTENT 2UID 300 mm 30 40 00 400 (KPa)	REMARKS	Standpipe/ Instrument Elevation	(m)
		CLAY TILL, sar dry, firm, high p sulphate inclus	nd, silty, some plastic, light br ions	gravel, trace sand, own, suspect white	æ	AU1		7.7	•		0.6 m - Gravel = 4.1%		-
- 1 		1 m - becomi	ng trace grave	el, moist. dark brown	æ	AU2		20.9	<b>⊢</b> ●		0.6 m - Sand = 39.5% Silt = 23.1% Clay = 33.3%	7	/74-
2	 	SHALE (Weath weathered, ligh oxidation staini	nered), clay ar It brown to dai ng, damp, hig	d silt, completely rk grey mottling, some h plastic, extremely		AU3		29.4			1.2 m - LL = 59.2% PL = 16.3% PI = 42.9%	7	773-
	· ·	weak to hard so inclusions BENTONITE (1	oil, suspect wi	nite sulphate m layer	=	AU4		34.7		•		7	- - - - - - - - - - - - - - - - - - -
3 	·	SHALE (Weath	ered), ""										
-4	·				-	AU5		22.0	•			7	771-
5	· ·											7	770-
					-	AU7		11.8	•		5.2 m - LL = 67.1% PL = 19.9% PI = 47.2%		-
-6	<u></u> .		End of Borehole	e @6.1 m		AU8		19.9	•			7	'69- 
- - - - 7												7	768-
												7	
													-107
9												7	766-
												7	765-
		Natas											
		SW Borrow sea	arch. Backfille	d with bentonite.							Logged By:	<u>C. Tams</u>	
16/11/2022	2										Reviewed By:	T. Curtis	



CLIENT	Eastern Irrigation District			_ PRO	DJECT	NAME	S	inake Lake Reservoir Expan	sion
PROJECT NUMBER	1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16	
DATE STARTED	07/26/2022 COMPLETED	07/26	6/2022	_ GRO	DUND	ELEVATION	773.36m	N_5610062.600 E	415730.100
DRILLING CONTRACT	TOR Chilako Drilling Service	s Ltd		GR	DUND	WATER ELEVAT	ION / DEPTH	۱	
DRILLING METHOD	6" SSA			DAT	E GR	OUND WATER R	ECORDED		
Depth (m) SOIL SYMBOL	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID 3/300 mm 30 40 300 400 I (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL, sil mudstone inclu dark brown, sc sulphate inclus SHALE (Weat trace sand, co dark grey mot high plastic, e) white sulphate 2.7 m - becon 5.6 m - becon bentonite sean	t, sandy, some completely weathered usions, moist, firm, medium plastic, ome oxidation staining, suspect white sions hered), residual soil, clay and silt, mpletely weathered, light brown to ling, some oxidation staining, damp, ctremely weak to hard soil, suspect inclusions, trace gypsum crystals ming trace sand ming high plastic and silty with ns End of Borehole @6.1 m		AU1 AU2 AU3 AU4 AU5 AU6 AU7 AU8		16.4 15.8 15.4 18.7 15.8 21.5 17.3 40.3		(Kra)	$\begin{array}{l} 0.6 \text{ m} - \text{Sand} = 10.5\%\\ & \text{Silt} = 25.8\%\\ & \text{Clay} = 63.7\%\\ 1 \text{ m} - \text{EC:} 13.0 \text{ dS/m}\\ 1 \text{ m} - \text{SAR:} 32.6\\ 1 \text{ m} - \text{pH:} 8.5\\ 1.2 \text{ m} - \text{LL} = 74.0\%\\ & \text{PL} = 19.8\%\\ & \text{PI} = 54.2\%\\ 1.2 \text{ m} - \text{Sand} = 4.8\%\\ & \text{Silt} = 40.5\%\\ & \text{Clay} = 54.7\%\\ 2.1 \text{ m} - \text{Dispersivity}\\ \begin{array}{l} \text{Classification} = \text{ND4}\\ 2.1 \text{ m} - \text{LL} = 79.0\%\\ & \text{PL} = 22.9\%\\ & \text{PI} = 56.1\%\\ 2.7 \text{ m} - \text{Sand} = 1.9\%\\ & \text{Silt} = 47.1\%\\ & \text{Clay} = 51.0\%\\ 4.3 \text{ m} - \text{LL} = 78.7\%\\ & \text{PL} = 24.5\%\\ & \text{PI} = 54.2\%\\ \end{array}$	7773- 7772- 7771- 7770- 769- 769- 769- 769- 769- 769- 766- 766
Notes									
Notes: SW Borrow se	arch. Backfilled with bentonite.							Logged By: Reviewed By:	C. Tams T. Curtis



CLIENT	Eastern Irrigation District		PROJECT	NAME	S	nake Lake Reservoir Expa	nsion
PROJECT NUMBER	1560-193-00		PROJECT	LOCATION		NE 1/4 32-19-16	
DATE STARTED	07/26/2022 COMPLETED	07/26/2022	GROUND	ELEVATION	771.54m	N5610078.700E	416036.000
DRILLING CONTRACT	OR Chilako Drilling Service	s Ltd.	GROUND	WATER ELEVAT	ION / DEPTH	4	
DRILLING METHOD	6" SSA		DATE GR	OUND WATER R	ECORDED		
Depth (m) SOIL SYMBOL	Soil Description	Sample Type Sample Number	SPT (N) Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>⊢ PLASTIC - LIO</li> <li>SPT (N) Blows,</li> <li>10 20 3</li> <li>100 200 3</li> <li>▲ POCKET PEN</li> </ul>	ONTENT QUID /300 mm 30 40 00 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL, silt medium plastic SHALE (Weath weathered, bro oxidation staini weak to hard s inclusions, trac	y, gravelly, some sand, damp, firm, c, brown, trace gypsum crystals hered), clay and silty, completely own to dark grey mottling, some ing, damp, high plastic, extremely oil, suspect white sulphate re gypsum crystals	<ul> <li>AU1</li> <li>AU2</li> <li>AU3</li> <li>AU4</li> <li>AU5</li> <li>AU6</li> <li>AU7</li> <li>AU8</li> </ul>	10.0 7.4 21.7 22.0 19.8 20.1 19.3 17.0			0.6 m - Sand = 31.3% Silt = 41.8% Clay = 26.9% 1.2 m - LL = 40.0% PL = 14.6% PI = 25.4% 5.2 m - LL = 62.8% PL = 19.5% PI = 43.3% 5.8 m - Auger refusal	771– 770– 769– 768– 768– 766– 766– 766– 765– 764– 763–
							762-
Notes:							
SE Borrow sea	rch. Backfilled with bentonite.					Logged By: Reviewed By:	C. Tams T. Curtis



	CLIE	Т		Eastern Irrigation District			_ PRO	OJECT	NAME			S	Snake L	ake Reservoir Ex	pansio	on	
F	PRO	IECT NUMBER		1560-193-00			_ PRO	OJECT	LOCAT	ION				NE 1/4 32-19-16			
[	DATE	STARTED	07/26/2022	COMPLETED 0	)7/2	6/2022	GR	OUND	ELEVAT	ION		769.55m	N_	5610072.100	E	16341.	.100
[	DRILI	LING CONTRACT	OR	Chilako Drilling Services	s Lto	ł.	GR	OUND	WATER	ELE	VATION	/ DEPTI	н				
[	DRILI	LING METHOD		6" SSA			DAT	re gro	N DAUC	ATE	R RECO	ORDED					
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOI</li> <li>⊢ PLA</li> <li>■ SPT</li> <li>100</li> <li>▲ POC</li> </ul>	STUR ASTIC (N) BI 200 200 CKET F	E CONT - LIQUIE lows/300 <u>30</u> 9 300 PEN (kPa	ENT mm 40 400		REMARKS		Standpipe/ Instrument	Elevation (m)
-		SAND, clayey, medium graine	silty, some gr d, sub-rounde	avel, poorly graded, ed, damp, loose, brown	æ	AU1		5.7	•				0.6 m	- Sand = 58.8% Silt = 18.8%	, D		769-
1  		CLAY TILL, silt medium plastic staining, coal s	y, gravelly, tra , yellowish br taining, suspe	ce sand, moist, firm, own, some oxidation ect white sulphate	=	AU2		16.4	ł	•			1.2 m	Clay = 22.4% - LL = 49.9% PL = 13.1% PI = 36.8%			768-
-2					=	AU3		16.2		•							767-
-3	· · · · ·	weathered, ligh oxidation staini weak to hard so	iered), sin and it brown to da ng, moist, hig oil, blocky	rk grey mottling, some h plastic, extremely	=	AU4		24.9			•		2.7 m	- Sand = 3.0% Silt = 54.1% Clay = 42.9%			766
	· · · ·				=	AU5		20.9		•							
- - - - - -		4.3 m - trace : SHALE, clayey damp, medium	suspect bento , silty, comple plastic, very	onite seams tely weathered, grey, weak, ground up	=	AU6		20.9		ŀ●			4.3 m	- LL = 102.3% PL = 17.8% PI = 84.5%			765-
					æ	AU7		16.2		•							764-
6			End of Borehol	e @6.1 m	=	AU8		15.8		•							
- - - - - 7																	763-
																	762-
																	761
- 9 -																	
																	760
		Notes:					<u> </u>	1	1				I				<u> </u>
		SE Borrow sea	rch. Backfille	d with bentonite.									Logge	ed By:	С	. Tams	6
16/11/2022													Revie	wed By:	Τ.	Curtis	<u> </u>



CLIENT	Eastern Irrigation District			_ PROJ	JECT	NAME	S	Snake Lake Reservoir Expansi	on
PROJECT NUMBER	1560-193-00			PROJ	JECT	LOCATION		NE 1/4 32-19-16	
DATE STARTED	07/26/2022 COMPLETED	07/26	/2022		UND	ELEVATION	770.21m	N_5610085.800 E	416631.300
DRILLING CONTRACT	OR Chilako Drilling Service:	s Ltd.		GRO	UND	WATER ELEVAT	ION / DEPT	н	
DRILLING METHOD	6" SSA			DATE	GRO	OUND WATER RE	ECORDED		
Depth (m) : SOIL SYMBOL	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CC</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows/ 10 20 3 100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID 300 mm 30 40 00 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
grained, sub-ro brown	clayey, low plastic	<b>.</b>	AU1 AU2		3.6 3.7	• • H		0.6 m - Sand = 79.3% Silt = 6.8% Clay = 13.9% 1.2 m - LL = 17.3%	770
SAND AND CL graded, mediu loose, brown, s staining, trace	AY TILL, silty, some gravel, poorly m grained, sub-rounded, damp, some oxidation staining, some coal gypsum crystals	-	AU3		6.7 7 1	•		PL = 13.5% PI = 3.8% 2.1 m - Gravel = 1.8% 2.1 m - Sand = 65.0% Silt = 14.3% Class = 14.0%	768-
SHALE (Weath SHALE (Weath weathered, ligh oxidation stain extremely wea	SHALE (Weathered), clayey, silty, completely weathered, light brown to dark grey mottling, so oxidation staining, damp, medium to high plastic					•		Clay - 10.9%	767—
SHALE, clayey	ν, some silt, highly weathered, grey, η plastic, very weak, ground up	-	AU6	1	18.3	•			766
5.2 m - suspe	ect trace bentonite seams	-	AU7	1	17.5	•		5.2 m - LL = 100.4% PL = 16.9% PI = 83.5%	765
	End of Borehole @6.1 m		100						764 763 762 761
Notes: SF Borrow sea	arch. Backfilled with bentonite								
16/11/2022								Logged By: C	C. Tams



(		νT		Eastern Irrigation District			_ PRO	OJECT	NAME	Sna	ike Lak	e Reservoir Expa	nsion	
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	OJECT			N	E 1/4 32-19-16		
[	DATE	STARTED	07/26/2022		)7/26	6/2022	_ GR	OUND	ELEVATION77	'4.64m	N_5	609761.800 E	4154	19.700
[	ORILL	ING CONTRACT	OR	Chilako Drilling Services	s Ltd	l.	GR	OUND	WATER ELEVATION /	DEPTH				
[	ORILL	ING METHOD		6" SSA			DA1	E GR	OUND WATER RECOP	RDED				
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTEN</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 m</li> <li>10 20 30</li> <li>100 200 300 4</li> <li>POCKET PEN (kPa)</li> </ul>	NT Im 40 100		REMARKS	Standpipe/	Instrument Elevation (m)
		<ul> <li>SHALE (Weathered), silt and clay, some sand gypsum crystals</li> <li>SHALE (Weathered), silt and clay, some sand completely weathered, grey with oxidation sta damp, high plastic, extremely weak to hard so suspect white sulphate inclusions</li> </ul>				AU1 AU2		26.6 18.6	•  •	0.0	6 m - 2 m -	Sand = 12.5% Silt = 43.6% Clay = 43.9% LL = 52.0% PL = 15.9% PI = 36.1%		774
		SHALE (Weathered), silt and clay, some sand, completely weathered, grey with oxidation stai damp, high plastic, extremely weak to hard so suspect white sulphate inclusions				AU3 AU4		16.4 16.0	•	2.7	7 m -	Sand = 13.5% Silt = 45.7%		772
- - - 						AU5		19.5	•			Clay = 40.8%		771
	· · · · · · · · · · · · · · · · · · ·					AU6		19.3	•	4.3	3 m -	LL = 58.3% PL = 20.5% PI = 37.8%		770
-					=	AU7		21.6	•					769-
	·	5.8 m - becon	ning ground u End of Borehole	o shale @6.1 m	=	AU8		18.9	•					768-
-7														767-
														766
9														765
		Notes: SW Borrow sea	rch. Backfille	d with bentonite.				1		Lo	ogged	Ву:	C. Tai	ns
16/11/2022										Re	eview	ed By:	T. Cu	tis

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	CLIEN	NT		Eastern Irrigation District			_ PRO	DJECT	NAME	5	Snake Lake Reservoir Ex	pansion		
	PROJ	IECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16			
	DATE	STARTED	07/26/2022		)7/2	6/2022	_ GR0	DUND	ELEVATION	773.35m	N 5609780.700	E41	5726.8	300
	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	ł.	GR	DUND	WATER ELEVA	TION / DEPT	н			
	DRILI	LING METHOD		6" SSA			DAT	E GRO	OUND WATER F	RECORDED				
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LI</li> <li>SPT (N) Blow: 10 20</li> <li>100 200</li> <li>POCKET PEN</li> </ul>	CONTENT IQUID s/300 mm 30 40 300 400 300 (kPa)	REMARKS		Standpipe/ Instrument	Elevation (m)
		TOPSOIL SHALE (Weath trace sand, cor grey mottling, s plastic, extreme laminated, susp 4.5 m - becor inclusions, becor 5.7 m - some	nered), residua mpletely weath some oxidatior ely weak to ha pect white sulp ning some gro oming medium bentonite incl End of Borehole	I soil, clay and silt, ered, dark brown to a staining, moist, high rd soil, thinly shate inclusions und up shale plastic usions @6.1 m		AU1 AU2 AU3 AU4 AU5 AU6 AU7 AU8		25.4 24.0 23.9 20.9 22.5 20.6 18.8 39.2			0.6 m - Sand = 4.1% Silt = 39.0% Clay = 56.9% PL = 15.5% PI = 62.8% 5.2 m - LL = 42.6% PL = 24.7% PI = 17.9%			7773 7772 7771 7770 769 768 766 766 765
											-			764
		Notes:												
16/11/2022	2	SW Borrow sea	arch. Backfille	d with bentonite.							Logged By: Reviewed By:	C. T. (	<u>Tams</u> Curtis	



(	CLIEI	NT		Eastern Irrigation District			_ PRC	DJECT	NAME	S	Snake Lake Reservoir Expa	ansion
F	PRO	IECT NUMBER		1560-193-00			_ PRC	JECT	LOCATION		NE 1/4 32-19-16	
ſ	DATE	STARTED	07/26/2022	COMPLETED	07/26	6/2022	_ GRO	DUND	ELEVATION	771.90m	N_5609767.200 E	416031.700
ſ	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	l.	GR0	DUND	WATER ELEVA	TION / DEPTI	Η	
[	DRILI	LING METHOD		6" SSA			_ DAT	E GRO	OUND WATER F	RECORDED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LI</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200</li> <li>POCKET PEN</li> </ul>	CONTENT QUID s/300 mm 30 40 300 400 √ (kPa)	REMARKS	Standpipe/ Instrument Elevation
		CLAY TILL, silt brown, suspect	, trace sand, c white sulphat	Iry, firm, high plastic, ie inclusions		AU1 AU2 AU3 AU4 AU5 AU6		14.2 14.8 13.4 14.4 12.6 14.7			0.6 m - Sand = 2.0% Silt = 35.9% Clay = 62.1% PL = 70.2% PL = 22.1% PI = 48.1% 2.7 m - LL = 68.4% PL = 17.6% PI = 50.8% 2.7 m - Sand = 0.5% Silt = 47.4% Clay = 52.1% 4.2 m - LL = 106.7% PL = 19.3% PI = 87.4% 4.3 m - Auger refusal	771- 770- 769- 768- 768- 766- 766- 766- 766- 766- 766
_										1 1		/62-
		Notes:										
16/11/2022	!	SE Borrow sea	rch. Backfillec	l with bentonite.							Logged By: Reviewed By:	C. Tams T. Curtis



	CLIEN	T		Eastern Irrigation District			_ PR	OJECT	NAME	Snake Lake Reservoir Expansi	on
1	PROJ	IECT NUMBER		1560-193-00			_ PR	OJECT		NE 1/4 32-19-16	
1	DATE	STARTED	07/26/2022	_ COMPLETED	07/2	6/2022	_ GR	OUND	ELEVATION770.36r	n N 5609784.100 E	416335.700
۱ I	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	l.	GR	OUND	WATER ELEVATION / DEP	ГН	
I I	DRILI	LING METHOD		6" SSA			DA	re gro	OUND WATER RECORDED	. <u> </u>	
Depth (m)	SOIL SYMBOL		Soil Descripti	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>POCKET PEN (KPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
- - - - - - - - - - -		CLAY TILL, silt plastic, light bro sulphate inclus	, sandy, some own to brown, ions	gravel, dry, firm, high suspect white	æ	AU1		11.6	•	0.6 m - Sand = 30.1% Silt = 38.6%	770
		SHALE (Weath	ered), clay ar	id silt, completely	-	AU2		14.4	•	Clay = 31.3% -1.2 m - LL = 81.0% PL = 15.8% PI = 65.2%	769-
2 2 	· · · · · · · · · · · · · · · · · · ·	weathered, ligh oxidation staini weak to hard se inclusions, trac	it brown to da ng, damp, hig oil, blocky, sus e gypsum crys	rk grey mottling, some h plastic, extremely spect white sulphate stals	#	AU3		16.6	•		768-
3	· · · · · ·				=	AU4		17.8	-		767–
- - 4 -	· · · · · · · · · · · · · · · · · · ·				-	AU5 AU6		19.1	•		766-
  5	· · ·										
	· · · · · · · · · · · · · · · · · · ·					AU7 AU8		17.1	•	-5.2 m - LL = 68.5% PL = 18.4% PI = 50.1%	765–
—0 - - - - -		5.9 m - becor	ning some gro End of Borehole	ound up snale ⊋ @6.1 m	-						764
7    											763-
											762-
- - - - - - - - - - - - - - - - - - -											761-
E										-	
		Notes: SE Borrow sea	rch. Backfilleo	l with bentonite.						Logged By:	C. Tams
16/11/2022	2									reviewed By: 1	



c		NT		Eastern Irrigation District			_ PR	OJECT	NAME		S	inake La	ake Reservoir Expa	nsion		
Р	ROJ	ECT NUMBER		1560-193-00			_ PR	JECT	LOCATION			1	NE 1/4 32-19-16			
D	ATE	STARTED	07/26/2022		)7/2	6/2022	GR	OUND	ELEVATION	76	8.34m	N	5609775.600 E	416	6635.1	00
D	RILL	ING CONTRACT	OR	Chilako Drilling Services	s Lto	d.	GR	OUND	WATER ELE	VATION /	DEPTI	H				
D	RILL	ING METHOD		6" SSA			DA	E GR	OUND WATE	R RECOR	DED					
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTUR</li> <li>PLASTIC</li> <li>SPT (N) Bi</li> <li>10 20</li> <li>100 200</li> <li>POCKET I</li> </ul>	E CONTEN - LIQUID lows/300 mi <u>30 4</u> 0 300 4 PEN (kPa)	T n 10 00		REMARKS		Standpipe/ Instrument	Elevation (m)
		trace sand, dar suspect white s 1 m - becomi	ng, siity, some mp, stiff, medi sulphate inclus ng high plastio	gravel, some cooples, um plastic, brown, sions c, no gravel, trace sand	=	AU1		10.0	•			0.6 m - 0.6 m -	- Gravel = 8.8% - Sand = 33.6% Silt = 29.1%			768
2		SHALE (Weath completely weath mottling, some	nered), clay ar athered, light l	nd silt, trace sand, prown to dark grey	-	AU2		16.0	•			1.2 m -	Clay = 28.5% LL = 72.4% PL = 22.3% PI = 50.1%			767
	· · · · ·	plastic, extreme	ard soil, blocky	-	AU4		19.7	•			2.7 m ·	- Sand = 1.0% Silt = 43.6%			766	
	· · · · ·	3.3 m - trace	suspect bento	onite seams	-	AU5		20.1	I.			3.7 m -	Clay = 55.4% - LL = 97.1%			765-
	· · · · ·				-	AU6		21.9	⊢•	•		3.7 m -	PL = 17.7% PI = 79.4% Sand = 1.2% Silt = 42.0%			764
	· · · · ·				=	AU7		18.7	•			4.3 m -	Clay = 56.8% - LL = 99.2% PL = 15.9% PI = 83.3%			763-
-6	<u></u>	-	End of Borehole	e @6.1 m	=	AU8		18.8	•							762-
																761-
																760-
-9 																759
		Notes:							<u> </u>							
		SE Borrow sea	rch. Backfilleo	d with bentonite.								Logge	d By:	<u> </u>	Tams	
16/11/2022												Reviev	ved By:	<u> </u>	Curtis	



0	CLIEN	NT		Eastern Irrigation District			_ PRO	DJECT	NAM	E	_		S	nake Lake Reservoir Expans	on	
F	PROJ	IECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	ATION	_			NE 1/4 32-19-16		
[	DATE	STARTED	07/25/2022		07/2	5/2022	_ GRO	DUND	ELEV	ATION		783	3.13m	N_5611636.700 E_	414344	.900
(	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	ł.	GR	DUND	WATE		EVATI	ON / [	DEPTI	H		
ſ	DRILI	LING METHOD		6" SSA			DAT	E GR	DUND	WATE	ER RE	COR	DED			
Depth (m)	SOIL SYMBOL		Soil Descript	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H P ■ SI 1( ▲ P	OISTUP PLASTIC PT (N) E 0 20 00 20 <u>OCKET</u>	RE CO C - LIQ Blows/3 D 30 0 30 PEN (	NTEN UID 300 mn 0 4 00 40 kPa)	Г D D D D	REMARKS	Standpipe/ Instrument	Elevation (m)
		CLAY TILL, silt plastic, light bro suspect white s mudstone SHALE (Weath completely wea mottling, some plastic, extreme sulphate inclus	y, some grave own, some oxisulphate inclus sulphate inclus ered), silt and athered, light to oxidation stai ely weak to ha ions	I, damp, firm, high dation staining, sions mpletely weathered clay, trace sand, prown to dark grey ning, damp, medium rd soil, suspect white		AU1 AU2 AU3 AU4		7.9 12.8 11.0 13.9		•			4	1 m - Dispersivity Classification = ND2 1 m - LL = 52.8% PL = 16.3% PI = 36.5% 2.5 m - Gravel = 1.8% 2.5 m - Sand = 5.3% Silt = 44.4% Clay = 48.5% 4 m - LL = 41.7% PL = 13.7% PI = 28.0% 4 m - Sand = 2.1% Silt = 54.1% Clay = 43.8%		783 782 781 781 780 779 778 777 777 777 777 777
_										: :	:					
		Notes:														
		SW Borrow sea	arch. Backfille	d with bentonite.										Logged By: (	C. Tam	<u>s</u>
16/11/2022	!													Reviewed By:	Curtis	3



(		Т		Eastern Irrigation District			_ PRC	JECT	NAME	S	ake Lake Reservoir Expa	ansion	
F	PROJ	ECT NUMBER		1560-193-00			_ PRC	JECT	LOCATION		NE 1/4 32-19-16		
[	DATE	STARTED	07/25/2022	_ COMPLETED	)7/25	5/2022	GRC	DUND	ELEVATION	779.50m	N 5611636.200 E	414440.5	500
[	ORILL	ING CONTRACT	OR	Chilako Drilling Services	s Ltd	Ι.	GRC	DUND	WATER ELEVAT	ION / DEPT	Η		
[	ORILL	ING METHOD		6" SSA			DAT	E GRO	OUND WATER R	ECORDED			
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 20 3</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	DNTENT QUID /300 mm 30 40 00 400 (kPa)	REMARKS	Standpipe/ Instrument	Elevation (m)
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		CLAY TILL, silt medium plastic suspect white s SHALE (Weath completely wea mottling, some plastic, extreme	y, trace sand, s, brown, trace sulphate inclu nered), silt and athered, light oxidation sta ely weak to ha	trace gravel, dry, firm, e oxidation staining, sions		AU1 AU2 AU3 AU4		8.3 12.7 12.9 14.1		(KPa)	1 m - LL = 46.6% PL = 16.3% PI = 30.3% 2.5 m - Sand = 2.7% Silt = 63.1% Clay = 34.2% 4 m - LL = 42.8% PL = 22.8% PI = 20.0% 5 m - Sand = 5.1% Silt = 50.9% Clay = 44.0% 5.2 m - Auger refusal		779 7778 7777 7776 7775 7774 7773 7772 7772
													770-
		Notes:											
16/11/2022		SW Borrow sea	arch. Backfille	d with bentonite.							Logged By: Reviewed By:	C. Tams T. Curtis	



C		ΝT		Eastern Irrigation District			_ PRC	JECT	NAME	S	ake Lake Reservoir Expa	nsion
F	ROJ	ECT NUMBER		1560-193-00			_ PRC	JECT	LOCATION		NE 1/4 32-19-16	
C	DATE	STARTED	07/25/2022	COMPLETED	07/25	5/2022	_ GRO	DUND	ELEVATION	782.69m	N_5611509.800 E	414357.200
C	RILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd		GR0	DUND	WATER ELEVA	ATION / DEPTI	H	
C	RILL	ING METHOD		6" SSA			DAT	E GRO	OUND WATER	RECORDED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE</li> <li>PLASTIC - L</li> <li>SPT (N) Blov</li> <li>10 20</li> <li>100 200</li> <li>POCKET PE</li> </ul>	CONTENT LIQUID ws/300 mm 30 40 300 400 EN (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
-1		CLAY TILL, silt medium plastic staining, suspe SHALE (Weath completely wea oxidation staini weak to hard so inclusions	race gravel, dry, firm, some oxidation ate inclusions d silt, trace sand, prown to grey with h plastic, extremely spect white sulphate		AU1 AU2 AU3 AU4		10.3 14.5 16.0 16.4			1 m - Sand = 12.8% Silt = 43.8% Clay = 43.4% 2.5 m - LL = 50.8% PL = 13.3% PI = 37.5% 4 m - LL = 48.0% PL = 19.4% PI = 28.6% 4 m - Sand = 3.6% Silt = 44.4% Clay = 52.0% 5.5 m - LL = 54.3% PL = 22.4% PI = 31.9%	782 781 780 779 778 777 777 776 776 777 777	
												773
		Notes:										
16/11/2022		SW Borrow sea	arch. Backfille	d with bentonite.							Logged By: Reviewed By:	C. Tams T. Curtis
.0/11/2022												



C	LIEN	IΤ		Eastern Irrigation District			_ PRO	DJECT	NAME	5	Snake Lake Reservoir Expa	nsion
F	ROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16	
C	DATE	STARTED	07/25/2022	COMPLETED	)7/25	5/2022	_ GRO	DUND	ELEVATION	781.01m	N_5611551.800 E	414443.800
C	RILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd		GR	DUND	WATER ELEVAT	ION / DEPT	н	
C	RILL	ING METHOD		6" SSA			DAT	E GRO	OUND WATER R	ECORDED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>20</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID /300 mm 30 40 300 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
-1		SAND, some si grained, sub-ro CLAY TILL, silt weathered sha plastic, light bro suspect white s	boorly graded, fine bose, light brown some completely Iry, firm, medium dation staining, ions	-	AU1		1.3	•			780	
		3 m - becomir	ered shale	æ	AU2		10.9	•		2.5 m - Sand = 2.2% Silt = 58.6% Clay = 39.2%	778-	
-4		SHALE (Weath completely wea mottling, some plastic, extreme sulphate inclus	ALE (Weathered), silt and clay, some sand, npletely weathered, light brown to dark grey ttling, some oxidation staining, damp, mediu stic, extremely weak to hard soil, suspect wh phate inclusions					12.3	•		4 m - LL = 42.8% PL = 20.7% PI = 22.1%	777-
6			End of Borehole	@6.1 m	-	AU4		13.5	•		5.5 m - Sand = 13.2% Silt = 57.0% Clay = 29.8%	775-
												773-
												772-
		Notes:										
16/11/2022		SW Borrow sea	arch. Backfilleo	I with bentonite.							Logged By: Reviewed By:	C. Tams T. Curtis



CLIENT	Eastern Irrigation Dist	rict	PR	OJECI		S	nake Lake Reservoir Expans	sion
PROJECT NUMBER	1560-193-00		PR	OJECI			NE 1/4 32-19-16	
DATE STARTED	07/25/2022 COMPLETED	07/25/2022	GR	OUND	ELEVATION	780.28m	N5611524.800E	414547.100
DRILLING CONTRACT	Chilako Drilling Serv	ices Ltd.	GR	OUND	WATER ELEVATION	I / DEPTH	H	
DRILLING METHOD	6" SSA		DA	TE GR	OUND WATER REC	ORDED		
Depth (m) SOIL SYMBOL	Soil Description	Sample Type Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300</li> <li>10 20 30</li> <li>100 200 300</li> <li>POCKET PEN (kP</li> </ul>	ENT 0 0 mm 40 400 a)	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL, sil medium plastic suspect white	ty, some sand, trace gravel, dry, fir c, brown, some oxidation staining, sulphate inclusions	m, E AU1		8.9 14.6 21.6 13.4			1 m - Gravel = 1.5% 1 m - Sand = 14.8% Silt = 46.1% Clay = 37.6% 2.5 m - LL = 50.5% PL = 18.2% PI = 32.3% 4 m - EC: 8.2 dS/m 4 m - SAR: 17.1 4 m - pH: 7.2 4 m - LL = 63.5% PL = 17.6% PI = 45.9% 4 m - Sand = 5.9% Silt = 61.4% Clay = 32.7% 5.5 m - LL = 48.1% PL = 17.2% PI = 30.9%	780- 779- 777- 777- 777- 777- 777- 777- 77
Notes							<u> </u>	
NOTES: SW Borrow se	arch. Backfilled with bentonite.						Logged By: Reviewed By:	C. Tams T. Curtis

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	CLIEI	NT		Eastern Irrigation District			_ PRO	DJECT	NAME	S	Snake Lake Reservoir Expa	nsion
	PRO	JECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16	
	DATE	STARTED	07/21/2022	COMPLETED	07/2	1/2022	_ GRO	DUND	ELEVATION	778.25m	N_5611542.200 E	414652.200
	DRIL	LING CONTRACT	OR	Chilako Drilling Service	s Lto	ł.	GR	DUND	WATER ELEVAT	ION / DEPTI	н	
	DRIL	LING METHOD		6" SSA			DAT	E GR	OUND WATER R	ECORDED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID 5/300 mm 30 40 300 400 ((kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
		CLAY TILL, cla low to medium SHALE (Weath completely weatoxidation staini extremely weatoxidation staini white sulphate	yey, silty, trace plastic, light b iered), clay an athered, dark b ng, damp, me < to hard soil, l inclusions	e gravel, damp, firm, rown d silt, trace silt, prown to grey, some dium plastic, plocky, trace suspect	-	AU1		12.7	•1	r	1 m - LL = 48.8% PL = 15.8% PI = 33.0%	778- 777- 776-
-3					-	AU2		16.0	•		2.5 m - Sand = 1.4% Silt = 47.5% Clay = 51.1%	775-
-4		5 m - becomi	ng very weak,	some sand	-	AU3		14.1	••••		4 m - LL = 50.2% PL = 17.7% PI = 32.5%	774-
- - - - - - 6	· · · · · · · · · · · · · · · · · · ·		End of Borehole	@6.1 m	=	AU4		13.2	•		5.5 m - Sand = 11.0% Silt = 41.2% Clay = 47.8%	
- - - - - - 7 -												771-
- - - - - - - -												
 - - - - - - -												769-
		Notes:										- I
16/11/2022	2	SW Borrow sea	arch. Backfille	d with bentonite.							Logged By: Reviewed By:	C. Tams T. Curtis



C	LIEN	IT		Eastern Irrigation District			_ PRO	DJECT	NAME	S	nake Lake Reservoir Expa	nsion
P	ROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16	
C	ATE	STARTED	07/21/2022	COMPLETED (	)7/21	1/2022	_ GRO	DUND	ELEVATION	775.46m	N 5611523.600 E	414758.500
D	RILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd		GR0	DUND	WATER ELEVA	TION / DEPTI	H	
C	RILL	ING METHOD		6" SSA			_ DAT	E GR	OUND WATER F	RECORDED		
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LI</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200</li> <li>POCKET PEN</li> </ul>	CONTENT QUID s/300 mm 30 40 300 400 √ (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
		CLAY TILL, silt brown, some of sulphate inclus SHALE (Weath completely wea staining damp	y, damp, stiff, xidation staini ions lered), silt and athered, grey, medium plas	medium plastic, ng, suspect white I clay, some sand, some oxidation tic, very weak blocky	-	AU1		9.5				775
-2		suspect white s 1.6 m - red irc	ng	æ	AU2		13.6	•		2.5 m - LL = 49.4% PL = 15.6% PI = 33.8%	773	
	End of Borehole @4.3 m					AU3		13.9			4 m - LL = 46.6% PL = 15.2% PI = 31.4% 4 m - Sand = 10.9% Silt = 49.6% Clay = 39.5% 4.3 m - Auger refusal	771 771 770 769 768 768 766
		Notes: SW Borrow sea	arch. Backfille	d with bentonite.							Loggod Du	C Ton
16/11/2022											Reviewed By:	C. rams T. Curtis



	CLIEN	T		Eastern Irrigation District			_ PRC	JECT	NAME		Snake Lake Reservoir Exp	ansion
1	PROJ	IECT NUMBER		1560-193-00			_ PRC	JECT	LOCATION		NE 1/4 32-19-16	
	DATE	STARTED	07/21/2022		)7/2´	1/2022	_ GRO	DUND	ELEVATION	772.12n	N 5611541.300 E	414838.000
	DRILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd		GR0	DUND	WATER ELE	VATION / DEPT	Ή	
	DRILL	ING METHOD		6" SSA			DAT	E GR	OUND WATE	R RECORDED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTUR</li> <li>PLASTIC</li> <li>SPT (N) BI 10 20</li> <li>100 200</li> <li>POCKET F</li> </ul>	E CONTENT - LIQUID lows/300 mm <u>30 40</u> ) 300 400 PEN (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
-1	SHALE (Weathered), silt and clay, trace sand, completely weathered, grey, some oxidation staining, damp, high plastic, extremely weak, thir laminated, trace gypsum crystals, trace quartz crystals 3.5 m - becoming some ground up shale inclusions SHALE, silt and clay, some sand, completely weathered, grey, damp, medium plastic, very we End of Borehole @6.1 m					AU1 AU2 AU3 AU4		19.5 17.7 20.9 14.8			<ul> <li>1 m - LL = 55.4% PL = 22.3% PI = 33.1%</li> <li>-2.5 m - LL = 50.7% PL = 17.3% PI = 33.4%</li> <li>2.5 m - Sand = 5.6% Silt = 63.7% Clay = 30.7%</li> <li>4 m - LL = 65.6% PL = 21.1% PI = 44.5%</li> <li>5.5 m - Sand = 3.6% Silt = 57.6% Clay = 38.8%</li> </ul>	772- 771- 771- 770- 769- 768- 768- 766- 766- 766- 766- 766- 766
É											-	
	1	Notes:							1		1	
		SW Borrow sea	arch. Backfille	d with bentonite.							Logged By: Reviewed Bv:	C. Tams T. Curtis
16/11/2022	2										, _	



CLIENT		Eastern Irrigation District			_ PRO	JECT	NAME		Snake Lake Reservoir Ex	ansion	I	
PROJECT NUM	IBER	1560-193-00			_ PRO	JECT	LOCATION		NE 1/4 32-19-16			
DATE STARTED	07/25/2022	COMPLETED 0	7/25	5/2022	_ GRC	UND	ELEVATION	782.36r	n N 5611409.600	<u> </u>	4392.10	0
DRILLING CON	ITRACTOR	Chilako Drilling Services	s Ltd		_GRC	UND	WATER ELE\	ATION / DEPT	н			
DRILLING MET	HOD	6" SSA			DATI	E GRO	OUND WATEF	R RECORDED				
Depth (m) SOIL SYMBOL	Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE</li> <li>PLASTIC</li> <li>SPT (N) Bid 10 20</li> <li>100 200</li> <li>POCKET P</li> </ul>	E CONTENT - LIQUID ows/300 mm 30 40 300 400 2EN (kPa)	REMARKS		Standpipe/ Instrument Flevation	(m)
CLAY TI medium staining, -1 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2	OLAT TILL, sin, some said, tack gravel, diy, iff         medium plastic, light brown, some oxidation staining, suspect white sulphate inclusions        2 m - becoming damp, stiff, high plastic        2.5 m - coal staining         SHALE (Weathered), clay and silt, some sand, completely weathered, light brown to dark grey mottling, some oxidation staining, damp, high plastic, extremely weak to hard soil, suspect whit sulphate inclusions         End of Borehole @6.1 m         Notes:					4.7 14.5 15.1			-2.5 m - LL = 55.1% PL = 18.6% PI = 36.5% PI = 36.5% 4 m - LL = 51.9% PL = 18.5% PI = 33.4% 4 m - Sand = 2.4% Silt = 48.8% Clay = 48.8% Clay = 48.8% PL = 17.6% PI = 33.6%		7. 7. 7 7 7 7 7 7 7 7 7 7 7 7 7	'82 '81 '79 '778 '777 '776 '776 '777 '775
NI-4												
Notes: SW Borr 16/11/2022	row search. Backfille	d with bentonite.							Logged By:	<u> </u>	<u>Tams</u> Curtis	



(		Т		Eastern Irrigation District			_ PRC	JECT	NAME	S	Snake Lake Reservoir Expa	nsion
F	PROJ	ECT NUMBER		1560-193-00			_ PRC	JECT	LOCATION		NE 1/4 32-19-16	
[	DATE	STARTED	07/25/2022	COMPLETED	07/25	5/2022	_ GRO	DUND	ELEVATION	782.78m	N_5611425.700 E	414432.700
[	ORILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd	l.	GR0	DUND	WATER ELEVAT	ION / DEPTI	Η	
[	ORILL	ING METHOD		6" SSA			_ DAT	E GRO	OUND WATER R	ECORDED		
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows:</li> <li>10 20 3</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	DNTENT QUID /300 mm 30 40 00 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
		dry to damp, st some oxidation inclusions, trac	y sandy, trace iff, medium pl staining, sus e coal stainin	gravei, trace sand, astic, light brown, pect white sulphate	-	AU1 AU2		11.5	•		1 m - LL = 44.2% PL = 16% PI = 28.2% 2.5 m - Gravel = 7.4% 2.5 m - Sand = 24.4%	782
- 3 		SHALE (Weath completely wea oxidation staini extremely weal sulphate inclus	ered), silt and tthered, brown ng, damp, me ( to hard soil, ions	l clay, some sand, n to grey, some dium plastic, blocky, suspect white	-	AU3		13.5	•1		Silt = 30.6% Clay = 37.6% 4 m - LL = 49.1% PL = 16.7% PI = 32.4%	779-
		Notes:	₽@5.6 m		AU4		12.6			5.5 m - Sand = 3.4% Silt = 60.5% Clay = 36.1% 5.6 m - Auger refusal	7777– 7776– 7775– 7774– 7773–	
16/11/2022		SW Borrow sea	arch. Backfille	d with bentonite.							Logged By: Reviewed By:	C. Tams T. Curtis
13/11/2022												



CL	IEN	ΝT		Eastern Irrigation District			_ PRC	DJECT	NAME		_		S	Snake La	ake Rese	ervoir Ex	kpans	ion	
PR	roj	ECT NUMBER		1560-193-00			_ PRC	DJECT	LOCA	TION	_			1	NE 1/4 3	2-19-16	i		
DA	ΥE	STARTED	07/25/2022	COMPLETED 0	)7/2:	5/2022	_ GRO	DUND	ELEVA	TION	-	779	.48m	N	5611439	9.700	E _	41453	0.700
DF	RILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	Ι.	GR0	DUND	WATER	R ELE	EVATIO	ON / E	DEPT	Η					
DF	RILL	ING METHOD		6" SSA			DAT	E GRO	DUND	WATE	R RE	COR	DED						
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MC</li> <li>⊢ PL</li> <li>■ SP<sup>*</sup></li> <li>10</li> <li>100</li> <li>PO</li> </ul>	DISTUF ASTIC T (N) E <u>20</u> 0 20 0 CKET	RE CO - LIQI Blows/3 ) 30 0 30 PEN (1	NTENT UID 300 mm <u>) 4(</u> 0 40 kPa)	Г 1 2 10		REMA	ARKS		Standpipe	Instrument Elevation (m)
	SAND, some silt, poorly graded, fine grained, su counded, damp, loose, light brown CLAY TILL, silty, some sand, damp, firm, medium plastic, brown, some oxidation staining, suspect white sulphate inclusions SHALE (Weathered), silt and clay, some sand, completely weathered, grey, some oxidation staining, damp, medium plastic, extremely weak hard soil SHALE (Weathered), silt and clay, some sand, completely weathered, grey, some oxidation staining, damp, medium plastic, extremely weak hard soil End of Borehole @6.1 m							12.0 13.0 12.8 14.4		•  - •  -	<u>PEN (</u>	kPa)		1 m - S 2.5 m - 4 m - L 5.5 m -	Sand = Silt = $\frac{2}{2}$ Clay = - LL = $\frac{4}{2}$ PL = $\frac{1}{2}$ Sand = $\frac{2}{2}$ Silt = $\frac{6}{2}$ Clay = - LL = $\frac{4}{2}$ PL = $\frac{1}{2}$	11.4% 46.8% 41.8% 5.7% 8.7% 7.0% 1% 6.2% 9.9% 4.4% 50.2% 5.8% 9.1% 26.7%			779 778 777 776 777 777 777 777 777 777 777
-9																			770-
		Notes:																	
		SW Borrow sea	arch. Backfille	d with bentonite.										Logge Reviev	d By: ved Bv:	_	(	<u>C. Tam</u> ſ. Curt	<u>is</u>
16/11/2022															<b>-</b> y.	-			



(		Т		Eastern Irrigation District			_ PRC	DJECT	NAME	S	nake Lake Reservoir Expai	nsion
F	PROJ	ECT NUMBER		1560-193-00			_ PRC	DJECT	LOCATION		NE 1/4 32-19-16	
[	DATE	STARTED	07/25/2022		)7/2	5/2022	GR0	DUND	ELEVATION	781.41m	N_5611432.200 E	414639.700
[	ORILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	l.	GR0	DUND	WATER ELEVAT	ION / DEPTH	ł	
[	ORILL	ING METHOD		6" SSA			DAT	E GR	OUND WATER R	ECORDED		
Depth (m)	SOIL SYMBOL		So Descri	il ption	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID /300 mm 30 40 %00 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
-		SAND, some s grained, sub-ro	ilt, trace clay ounded, dam	y, poorly graded, fine np, loose, light brown								781-
-1		CLAY TILL, silt completely wea firm, medium p staining	y, some san athered muc lastic, browi	d, some gravel, some Istone inclusions, damp, n, some oxidation	*	AU1		10.1	·····•		1 m - LL = 38.7% PL = 15.6% PI = 23.1%	780-
		SHALE (Weath	nered), silt a	nd clay, some sand,	-	AU2		13.8	•		2.5 m - LL = 51.7% PL = 17.3% PI = 34.4% 2.5 m - Gravel = 9.9%	779–
		ironstone inclus oxidation staini extremely weal inclusions	sions, highly ng, damp, n ĸ, blocky, su	v weathered, grey, some nedium plastic, spect white sulphate	æ	AU3		11.7	•••		2.5 m - Sand = 9.4% Silt = 39.0% Clay = 41.7% 4 m - LL = 43.0% PL = 13.8% PI = 29.2%	778
-5 					-	AU4		13.2	•		5.5 m - Sand = 6.8% Silt = 49.0% Clay = 44.2%	776
			End of Boren	ole @6.1 m								775-
- - - - - - - - - - - - - - - - - - -												774
												773-
												772
		Notes:										
		SW Borrow sea	arch. Backfil	led with bentonite.							Logged By:	C. Tams T. Curtis
16/11/2022												



CL	IEN	IT		Eastern Irrigation District			_ PRC	JECT	NAME		Snake Lake Reservoir Expa	insion	
PR	SOJI	ECT NUMBER		1560-193-00			_ PRC	JECT	LOCATION		NE 1/4 32-19-16		
DA	TE	STARTED	07/21/2022	COMPLETED	)7/21	/2022	_ GRO	DUND	ELEVATION	778.85m	N 5611432.000 E	414747.8	800
DR	RILL	ING CONTRACT	OR	Chilako Drilling Services	s Ltd		GR0	DUND	WATER ELEVA	TION / DEPT	н		
DR	RILL	ING METHOD		6" SSA			DAT	E GRO	OUND WATER I	RECORDED			
Depth (m)	SOIL SYMBUL		Soil Descriptio	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE (</li> <li>PLASTIC - L</li> <li>SPT (N) Blow</li> <li>10 20</li> <li>100 200</li> <li>POCKET PEI</li> </ul>	CONTENT IQUID /s/300 mm 30 40 300 400 N (kPa)	REMARKS	Standpipe/ Instrument	Elevation (m)
	SHALE (Weathered), silt, clayey, sandy, highly weathered, grey, some oxidation staining, damp high plastic, extremely weak, thinly laminated, trace gypsum crystals					AU1 AU2 AU3 AU4		3.9 10.8 14.0 13.9	•		1  m - Sand = 61.8% Silt = 24.7% Clay = 13.5% 2.5  m - LL = 45.6% PL = 15.3% PI = 30.3% 4  m - LL = 50.3% PL = 18.4% PI = 31.9% 4  m - Sand = 26.2% Silt = 40.0% Clay = 33.8% 5.5  m - LL = 44.2% PL = 17.5% PI = 26.7%		7778 7777 7776 7775 7774 7774
	Notes: SW Borrow search. Backfilled with bentonite.										Logged By:	C. Tams	772 771 770 769
16/11/2022											Reviewed By:	T. Curtis	;



(	CLIEN	Т		Eastern Irrigation District			_ PRO	JECT	NAM	E	_		S	nake Lal	ke Reserv	oir Expa	nsior	I	
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	JECT	LOC	ATION				N	E 1/4 32-	19-16			
[	DATE	STARTED	07/21/2022	COMPLETED	)7/2 <sup>-</sup>	1/2022	_ GRO	UND	ELEV		۱ _	776	.23m	N_5	5611428.5	500 E	41	4842.5	500
[	ORILL	ING CONTRACT	OR	Chilako Drilling Services	s Ltd	l.	GRO	UND	WATE	ER ELI	EVATI	ON / D	EPTH	ł					
[	ORILL	ING METHOD		6" SSA			DATE	E GRO	DUNE	WATI	ER RE	CORE	DED						
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S 1 ▲ P	IOISTU PLASTI PT (N) 10 2 00 20 <u>OCKET</u>	RE CO C - LIQI Blows/3 0 30 0 30 PEN (	NTENT UID 300 mm <u>) 40</u> 0 400 kPa)	)		REMAF	RKS		Standpipe/ Instrument	Elevation (m)
		CLAY TILL, silt brown, trace gy SHALE (Weath highly weather oxidation staini	y, damp, firm t /psum crystals nered), silt and ed, dark brown ng, damp, me	o stiff, medium plastic, clay, some sand, n to grey, some dium plastic, very	-	AU1		13.4		• F				1 m - Ll	_ = 49.1 PL = 17 PI = 31	% .4% .7%			776
		weak, trace gypsum crystals				AU2		12.5		•				2.5 m -	Sand = Silt = 50 Clay = 3	13.2% 0.6% 86.2%			774–
		4.5 m - fine g	nses, trace sand	æ	AU3		16.7		•				4 m - Ll	_ = 46.5 PL = 20 PI = 25	% .6% .9%			772	
			End of Borehole	@6.1 m	-	AU4		18.1		•				5.5 m -	Sand = Silt = 52 Clay = 4	3.1% 2.8% 4.1%			771-
7																			769
																		768-	
																			767
		Notes:			<u> </u>														
16/11/2022		SW Borrow sea	arch. Backfille	d with bentonite.										Logged Review	By: ed By:		<u>С.</u> Т. (	<u>Tams</u> Curtis	


C		ΝT		Eastern Irrigation Distric	t		_ PRO	DJECT	NAME	S	ake Lake Reservoir Expa	nsion
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16	
[	DATE	STARTED	07/25/2022	COMPLETED	07/25	5/2022	_ GRO	DUND	ELEVATION	780.53m	N_5611331.900 E	414345.200
[	ORILL	ING CONTRACT	OR	Chilako Drilling Service	es Ltd	Ι.	GR	DUND	WATER ELEVAT	ION / DEPT	Η	
[	ORILL	ING METHOD		6" SSA			DAT	E GRO	OUND WATER RI	ECORDED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>PLASTIC - LIO</li> <li>SPT (N) Blows/ 10 20 3</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	DNTENT QUID /300 mm 30 40 00 400 (KPa)	REMARKS	Standpipe/ Instrument Elevation (m)
-1-1-2		CLAY TILL, silt firm, medium p staining, suspe gypsum crystal SHALE (Weath completely wea oxidation staini weak to hard so	y, some sand, lastic, dark bro ct white sulph s, trace salt le ered), clayey, athered, dark l ng, damp, hig bil, trace gyps	trace gravel, moist, own, trace oxidation ate inclusions, trace nses silty, trace sand, orown to grey, some h plastic, extremely um crystals	-	AU1 AU2		14.6 15.3	•		1 m - Sand = 13.6% Silt = 29.7% Clay = 56.7% 2.5 m - LL = 54.1% PL = 19.2% PI = 34.9%	780 779 778
		SHALE, clayey	, some silt, co	mpletely weathered,	-	AU3		15.4	•		4 m - Sand = 3.8% Silt = 49.2% Clay = 47.0%	777-
6		grey, damp, hig	h plastic, very End of Borehole	v weak ∵@6.1 m	-	AU4		12.5	• +		5.5 m - LL = 55.1% PL = 18.8% PI = 36.3%	775-
												773-
												772–
		Notes: SW Borrow sea	arch. Backfille	d with bentonite.							Logged By:	C. Tams
16/11/2022												



C		IT		Eastern Irrigation District			_ PRC	JECT	NAME	S	nake Lake Reservoir Expa	ansion
F	PROJ	ECT NUMBER		1560-193-00			_ PRC	JECT	LOCATION		NE 1/4 32-19-16	
0	DATE	STARTED	07/25/2022	_ COMPLETED0	)7/25	5/2022	_ GRO	DUND	ELEVATION	781.97m	N 5611337.400 E	414449.500
0	RILL	ING CONTRACT	OR	Chilako Drilling Services	s Ltd		GR0	DUND	WATER ELEVA	TION / DEPTH	۹	
0	RILL	ING METHOD		6" SSA			_ DAT	E GRO	OUND WATER F	RECORDED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LI</li> <li>SPT (N) Blow</li> <li>10 20</li> <li>100 200</li> <li>POCKET PEN</li> </ul>	CONTENT IQUID s/300 mm 30 40 300 400 0 (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
2		SAND, silty, tra sub-rounded, d CLAY TILL, silt, firm, high plasti suspect white s staining	ce clay, poorl <u>amp, loose, b</u> some sand, s c, brown, som ulphate inclus	y graded, fine grained, rown // some gravel, damp, he oxidation staining, sions, trace coal	-	AU1		9.4	• •		1 m - LL = 51.0% PL = 16.3% PI = 34.7%	- 781- - 780-
-3		SHALE (Weath completely wea some oxidation	ered), clay an thered, browr staining, dan	d silt, some sand, 1 to dark grey mottling, 1p, high plastic,	-	AU2		13.3	•		2.5 m - Gravel = 1.8% 2.5 m - Sand = 11.9% Silt = 40.9% Clay = 45.4%	779-
-4		extremely weak trace gypsum c 4.5 m - becon	te sulphate inclusions, k	æ	AU3		13.4	•		4 m - LL = 50.5% PL = 19.7% PI = 30.8%	778-	
-5			End of Borehole	e @6.1 m	-	AU4		14.6	•		5.5 m - Sand = 2.4% Silt = 48.7% Clay = 48.9%	777-
7												775-
-8												774
												773-
- - - -												
		Notes:										
		SW Borrow. Ba	ckfilled with b	entonite.							Logged By:	C. Tams
16/11/2022											Reviewed By:	T. Curtis



C		NT		Eastern Irrigation Distric	t		_ PRO	DJECT	NAME	Ξ	_		S	nake Lake Reservoir Expan	sion
F	PROJ	ECT NUMBER		1560-193-00			_ PRC	DJECT	LOCA	TION	_			NE 1/4 32-19-16	
[	DATE	STARTED	07/25/2022	COMPLETED	07/25	5/2022	_ GRO	DUND	ELEV	ATION	_ ۱	779.	75m	N 5611328.400 E	414545.600
0	ORILL	ING CONTRACT	OR	Chilako Drilling Service	es Ltd	l.	GR0	DUND	WATE	R ELI	EVATIO	DN / DI	EPTI	H	
0	ORILL	ING METHOD		6" SSA			_ DAT	E GRO	DUND	WATE	ER RE	CORD	ED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>M</li> <li>H</li> <li>PI</li> <li>SF</li> <li>10</li> <li>10</li> <li>A</li> <li>PC</li> </ul>	DISTU LASTIC PT (N) I <u>D 20</u> 0 20 DCKET	RE COI C - LIQU Blows/3 0 30 0 30 - PEN (H	NTENT JID 00 mm ) 40 0 400 (Pa)		REMARKS	Standpipe/ Instrument Elevation (m)
-1		CLAY TILL, silt medium plastic staining, suspe SHALE (Weath highly weathere	, trace sand, tr , light brown, s ct white sulph nered), silt and ed, grey with c	ace gravel, dry, firm, some oxidation ate inclusions clay, trace sand, xidation staining,	-	AU1		14.6		•				1 m - Sand = 1.9% Silt = 80.9% Clay = 17.2%	779
-3		damp, medium laminated, sus	plastic, extrer pect white sulp	nely weak, thinly ohate inclusions	-	AU2		13.3		•⊢				2.5 m - LL = 47.0% PL = 15.9% PI = 31.1%	777-
-4					æ	AU3		14.9		•F			4	4 m - LL = 44.8% PL = 18.6% PI = 26.2% 4 m - Sand = 5.6% Silt = 64.5% Clay = 29.9%	776
6	· · · · · · · · · · · · · · · · · · ·		End of Borehole	@6.1 m	-	AU4		11.9		• +				5.5 m - LL = 49.9% PL = 19.2% PI = 30.7%	774
7															773
															772-
-9															770
		Notes:													<u>.</u>
16/11/2022		SW Borrow sea	arch. Backfilled	d with bentonite.										Logged By: Reviewed By:	C. Tams T. Curtis
·															

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CLIENT	Eastern Irrigation Di	strict	PROJECT	NAME	Sna	ake Lake Reservoir Expar	nsion
PROJECT NUMB	ER1560-193-00		_ PROJECT			NE 1/4 32-19-16	
DATE STARTED	07/25/2022 COMPLETED	07/25/2022	_ GROUND	ELEVATION	781.05m	N_5611348.200 E	414666.200
DRILLING CONT	RACTOR Chilako Drilling Se	rvices Ltd.	GROUND	WATER ELEVATION	/ DEPTH		
DRILLING METHO	DD 6" SSA		DATE GRO	OUND WATER RECO	ORDED		
Depth (m) SOIL SYMBOL	Soil Description	Sample Type Sample Number	SPT (N) Moisture Content (%)	<ul> <li>MOISTURE CONTI</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300</li> <li>10 20 30</li> <li>100 200 300</li> <li>POCKET PEN (kPa</li> </ul>	ENT mm 40 400	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL CLAY TILL Some sand high plasti some oxid	me silt, poorly graded, fine grained, s lamp, loose, light brown with completely weathered shale, si d, some gravel, damp, stiff, medium t c, dark brown to dark grey mottling, ation staining	ub- Ity, o ■ AU1	11.9	•••••	1	m - LL = 42.4% PL = 16.7% PI = 25.7%	780
-3		■ AU2	13.1	•	2 C 2	.5 m - Dispersivity lassification = D2 .5 m - Sand = 11.1% Silt = 41.0% Clay = 47.9%	778
-4 SHALE (W weathered 	/eathered), clayey, silty, completely , grey, some oxidation staining, dam c, extremely weak, blocky	• AU3	12.9		4	m - LL = 48.6% PL = 16.7% PI = 31.9% m - Sand = 4.3% Silt = 52.5% Clay = 43.2%	777-
	End of Borehole @6.1 m						774
Notes: SW Borrov 16/11/2022	v search. Backfilled with bentonite.				L	ogged By: eviewed By:	C. Tams T. Curtis



PROJECT NUMBER         155:193:00         PROJECT LOATION         NE 1512:21:91:6           DATE STARTED	0		NT		Eastern Irrigation District			_ PRO	DJECT	NAM	1E			S	nake La	ake Reservo	ir Expar	ision		
DUE STARTED         0721/2022         COMPLETED         0721/2022	F	PROJ	JECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	ATIO	N			1	NE 1/4 32-1	9-16			
DPILLING CONTRACTOR         Chilako Diffing Services Lid.         ORTORONU WITER ELEVATION (DEFT)           DRILLING METHOD         0'SBA         DATE GROUND WITER ELEVATION (DEFT)           General Contraction         0'SBA         DATE GROUND WITER ELEVATION (DEFT)           General Contraction         0'SBA         0'SE           General Contraction         0'SBA         0'SE           General Contraction         0'SBA         0'SE           General Contraction         0'SE         0'SE           General Contraction         0'SE         0'SE           SAND, sithy some sand, trace gravel, damp, sub-rounded, day, very locae, light brown         0'SE         0'SE           CLAY TILL, sithy, some sand, trace gravel, damp, sub-rounded, day, very locae, light brown         0'SE         0'SE         0'SE           General Contraction         0'SE         0'SE         0'SE         0'SE         0'SE           CLAY TILL, sithy, some sand, trace gravel, damp, sub-rounded, day, very locae, light brown         0'SE         0'SE         0'SE         0'SE           General Contraction         0'SE         0'SE         0'SE         0'SE         0'SE         0'SE           CLAY TILL, sithy, some sand, trace gravel, damp, sub-rounded, day, very locae, light brown         0'SE         0'SE         0'SE         0'SE		DATE	STARTED	07/21/2022	COMPLETED	)7/2 <sup>-</sup>	1/2022	GR0	DUND	ELE	/ATIC	N	78	30.89m	N	5611322.20	<u>0</u> E	414	764.1	100
DRILLING METHOD         0 'SSA         DATE GROUND WATER RECORDED           Image: Control of the sector of the secto		DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	1.	GR	DUND	WAT	ER E	LEVAT	ION /	DEPT	┥					
gg		DRILI	LING METHOD		6" SSA			DAT	E GR	JUNE	D WA	TER R	ECO	RDED						
SAND, silt, some day, poorly graded, fine grained, sub-rounded, div, very loose, light brown 1 m - Sand = 08.9% Silt = 19.6% Clay TiLL, silty, some sand, trace gravel, damp, staining, suspect white sulphate inclusions 4 AU2 4 m - EC: 3.3 dS/m 4 m - EC: 3.3 dS/m 5 m - L = 40.0% 5 lit = 41.7% Clay = 41.26 4 m - EC: 3.3 dS/m 4 m - EC: 3.3 dS/m 5 m - L = 42.0% 7 m - 1 = 26.9% 5 lit = 41.7% Clay = 4.04 13.5 4 m - Sand = 0.0% 5 lit = 41.7% Clay = 4.0% 5 lit = 43.7% Clay = 4.3% 5 m - L = 42.0% 7 m - 1 = 42.6% 5 m - L = 42.0% 7 m - 1 = 42.6% 7 m - 1 = 42.0% 7 m - 1 = 42.6% 7 m - 1 = 42.6% 7 m - 1 = 42.6% 7 m - 1 = 42.0% 7 m - 1 = 42.6% 7 m - 1 = 42.0% 7 m - 1 = 42.6% 7 m - 1 = 42.0% 7 m - 1 = 42.6% 7 m - 1 = 42.	Depth (m)	SOIL SYMBOL		Sc Descri	bil iption	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● N 	MOIST PLAST SPT (N 10 POCKE	URE C TC - LIC ) Blows 20 200 ( ET PEN	ONTEI QUID \$/300 n <u>30</u> 4. (kPa)	NT 1m 40 400		REMAR	٢S	č	Standpipe/ Instrument	Elevation (m)
Notes: SW Borrow search. Backfilled with bentonite. 16/11/2022	-1		SAND, silty, so sub-rounded, d	me clay, po ry, very loo y, some sar astic, brow ct white sul	orly graded, fine grained, se, light brown nd, trace gravel, damp, n, some oxidation phate inclusions		AU1 AU2 AU3 AU4		2.6 13.2 12.6 13.5		• F				1 m - 5 2.5 m - 4 m - E 4 m - 5 4 m - 1 4 m - 5 5.5 m - 5.8 m - due to	Sand = 68. Silt = 19.6 Clay = 11 - LL = 49.3 PL = 16.9 PI = 32.4 EC: 3.3 dS. SAR: 4.0 bH: 7.4 L = 42.0% PI = 26.1 Sand = 4.0 Silt = 48.7 - LL = 42.0 PL = 16.4 PI = 25.6 - Auger ref calcified s	9% 3% .5% % % % % % % % w issal hale			780 7779 7778 7777 7776 7776 7775 7774 7773
SW Borrow search. Backfilled with bentonite. Logged By: C. Tams Reviewed By: T. Curtis	-		Notes:																	771
Logged By:     C. Tams       16/11/2022     Reviewed By:     T. Curtis			SW Borrow sea	arch. Backfi	lled with bentonite.															
16/11/2022 Reviewed By: <u>T. Curtis</u>															Logge	d By:		<u>C. T</u>	ams	
	16/11/2022														Reviev	wed By:		<u>Т. С</u>	urtis	



CLIENT		Eastern Irrigation District			_ PRO	DJECT	NAM	1E	_		Snake L	ake Reservoir Exp	ansion		
PROJECT NUMB	ER	1560-193-00			_ PRO	DJECT	LOC	ATION	ı _			NE 1/4 32-19-16			
DATE STARTED	07/21/2022		)7/2 <sup>-</sup>	1/2022	_ GRO	DUND	ELE\	/ATIO	٩.	777.93	8m N	5611338.700 E	41	4849.6	600
DRILLING CONT	RACTOR	Chilako Drilling Service	s Lto	1.	GR0	DUND	WAT	ER EL	EVATI	ON / DEI	PTH				
DRILLING METHO	OD	6" SSA			_ DAT	E GRO	DUNE	) WAT	ER RE	CORDE	D				
Depth (m) SOIL SYMBOL	Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M	//OISTL PLASTI SPT (N) 10 2 00 2 20CKE	IRE CO C - LIQ Blows/3 20 30 7 PEN (	NTENT UID 300 mm 0 40 0 400 kPa)		REMARKS		Standpipe/ Instrument	Elevation (m)
SAND, silt counded, c CLAY TILL brown, sol SHALE (W completely staining, d hard soil, l	ty, poorly graded, f dry, very loose, ligh , silty, some sand, me oxidation staini Veathered), silt and y weathered, grey, lamp, medium plas blocky End of Borehold	ine grained, sub- it brown dry, medium plastic, ng d clay, trace sand, some oxidation tic, extremely weak to a @3.7 m		AU1 AU2 AU3		10.3					1 m - 1 2.5 m 3.5 m 3.7 m due to shale	LL = 42.2% PL = 16.2% PI = 26.0% - Sand = 4.5% Silt = 51.8% Clay = 43.7% - LL = 40.3% PL = 19.5% PI = 20.8% - Auger refusal to calcified			7777 7776 7775 7774 7773 7772 7771 7770 769
- Notos:															
Notes: SW Borrov 16/11/2022	w search. Backfille	d with bentonite.									Logge Revie	d By: wed By:	С. <sup>-</sup> Т. С	<u>Fams</u> Curtis	



C	LIEN	T		Eastern Irrigation Distri	ct		_ PRC	JECT	NAME	5	Snake Lake Reservoir Expar	ision
Р	ROJ	ECT NUMBER		1560-193-00			_ PRC	JECT	LOCATION		NE 1/4 32-19-16	
D	DATE	STARTED	07/25/2022	COMPLETED	07/2	5/2022	GRC	DUND	ELEVATION	780.23m	N_5611246.700 E	414339.600
D	RILL	ING CONTRACT	OR	Chilako Drilling Servio	es Lto	l.	GRC	DUND	WATER ELEVAT	ION / DEPT	н	
D	RILL	ING METHOD		6" SSA			DAT	E GRO	OUND WATER R	ECORDED		
Depth (m)	SOIL SYMBOL		Soil Descriptio	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>20</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID /300 mm 30 40 600 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
		CLAY TILL, silt firm, medium p sulphate inclus SHALE (Weath completely wea	y, some sand, lastic, dark bro ions ered), clay and athered, grey, s	trace gravel, moist, wn, suspect white d silt, trace sand, some oxidation	-	AU1		19.3			1 m - Sand = 10.6% Silt = 33.4% Clay = 56.0%	780 -
-3	· · · · · · · · · · · · · · · · · · ·	staining, damp hard soil, block	, high plastic, e y	extremely weak to	-	AU2		17.4	•		2.5 m - LL = 56.7% PL = 21.4% PI = 35.3%	778
-4					-	AU3		17.4	•		4 m - LL = 55.2% PL = 19.6% PI = 35.6% 4 m - Sand = 4.9% Silt = 43.7%	776
6		SHALE, clay ar weathered, gre	nd silt, trace sa y, damp, high End of Borehole	nd, medium plastic, very weak @6.1 m	-	AU4		12.4	• ⊢		Clay = 51.4% 5.5 m - LL = 57.3% PL = 21.8% PI = 35.5%	775
7												773
												772-
-9												771
		Notes:										
16/11/2022		SW Borrow sea	arch. Backfilleo	with bentonite.							Logged By: Reviewed By:	C. Tams T. Curtis



(	CLIEN	T		Eastern Irrigation District			_ PRO	DJECT	NAME	S	Snake Lake Reservoir Expa	nsion
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16	
[	DATE	STARTED	07/25/2022	COMPLETED	07/25	5/2022	_ GRO	DUND	ELEVATION	781.01m	N_5611240.000 E	414451.900
[	ORILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd	l.	GR0	DUND	WATER ELEVAT	ION / DEPT	н	
[	ORILL	ING METHOD		6" SSA			_ DAT	E GRO	DUND WATER RI	ECORDED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>PLASTIC - LIO</li> <li>SPT (N) Blows/ 10 20 3</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID /300 mm 30 40 00 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
$1^{-1}$		CLAY TILL, silt firm, high plasti staining, suspe coal staining, tr completely wea staining, damp, hard soil, thinly inclusions 3.1 m - trace	y, some sand, c, dark brown, ct white sulpha ace gypsum c ace gypsum c high plastic, e laminated, su SEEPAGE	rrace gravel, moist, some oxidation ate inclusions, trace rystals clay, trace sand, some oxidation extremely weak to spect white sulphate	£ £	AU1 AU2 AU3 AU4		16.8 17.7 18.2 15.0			1 m - LL = 57.9% PL = 13.8% PI = 44.1% 2.5 m - Gravel = 3.7% 2.5 m - Sand = 18.5% Silt = 36.7% Clay = 41.1% 4 m - LL = 54.0% PL = 17.9% PI = 36.1% 5.5 m - Sand = 1.4% Silt = 40.0% Clay = 58.6%	780 7779 7778 7777 7776 7776 7776 7776 7776
		Notes:										
		SW Borrow sea	arch. Backfilleo	l with bentonite.							Logged By:	C. Tams
16/11/2022												



CLIE	ENT			Eastern Irrigation District			_ PRO	DJECT	NAN	ΛE	_		S	nake La	ake Res	servoir E	Expan	sion	
PRC	DJECT NU	JMBER		1560-193-00			_ PRO	DJECT	LOC	OITA	_ ۱				NE 1/4	32-19-1	6		
DAT	E START	ED	07/25/2022	COMPLETED	07/2	5/2022	_ GR0	DUND	ELE	VATIO	N	780	.41m	N	561124	43.300	Ε_	41454	4.900
DRII	LLING CO	ONTRACT	OR	Chilako Drilling Service	s Lto	l.	GR0	DUND	WAT	ER EL	EVATI	ON / D	EPTH	┥					
DRII	LLING ME	ETHOD		6" SSA			_ DAT	E GR	DUN	D WAT	ER RE	CORE	DED						
Depth (m) SOIL SYMBOL			Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTI PLAST SPT (N) 100 2 POCKE	JRE CC IC - LIQ Blows/2 20 30 00 30 T PEN (	0NTENT UID 300 mm 0 40 00 40 (kPa)	)		REM	IARKS		Standpipe/	Instrument Elevation (m)
	CLAY firm, n stainin SHALI highly some extren	TILL, silt redium p ig, suspe E (Weath weather oxidation hely weather weather oxidation	, some sand, f lastic, brown, ct white sulph ed, dark brown staining, darn to hard soil,	race gravel, damp, some oxidation ate inclusions clay, trace sand, n to dark grey mottling, ip, medium plastic, blocky		AU1 AU2 AU3 AU4		9.6 13.7 17.2 15.9		• •				1 m - \$ 2.5 m 4 m - L 5.5 m	Sand = Silt = Clay PL = PI = PI = Sand = Silt = Clay -LL = 22 PL = PI = PI =	= 10.1% 43.0% = 46.9 47.1% 19.7% 27.4% 27.4% 27.4% = 1.3% 49.8% = 48.9 48.7% 16.2% 32.5%	6 ) %		780 779 777 777 777 777 777 777 777 777 77
-9																			771
	Notes																		
16/11/2022	SW Bo	orrow sea	arch. Backfille	d with bentonite.										Logge Reviev	d By: wed By	/:		<u>C. Tar</u> T. Cur	ns tis



C	LIEN	ΙT		Eastern Irrigation District			_ PRC	OJECT	NAN	1E	_		Sn	ake La	ke Reserv	oir Expa	insion		
F	ROJ	ECT NUMBER		1560-193-00				OJECT	LOC	ATION	I _			Ν	IE 1/4 32-	19-16			
C	ATE	STARTED	07/25/2022	COMPLETED	)7/25	5/2022	_ GR0	OUND	ELE	VATIO	١.	778.6	3m	N_	5611253.2	00 E	41	4634.	600
C	RILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd	l	GR0	OUND	WAT	ER EL	EVATI	ON / DE	PTH		775.07 m		3	.56 m	
C	RILL	ING METHOD		6" SSA			_ DAT	E GR	DUNI	D WAT	ER RE	CORDE	D		0	8/10/20	22		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTL PLASTI SPT (N) <u>10 2</u> 200CKE	IRE CO C - LIQ Blows/3 20 30 7 PEN (	NTENT UID 300 mm <u>0 400</u> kPa)			REMAR	KS		Standpipe/	Elevation (m)
_1		CLAY TILL, silty plastic, brown, white sulphate SHALE (Weath completely wea staining, damp, hard soil, block	y, trace gravel some oxidatic inclusions ered), silt, cla thered, grey, high plastic, y, suspect wh	, damp, firm, medium n staining, suspect yey, trace sand, some oxidation extremely weak to ite sulphate inclusions	-	AU1		10.7		•			1	m - L	L = 41.69 PL = 18. PI = 22.	% 7% 9%			778
-3						AUZ		10.1						.5 111 -	Sand - 2 Silt = 65 Clay = 3	.1% 2.2%	¥		776
-4					æ	AU3		15.2		●F			4	m - L	L = 53.5% PL = 17. PI = 36.	% 4% 1%			774
6	· · · · · · · · · · · · · · · · · · ·		End of Borehole	9 @6.1 m	-	AU4		16.9		•									773-
																			771
																			770
- - - - - - - -																			769
		Notes: SW Borrow sea	arch. Standpip	e installed to 6.1 m. Ba	ackfi	illed with	sand	and b	ento	onite.			L	oqaea	l By:		C.	Tams	
16/11/2022													R	leview	ed By:		Ţ. (	Curtis	



C		іт		Eastern Irrigation District			_ PRC	JECT	NAME	S	nake Lake Reservoir Expa	nsion
F	PROJ	ECT NUMBER		1560-193-00			_ PRC	JECT	LOCATION		NE 1/4 32-19-16	
0	DATE	STARTED	07/21/2022		07/21	1/2022	_ GRO	DUND	ELEVATION	780.69m	N_5611233.600 E	414752.400
0	RILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd	l.	GR0	DUND	WATER ELEVAT	ION / DEPTH	۹	
0	RILL	ING METHOD		6" SSA			DAT	E GRO	OUND WATER RI	ECORDED		
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CC</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows/ 10 20 3</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	DNTENT QUID /300 mm 30 40 00 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
		CLAY TILL, silt SHALE (Weath firm, medium p staining	y, some comp ered), trace g lastic, light br	letely weathered ravel, trace sand, dry, own, some oxidation	=	AU1		10.7	•		1 m - EC: 5.8 dS/m 1 m - SAR: 6.0 1 m - pH: 7.7 1 m - LL = 45.6% PL = 15.1% PI = 30.5%	780
-3		SHALE (Weath gravel, complet some oxidation extremely weal staining, suspe	ered), clay ar ely weathere staining, dan to hard soil, ct white sulph	id silt, sandy, trace d, dark brown to grey, np, medium plastic, blocky, trace coal ate inclusions	-	AUZ		11.2			2.5 m - Glavel = 1.0% 2.5 m - Sand = 26.5% Silt = 35.9% Clay = 36.6%	778-
-4					=	AU3		16.0	•		4 m - LL = 50.0% PL = 18% PI = 32.0%	776
6		BENTONITE (5 SHALE (Weath	5.6 m), 100 m ered), "" End of Borehole	m layer 9 @6.1 m	1	AU4 AU5		13.7 38.0	•	<b></b> •	5.6 m - LL = 107.9% PL = 31% PI = 76.9%	775-
												773
												772-
												771–
		Notes:										
16/11/2022		SW Borrow sea	arch. Backfille	d with bentonite.							Logged By: Reviewed By:	C. Tams T. Curtis



CL	LIEN	IT		Eastern Irrigation Distric			_ PRO	DJECT	NAME	8	Snake Lake Reservoir Expa	nsion
PF	ROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16	
DA	ATE	STARTED	07/21/2022	COMPLETED	07/2 <sup>-</sup>	1/2022	_ GRO	DUND	ELEVATION	780.53m	N 5611229.100 E	414847.000
DF	RILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd	Ι.	GR	DUND	WATER ELEV	ATION / DEPT	н	
DF	RILL	ING METHOD		6" SSA			DAT	E GRO	OUND WATER	RECORDED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE</li> <li>PLASTIC -</li> <li>SPT (N) Blov</li> <li>10 20</li> <li>100 200</li> <li>POCKET PE</li> </ul>	CONTENT LIQUID ws/300 mm 30 40 300 400 EN (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
		CLAY TILL, silt, completely wea medium plastic SHALE (Weath highly weathere damp, medium suspect white s crystals	, some sand, s athered shale, , brown with o el, grey, some , extremely we sulphate inclus	ome gravel, some trace sand, dry, stiff, xidation specs	£ £	AU1 AU2 AU3 AU4		10.0 12.0 11.2 13.8			1  m - LL = 44.9% PL = 13.8% PI = 31.1% 2.5  m - Gravel = 7.1% 2.5  m - Sand = 10.6% Silt = 47.7% Clay = 34.6% 4  m - LL = 46.1% PL = 15.1% PI = 31.0% 5.5  m - Sand = 3.1% Silt = 40.5% Clay = 56.4%	780 7779 7778 7777 776 7776 7776 7776 7776
		Notes:								1 1	1	
16/11/2022		SW Borrow sea	arch. Backfilleo	d with bentonite.							Logged By: Reviewed By:	C. Tams T. Curtis



(	CLIENT Eastern Irrigation Di				t		_ PRC	DJECT	NAME		Snake Lake Reservoir Ex	pansion
F	PROJ	IECT NUMBER		1560-193-00			_ PRC	DJECT	LOCATION	l	NE 1/4 32-19-16	
[	DATE	STARTED	07/25/2022	COMPLETED	07/2	5/2022	_ GRO	DUND	ELEVATION	N 781.50	m N 5611126.800	E 414348.000
[	ORILL	ING CONTRACT	OR	Chilako Drilling Servic	es Lto	l.	GR0	DUND	WATER ELI	EVATION / DEP	тн	
[	ORILL	ING METHOD		6" SSA			DAT	E GRO	DUND WATE	ER RECORDED	)	
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTU</li> <li>PLASTIC</li> <li>SPT (N) I</li> <li>10 2</li> <li>100 20</li> <li>POCKET</li> </ul>	RE CONTENT C - LIQUID Blows/300 mm 0 30 40 0 300 400 I PEN (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		CLAY TILL, silt stiff, medium pl staining SHALE (Weath highly weather damp, high pla blocky, suspect	, trace sand, ti astic, brown, f ed, grey, some stic, extremely white sulphat	ace gravel, damp, race oxidation		AU1 AU2 AU3 AU4		12.2 17.1 17.3 15.1			<ul> <li>1 m - Sand = 3.6% Silt = 50.1% Clay = 46.3%</li> <li>2.5 m - LL = 55.0% PL = 18.6% Pl = 36.4%</li> <li>4 m - LL = 52.4% Pl = 35.2% 4 m - Sand = 2.3% Silt = 44.6% Clay = 53.1%</li> <li>4 5.5 m - LL = 48.5% PL = 18.1% Pl = 30.4%</li> </ul>	781– 780– 779– 777– 777– 777– 777– 777– 777– 77
-											-	
		Notes:									•	I
		SW Borrow sea	arch. Backfille	d with bentonite.							Logged By:	C. Tams
16/11/2022											Reviewed By:	T. Curtis
L												



CLIENT			_ PRO	JECT	NAME	Snake Lake Reservoir Expa	nsion	
PROJECT NUMBER	1560-193-00			_ PRO	JECT		NE 1/4 32-19-16	
DATE STARTED	07/25/2022 COMPLETED 0	07/25	5/2022	_ GRO	UND	ELEVATION	.95m N 5611135.300 E	414451.600
DRILLING CONTRACT	OR Chilako Drilling Service	s Ltd		GRO	UND	WATER ELEVATION / D	EPTH	
DRILLING METHOD	6" SSA			DATE	E GRO	DUND WATER RECORD	)ED	
Depth (m) SOIL SYMBOL	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 400</li> <li>100 200 300 400</li> <li>POCKET PEN (kPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL, silt moist, firm, me oxidation stain inclusions, trac 1.4 m - 900 n -2 SHALE (Weath highly weather damp, high pigh pigh	ty, some gravel, trace sand, damp to idium plastic, brownish red, some ing, suspect white sulphate by gypsum crystals nm layer of ironstone staining hered), silt and clay, trace sand, ed, grey, some oxidation staining, istic, extremely weak blocky trace	<b>.</b>	AU1 AU2		12.7 13.9	•	f <sup></sup> 1 m - LL = 42.3% PL = 13.5% PI = 28.8%	780– 779– 778–
gypsum crysta	ls	æ	AU3		12.3	•	4 m - LL = 53.4% PL = 16.5% PI = 36.9%	777-
-7 -8 -9 -9	End of Borehole @6.1 m	-	AU4		16.6	•	5.5 m - Sand = 1.4% Silt = 50.6% Clay = 48.0%	775- 774- 773- 772-
Notes: SW Borrow se	arch. Backfilled with bentonite.						Logged By: Reviewed By:	C. Tams T. Curtis



CLIENT	Eastern Irrigation District			_ PRC	JECT	NAME	Snake Lake Reservoir Expansion	on
PROJECT NUMBER	1560-193-00			_ PRC	JECT		NE 1/4 32-19-16	
DATE STARTED	07/25/2022 COMPLETED	07/25/	/2022	_ GRC	DUND	ELEVATION	0m N 5611133.500 E	414550.900
DRILLING CONTRACT	OR Chilako Drilling Service	s Ltd.		GRC	DUND	WATER ELEVATION / DEF	ΎТН	
DRILLING METHOD	6" SSA			_ DAT	E GR	OUND WATER RECORDE	)	
Depth (m) SOIL SYMBOL	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>⊢ PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>▲ POCKET PEN (kPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL, silt medium plastic staining, suspe	i, trace sand, some gravel, dry, firm, b, light brown, some oxidation set white sulphate inclusions hered), silt and clay, trace sand, athered, dark brown to grey with ing, damp, medium plastic, k to hard soil, blocky, suspect white sions ming high plastic End of Borehole @6.1 m		AU1 AU2 AU3 AU4		11.3 10.9 11.5 24.2		1  m - Sand = 4.9% Silt = 54.7% Clay = 40.4% 2.5  m - LL = 46.7% PL = 16.7% PL = 30.0% 4  m - LL = 42.0% PL = 20.8% PI = 21.2% 4  m - Sand = 2.3% Silt = 57.6% Clay = 40.1% 5.5  m - LL = 50.4% PL = 19.3% PI = 31.1%	781– 780– 778– 7778– 7776– 7776– 7776– 7775– 7774– 7773– 7772–
-							_	
Notes: SW Borrow sea	arch. Backfilled with bentonite.						Logged By: <u>C</u> Reviewed By: <u>T</u>	. Tams . Curtis



CLIENT	Eastern Irrigation District		PRO	DJECT	NAME	Snake Lake Reservoir Expans	ion
PROJECT NUMBER	1560-193-00		PRO	DJECT		NE 1/4 32-19-16	
DATE STARTED	07/21/2022 COMPLETED 0	07/21/2022	GR0	DUND	ELEVATION779.52	2m N 5611142.500 E	414783.600
DRILLING CONTRACT	OR Chilako Drilling Service	s Ltd.	GR	DUND	WATER ELEVATION / DEF	РТН	
DRILLING METHOD	6" SSA		DAT	E GR	OUND WATER RECORDE	D	
Depth (m) SOIL SYMBOL	Soil Description	Sample Type Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>POCKET PEN (kPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL, silt medium plastic some gypsum of some gypsum of some oxidation extremely weat staining, some staining, some 	y, sandy, some gravel, dry, firm, ; light brown with oxidation specs, crystals ereed), silt and clay, trace sand, athered, brown to dark grey mottling, a staining, damp, medium plastic, k to hard soil, blocky, trace coal gypsum crystals white sulphate inclusions End of Borehole @6.1 m	<ul> <li>AU1</li> <li>AU2</li> <li>AU2</li> <li>AU3</li> <li>AU4</li> </ul>		8.5 12.8 12.9		<ul> <li>1 m - Gravel = 4.1%</li> <li>1 m - Sand = 21.2% Silt = 38.8% Clay = 35.9%</li> <li>2.5 m - LL = 48.1% PL = 15.9% PI = 32.2%</li> <li>4 m - LL = 50.6% PL = 16.7% PI = 33.9%</li> <li>4 m - Sand = 11.8% Silt = 45.5% Clay = 42.7%</li> <li>5.5 m - LL = 54.1% PL = 16.7% PI = 37.4%</li> </ul>	7779- 7778- 7776- 7770- 7770- 7770- 7770- 7770- 7770- 7770- 7770- 7770- 7770- 7770- 7770-
Notes:							
SW Borrow sea	arch. Backfilled with bentonite.					Logged By:	C. Tams T. Curtis



(	CLIENT Eastern Irrigation Dist						_ PRO	JECT	NAME		Snake Lake Reservoir Expa	ansion	
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	JECT	LOCATION		NE 1/4 32-19-16		
	DATE	STARTED	07/21/2022	COMPLETED	)7/2 <sup>^</sup>	1/2022	_ GRO	UND	ELEVATION	779.70m	N 5611127.700 E	414844.70	0
	ORILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd	ł.	GRO	UND	WATER ELEVA	TION / DEPT	н		
0	DRILL	ING METHOD		6" SSA			DATE	E GRO	OUND WATER	RECORDED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE</li> <li>PLASTIC - I</li> <li>SPT (N) Blov</li> <li>10 20</li> <li>POCKET PE</li> </ul>	CONTENT IQUID vs/300 mm 30 40 300 400 N (kPa)	REMARKS	Standpipe/ Instrument Flevation	Elevation (m)
-1		CLAY TILL, silt plastic, light bro shale SHALE (Weath trace gravel, cc grey, some oxid plastic, extreme coal staining	y, trace gravel own ning some cor nered), clay an ompletely weat dation staining ely weak to ha	dry, firm, medium npletely weathered d silt, some sand, hered, dark brown to , damp, medium rd soil, blocky, trace	-	AU1 AU2 AU3 AU4		8.6 12.8 15.0 18.5			1 m - LL = 45.4% PL = 16.3% PI = 29.1% 2.5 m - Gravel = 4.3% 2.5 m - Sand = 13.5% Silt = 40.8% Clay = 41.4% 4 m - LL = 46.5% PL = 14.6% PI = 31.9% 5.5 m - Sand = 18.6% Silt = 53.9% Clay = 27.5%	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	779 7778 7777 7775 7774 7773 7774 7773 7772 7771
-													
16/11/2022		Notes: SW Borrow sea	arch. Backfilled	d with bentonite.							Logged By:	C. Tams T. Curtis	
i													



	CLIENT Eastern Irrigation District					_ PRO	DJECT	NAM	1E	_		S	nake Lake Reservoir I	Expans	ion		
	PROJ	IECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	ATION	1			NE 1/4 32-19-1	6		
	DATE	STARTED	07/25/2022		07/2	5/2022	_ GRO	DUND	ELE\	/ATIO	N	781	.13m	N 5611030.500	_ E _	414350.	.300
	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	l.	GR0	DUND	WAT	ER EL	EVATI	ON / E	)EPTH	I			
	DRILI	LING METHOD		6" SSA			_ DAT	E GR	JUNE	) wat	ER RE	CORI	DED				
Depth (m)	SOIL SYMBOL		Soil Descript	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M 	MOISTU PLAST SPT (N) 10 2 200CKE	JRE CC IC - LIQ Blows// 20 3 00 30 T PEN (	0NTEN1 UID 300 mm 0 40 00 40 (kPa)	- 1 2 0	REMARKS		Standpipe/ Instrument	Elevation (m)
		firm, medium p staining, suspe SHALE (Weath completely wea staining, moist, weak, thinly lar inclusions	, trace sand, t lastic, brown, <u>ct white sulph</u> lered), clay ar athered, grey, medium to hi ninated, susp	race graver, damp, some oxidation ate inclusions d silt, trace sand, some oxidation gh plastic, extremely ect white sulphate	#	AU1 AU2		16.6 16.0		•			1	1 m - Sand = 0.7% Silt = 44.2% Clay = 55.1 2.5 m - LL = 48.8% PL = 18.1%	%		781
		SHALE, clay, s damp, high pla	ilty, completel stic, very wea	y weathered, grey, k	#	AU3 AU4		17.6		•				PI = 30.7% 4 m - LL = 52.1% PL = 19.0% PI = 33.1% 4 m - Sand = 2.9% Silt = 40.8% Clay = 56.3 5.5 m - LL = 51.3% PL = 18.6%	%		778
			End of Borehole	₽@6.1 m										PI = 32.7%			775
		Notes:							-								
16/11/2022	2	SW Borrow sea	arch. Backfille	d with bentonite.										Logged By: Reviewed By:	(	<u>C. Tams</u> Г. Curtis	<u>}</u>



OEIEITT	Eastern Irrigation District	t		_ PROJE	CT NAME	Snake Lake Reservoir Expansion	on
PROJECT NUMBER	1560-193-00			_ PROJE	CT LOCATION	NE 1/4 32-19-16	
DATE STARTED	07/25/2022 COMPLETED	07/25/2	022		ID ELEVATION 781.06	m N 5611037.200 E 4	414455.100
DRILLING CONTRA	CTOR Chilako Drilling Service	es Ltd.		_GROUN	ID WATER ELEVATION / DEP	TH775.65 m	5.41 m
DRILLING METHOD	6" SSA			DATE O	ROUND WATER RECORDED	08/10/2022	
Depth (m) SOIL SYMBOL	Soil Description	Sample Type	Sample Number	SPT (N)	<ul> <li>MOISTURE CONTENT</li> <li>H PLASTIC - LIQUID</li> <li>■ SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>▲ POCKET PEN (KPa)</li> </ul>	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL, stiff, high pla staining, sus -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	silty, trace gravel, trace sand, moist, stic, dark brown, some oxidation pect white sulphate inclusions dium grained sand lenses athered), clay and silt, trace sand, ered, grey with oxidation staining, ilastic, extremely weak to hard soil, ted, suspect white sulphate inclusions, n crystals		AU1 AU2 AU3	18 10 11	. • POCKET PEN (kPa)	<ul> <li>1 m - LL = 53.3% PL = 16.7% PI = 36.6%</li> <li>1 m - Sand = 2.7% Silt = 52.3% Clay = 45.0%</li> <li>2.5 m - Sand = 1.3% Silt = 45.6% Clay = 53.1%</li> <li>4 m - LL = 52.2% PL = 19.2% PI = 33.0%</li> <li>5.5 m - Sand = 2.1% Silt = 45.5% Clay = 52.4%</li> </ul>	780– 7789– 7779– 7776– 7776– 7776– 7776– 7776– 7776– 7774– 7774–
						-	
Notes:							
SW Borrow s	search. Backfilled with bentonite.					Logged By: C	. Tams
16/11/2022						Reviewed By: T	Curtis



	CLIEI	NT	Eastern Irrigation District			_ PRC	DJECT	NAME	1	_		S	nake La	ake Reserv	/oir Expa	insion			
F	PRO	IECT NUMBER		1560-193-00			_ PRC	DJECT	LOCA	TION	_			1	NE 1/4 32-	19-16			
ſ	DATE	STARTED	07/25/2022		)7/2	5/2022	_ GRO	DUND	ELEVA		ι.	781	.39m	N	5611046.4	400 E	41	4538.	900
[	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	l.	GR0	DUND	WATE	R ELE	EVATI	ON / [	DEPTH	Η					
ſ	DRILI	LING METHOD		6" SSA			DAT	E GR	DUND	WATE	ER RE	COR	DED						
Depth (m)	SOIL SYMBOL		Soi Descrip	tion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>M(</li> <li>H</li> <li>PI</li> <li>SF</li> <li>1(</li> <li>10</li> <li>▲ PC</li> </ul>	DISTUI LASTIC PT (N) F 0 20 0 20 DCKET	RE CO C - LIQI Blows/3 0 30 0 30 <u>0 30</u>	NTEN <sup>-</sup> UID 300 mn 0 4 00 40 kPa)	Г 1 00		REMAR	RKS		Standpipe/ Instrument	Elevation (m)
		CLAY TILL, silt medium plastic suspect white s SHALE (Weath completely wea oxidation staini extremely weal sulphate inclus	, some sand , brown, son sulphate inclu athered, silt ar athered, dark ng, damp, m ( to hard soil ions	, some gravel, dry, firm, he oxidation staining, usions d clay, trace sand, brown to grey, some edium plastic, , suspect white		AU1 AU2 AU3 AU4		10.0 14.8 12.3 12.9		•		·····		1 m - ( 1 m - 5 2.5 m - 4 m - 1 4 m - 5 5.5 m -	Gravel = 7 Sand = 16 Silt = 37 Clay = 3 - LL = 47. PL = 13. PI = 33 PI = 35 Sand = 1. Silt = 54 Clay = 4 - LL = 44. PI = 28	11.0% 5.3% 5.8% 44.9% 5% 8% .7% 6.6% .7% 7% .2% 4.1% 1% 5% .6%			781– 780– 7779– 7776– 7776– 7775– 7774– 7773–
		Notes																	772-
		SW Borrow see	arch Backfill	ed with bentonite															
		STA DOLOW SEC	aron. Daokiii											Logge	d By: ved By:		С.	<u>Tams</u> Curtic	<u>;</u>
16/11/2022														I COVIEV	Jou Dy.		1. (	Jui uo	



PROJECT NUMBER       1560-193-00       PROJECT LOCATION       NE 1/4 32-19-         DATE STARTED       07/21/2022       COMPLETED       07/21/2022       GROUND ELEVATION       778.22m       N       5611038.200         DRILLING CONTRACTOR       Chilako Drilling Services Ltd.       GROUND WATER ELEVATION / DEPTH	16 E
DATE STARTED       07/21/2022       COMPLETED       07/21/2022       GROUND ELEVATION       778.22m       N       5611038.200         DRILLING CONTRACTOR       Chilako Drilling Services Ltd.       GROUND WATER ELEVATION / DEPTH	E 414839.400
DRILLING CONTRACTOR       Chilako Drilling Services Ltd.       GROUND WATER ELEVATION / DEPTH         DRILLING METHOD       6" SSA       DATE GROUND WATER RECORDED         Image: Contract of the subscription       0" Soil Description       0" Soil Description       0" Soil Description         Image: Contract of the subscription       Soil Description       0" Soil Description	Standpipe/ Instrument (m)
DRILLING METHOD       6" SSA       DATE GROUND WATER RECORDED         ft d (u)       Soil       ad       ad       bar       water	Standpipe/ Instrument (m)
Image: Soil Description       Image: Soil Description <td>Standpipe/ Instrument Elevation (m)</td>	Standpipe/ Instrument Elevation (m)
CLAY TILL, silty, some gravel, damp, stiff, medium plastic, brown, some oxidation staining, trace suspect white sulphate inclusions AU1 10.1 • • • • • • • • • • • • • • • • • • •	778-
PL = 13.2% PI = 23.5% PI = 23.5%	, 777-
AU3 19.4 → 1 4 m - LL = 44.9% PL = 18.8% PI = 26.1%	, 775- , 774- , 773-
AU4 AU4 SHALE, silt and clay, trace sand, completely weathered, grey, trace brown mottling, damp, high plastic, extremely weak, blocky Clay = 38.7 Cla	% 5 % 772- 771- 770- 769-
SW Borrow search. Backfilled with bentonite. Logged By: Reviewed By:	C. Tomo



	CLIENT Eastern Irrigation Dis			Eastern Irrigation Distric	t		PR	OJECT	NAM	1E	_		S	Snake La	ke Reservoir E	Expans	ion	
	PROJ	IECT NUMBER		1560-193-00			PR	OJECT	LOC	ATION	1_			Ν	IE 1/4 32-19-1	6		
	DATE	STARTED	07/07/2022	COMPLETED	07/0	7/2022	GR	OUND	ELE\	/ATIOI	N	780	).40m	N	5610939.400	E_	414336	6.200
1	DRILI	LING CONTRACT	OR	Chilako Drilling Service	es Lto	ł.	GR	OUND	WAT	ER EL	EVATI	ON / E	DEPT	н				
	DRILI	LING METHOD		6" SSA			DA	re gro	JUNE	) wat	ER RE	CORI	DED					
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M 	MOISTU PLASTI SPT (N) 10 2 200 2 200CKE	JRE CC IC - LIQ Blows/ 20 3 00 30 T PEN (	NTEN UID 300 mm 0 40 kPa)	Г ) ) 0		REMARKS		Standpipe/	Elevation (m)
-1		CLAY TILL, silt sand lenses the plastic, dark br 2 m - becomi mudstone inclu SHALE (Weath completely weat staining, damp blocky	y, trace gravel roughout, dam own, some oxi ng some comp sions nered), silt and athered, grey, , medium plas	, some fine grained p, stiff, medium idation staining oletely weathered clay, trace sand, some oxidation tic, extremely weak,		AU1 AU2 AU3 AU4		17.0 14.3 11.2 18.3		•   •		<u></u>		1 m - S 2.5 m - 4 m - L 5 m - L 5.3 m -	Fand = 5.8% Silt = 53.2% Clay = 41.0 PL = 18.4% PL = 18.4% PI = 27.0% PL = 15.5% PI = 33.7% Clay = 45.7 E = 47.9% PL = 17.1% PI = 30.8% Auger refus	, % al		780 779 777 777 777 777 777 777 777 777 77
		Notes:																
16/11/2022	2	SW Borrow sea	arch. Backfille	d with bentonite.										Loggeo Review	l By: ved By:		<u>C. Tam</u> T. Curti	<u>s</u>



0	CLIENT Eastern Irrigation						_ PRO	DJECT	NAME			S	Snake Lake Reserv	oir Expa	nsion		
F	PRO	JECT NUMBER		1560-193-00			PRO	DJECT	LOCAT	ION			NE 1/4 32-	19-16			
	DATE	STARTED	07/07/2022	COMPLETED	07/07	7/2022	GR	DUND	ELEVA	TION	78	0.50m	N_5610917.9	00 E	414	1430.600	
[	DRILI	LING CONTRACT	OR	Chilako Drilling Servi	ces Ltd	l.	GR	DUND	WATER	R ELE	/ATION /	DEPT	н				
[	ORILI	LING METHOD		6" SSA			DAT	E GR	OUND V	VATEF	R RECOF	RDED	. <u> </u>				
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MO</li> <li>⊢ PL/</li> <li>■ SPT</li> <li>10</li> <li>100</li> <li>PO0</li> </ul>	ISTURI ASTIC - [ (N) BI 200 CKET F	E CONTEN LIQUID bws/300 m <u>30 4</u> 200 4	IT m 40 00	REMAR	ĸs		Standpipe/ Instrument Elevation	(m)
		CLAY TILL, silt damp, stiff, hig oxidation staini SHALE (Weath completely wea staining, damp hard soil, block	y, trace to son n plastic, dark ng, trace red s athered, grey, high plastic, y	e rounded gravel, brown, some staining		AU1 AU2 AU3 AU4		17.9 17.2 18.0 15.3		•			1 m - LL = 60.09 PL = 179 PI = 43. 2.5 m - EC: 9.6 2.5 m - SAR: 20 2.5 m - PH: 7.0 2.5 m - LL = 51. PI = 33. 2.5 m - Sand = 2 Silt = 48 Clay = 4 4 m - LL = 51.89 PL = 18. PI = 33. 5.5 m - Sand = 2 Silt = 44 Clay = 5	6 6 0% 2% 2% 0% 2.8% 5% 8.7% 6 3% 5% 2.2% .3% 3.5%		78 77 77 77 77 77 77 77 77 77 77	99-
															[		
		Notes:	roh Bookfille	d with hontonito													
		SW DUITOW Sea	aron. Daukiille										Loaged Bv:		С. Т	īams	
													Reviewed Bv:		T. C	urtis	_
16/11/2022													,.				_



CLIENT	Eastern Irrigation Distric	t		_ PRC	JECT	NAME	S	ake Lake Reservoir Expar	nsion
PROJECT NUMBER	1560-193-00			_ PRC	JECT	LOCATION		NE 1/4 32-19-16	
DATE STARTED	07/07/2022 COMPLETED	07/07	7/2022	_ GRC	DUND	ELEVATION	780.04m	N 5610925.500 E	414536.200
DRILLING CONTRACT	OR Chilako Drilling Service	es Ltd	l.	GRC	DUND	WATER ELEVAT	ION / DEPTH	H	
DRILLING METHOD	6" SSA			DAT	E GRO	OUND WATER R	ECORDED		
Depth (m) SOIL SYMBOL	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>PLASTIC - LIO</li> <li>SPT (N) Blows/ 10 20 3</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	DNTENT QUID /300 mm 30 40 00 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL, silt dry, firm, media oxidation staini SHALE (Weath completely weat oxidation staini weak to hard s SHALE, clay, s some oxidation extremely weat 6	, sandy, some gravel up to 30 mm, Im plastic, light brown, some ng hered), clay and silt, trace sand, athered, dark brown to grey, some ng, damp, high plastic, extremely oil, blocky ilty, completely weathered, grey, a staining, damp, high plastic, k, thinly laminated End of Borehole @6.1 m		AU1 AU2 AU3 AU4		6.2 16.5 17.3			1 m - Gravel = $4.3\%$ 1 m - Sand = $28.0\%$ Silt = $37.3\%$ Clay = $30.4\%$ 2.5 m - LL = $52.4\%$ PL = $17.6\%$ PI = $34.8\%$ 4 m - LL = $48.8\%$ PL = $14.6\%$ PI = $34.2\%$ 4 m - Sand = $2.9\%$ Silt = $47.1\%$ Clay = $50.0\%$ 5.5 m - LL = $56.4\%$ PL = $18.7\%$ PI = $37.7\%$	7779– 7778– 7778– 7776– 7772–
Notes:									
10/15. SW Borrow sea	arch. Backfilled with bentonite.							Logged By: Reviewed By:	C. Tams T. Curtis



(	CLIEN	1T		Eastern Irrigation District			_ PRC	DJECT	NAME	S	inake Lake Reservoir Exp	ansion	
I	PROJ	ECT NUMBER		1560-193-00			_ PRC	JECT	LOCATION		NE 1/4 32-19-16		
I	DATE	STARTED	07/07/2022	COMPLETED	07/07	7/2022	_ GRO	DUND	ELEVATION	780.22m	N 5610940.800 E	41464	1.200
I	ORILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd		GRC	DUND	WATER ELEVAT	ION / DEPTH	1		
I	ORILL	ING METHOD		6" SSA			DAT	E GRO	OUND WATER RE	ECORDED			
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CC</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows/ 10 20 3 100 200 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID 300 mm 30 40 00 400 (kPa)	REMARKS	Standpipe/	Instrument Elevation (m)
		CLAY TILL, silty inclusions, som trace gravel, da dark brown, gre trace gypsum c	y, completely v e medium gra imp to moist, s ey specs, som rystals ng mudstone	veathered mudstone ined sand lenses, stiff, medium plastic, e oxidation staining, nclusions	-	AU1		14.9	•		1 m - LL = 46.4% PL = 15.9% PI = 30.5%		780
-3				-	AU2		18.4	•		2.5 m - Sand = 4.8% Silt = 44.9% Clay = 50.3%		778–	
		SHALE (Weath completely wea staining, damp, hard soil, block	ered), silt and ithered, grey, t high plastic, e y	clay, trace sand, race oxidation extremely weak to	-	AU3		20.3	·····		4 m - LL = 52.9% PL = 17.4% PI = 35.5%		776
5 6			End of Borehole	@6.1 m	<b>*</b>	AU4		16.6	•		5.5 m - Sand = 2.2% Silt = 54.4% Clay = 43.4%		775-
- - - - - - - - - - -													773-
													772
9 													771
		Notes:			<u> </u>							1	
SW Borrow search. Backfilled with bentonite.											Logged By:	<u>C. Tam</u> T. Curt	<u>ıs</u>
16/11/2022											, _		



(		NT		Eastern Irrigation District			_ PRO	DJECT	NAM	E	_		S	Snake Lake Reservoir Expar	sion
F	PROJ	IECT NUMBER		1560-193-00			_ PRC	DJECT	LOCA	ATION	_			NE 1/4 32-19-16	
[	DATE	STARTED	07/07/2022		07/07	7/2022	_ GRO	DUND	ELEV	ATION	ι.	779	.05m	N_5610940.300 E	414770.600
[	ORILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	l.	GR	DUND	WATE	R EL	EVATI	ON / E	DEPTI	н	
[	ORILL	ING METHOD		6" SSA			_ DAT	E GR	DUND	WATE	ER RE	CORI	DED		
Depth (m)	SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M ⊢ P ■ SF 10 ▲ P0	OISTU PLASTIC PT (N) I 0 20 00 20 OCKET	RE CO C - LIQ Blows/3 0 30 7 PEN (	NTEN1 UID 300 mm <u>0 40</u> kPa)	Г 1 2 10	REMARKS	Standpipe/ Instrument Elevation (m)
		CLAY TILL, silt firm, medium p staining SHALE (Weath completely weat oxidation staini extremely weat	, some grave lastic, brown, ered), clay an athered, brow ng, damp, me < to hard soil, ng grey, groun	, trace sand, damp, trace oxidation		AU1 AU2 AU3 AU4		18.4 18.2 16.4 17.2		●  -● ●  -	PEN (	KPa)		1 m - Sand = 4.4% Silt = 42.6% Clay = 53.0% 2.5 m - LL = 45.6% PL = 15.2% PI = 30.4% 4 m - LL = 53.7% PL = 18.3% PI = 35.4% 4 m - Sand = 5.5% Silt = 40.0% Clay = 54.5% 5.5 m - LL = 49.5% PL = 19.6% PI = 29.9%	7778– 7777– 7776– 7775– 7774– 7774– 7773– 7772– 7771– 7771– 7770–
-															
	I	Notes:						I	ļ					1	
16/11/2022		SW Borrow sea	arch. Backfille	d with bentonite.										Logged By: Reviewed By:	<u>C. Tams</u> T. Curtis
L															



0	CLIEI	NT		Eastern Irrigation District			_ PR	OJECT	NAM	E	_		S	nake La	ke Reservoir	Expans	ion	
F	PRO	IECT NUMBER		1560-193-00			_ PR	OJECT	LOCA	ATION	_			1	NE 1/4 32-19-	16		
[	DATE	STARTED	07/07/2022	COMPLETED	07/07	7/2022	_ GR	OUND	ELEV	ATION	۱.	779	9.54m	N	5610931.900	_ E _	41484	49.000
	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	l.	GR	OUND	WATE	R ELI	EVATI	ON / E	DEPTI	Η				
	DRILI	LING METHOD		6" SSA			DA	re gro	OUND	WAT	ER RE	CORI	DED					
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H P ■ SF 1 10 ▲ P0	OISTU LASTI PT (N) 0 2 00 20 DCKET	RE CO C - LIQ Blows/3 0 30 7 PEN (	NTEN <sup>-</sup> UID 300 mn <u>0 40</u> kPa)	Г D D D D		REMARKS	3	Standpipe/	Instrument Elevation (m)
		mm, some com trace larger col plastic, dark br	ered shale inclusions, irm to stiff, medium idation staining	-	AU1 AU2		9.3	•	•		4		1 m - L 2.5 m -	L = 32.4% PL = 12.9% PI = 19.5% • Gravel = 7.	5%		779	
		SHALE (Weath highly weather damp, high pla blocky	d silt, trace sand, e oxidation staining, / weak to hard soil,		A113		16.9						2.5 m ·	Sand = 13. Silt = 42.69 Clay = 36.4	5% % %		776	
		blocky				A03		10.9						4 111 - 1	PL = 18.4% PL = 18.4% PI = 35.0%	)		775-
6	· · · ·		End of Borehole	e@6.1 m	-	AU4		18.4		•				5.5 m ·	Sand = 2.1 Silt = 46.29 Clay = 51.7	% % `%		774-
																		773–
9 																		771-
		Notes:			<u> </u>													
16/11/2022		SW Borrow sea	arch. Backfille	d with bentonite.										Logge Reviev	d By: ved By:		<u>C. Tai</u> T. Cui	ns tis
·																		



(		NT		Eastern Irrigation District			_ PRC	DJECT	NAM	IE	_		Sr	nake Lake Reserv	oir Expai	nsion		
F	PROJ	ECT NUMBER		1560-193-00			_ PRC	DJECT	LOC	ATION	I _			NE 1/4 32-1	9-16			
[	DATE	STARTED	07/07/2022		07/07	7/2022	GRO	DUND	ELE\	/ATIO	۱.	779.9	99m	N_5610840.1	00 E	414	1350.9	<del>)</del> 00
[	ORILL	ING CONTRACT	OR	Chilako Drilling Service	s Lto	ł.	GR0	DUND	WATI	ER EL	EVATI	ON / DE	PTH	l				
[	ORILL	ING METHOD		6" SSA			DAT	E GR	DUNE	WAT	ER RE	CORDE	ED					
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H F ■ S 1 ▲ P	10ISTU PLASTI PT (N) 10 2 00 2 OCKE	IRE CO C - LIQ Blows/3 10 30 10 30 17 PEN (	NTENT UID 300 mm 0 40 0 400 kPa)		REMAR	KS		Standpipe/ Instrument	Elevation (m)
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		CLAY TILL, silt lenses, moist, s brown, some o SHALE, clay a grey with oxida extremely weal	avel, trace sand o high plastic, dark ng and, highly weathered damp, high plastic, ated		AU1 AU2 AU3 AU4		19.4 26.9 15.5		<u>OCKE</u>	<u>PEN (</u>	<u>kPa)</u>		1 m - Sand = 6.5 Silt = 34. Clay = 52.9 PL = 15. PI = 37. 2.5 m - Sand = 7 Silt = 38. Clay = 4 5.5 m - LL = 62.1 PL = 19.1 PI = 43.	5% 8% 3.7% 3% 5% 3.0% 4% 3.6% 2% 2%			779 778 7777 7776 7775 7774	
8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1																		772
		Notes:																
		SW Borrow sea	arch. Backfille	d with bentonite.									l	Logged By: Reviewed Bv:		<u>С. 1</u> Т. С	<u>ams</u> urtis	
16/11/2022																		



С		νT		Eastern Irrigation Distric	t		_ PRO	DJECT	NAME	S	nake Lake Reservoir Expa	nsion
Р	ROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16	
D	ATE	STARTED	07/07/2022	COMPLETED	07/0	7/2022	_ GRO	DUND	ELEVATION	779.77m	N_5610834.400 E	414445.200
D	RILL	ING CONTRACT	OR	Chilako Drilling Servic	es Lto	ł.	GR0	DUND	WATER ELEVA	TION / DEPTH	ł	
D	RILL	ING METHOD		6" SSA			DAT	E GR	OUND WATER F	RECORDED		
Depth (m)	SOIL SYMBOL		Soi Descrij	l otion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LI</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200</li> <li>POCKET PEN</li> </ul>	CONTENT QUID s/300 mm 30 40 300 400 √ (kPa)	REMARKS	Standpipe/ Instrument Elevation
		CLAY TILL, sor inclusions, silty plastic, dark bro SHALE (Weath highly weathers damp, high plas thinly laminated	me complete , trace sand own, some o lered), clay a ed, grey, sor stic, extreme d, trace gyps d, trace gyps	ely weathered shale , damp, stiff, medium posidation staining and silt, trace sand, ne oxidation staining, ely weak to hard soil, sum crystals		AU1 AU2 AU3		17.8 18.3 17.8 16.1			1 m - LL = 52.7% PL = 17.5% PI = 35.2% 2.5 m - Sand = 2.3% Silt = 44.8% Clay = 52.9% 4 m - LL = 52.3% PL = 19.2% PI = 33.1% 5.5 m - Sand = 1.3% Silt = 46.1% Clay = 52.6%	779- 778- 777- 777- 777- 777- 777- 777-
		Notes: SW Borrow sea	arch. Backfil	led with bentonite.							Logged By:	C. Tams T. Curtis



с	LIEN	ΝT		Eastern Irrigation District			_ PRC	DJECT	NAME	S	nake Lake Reser	voir Expai	nsion	
Р	ROJ	ECT NUMBER		1560-193-00			_ PRC	JECT	LOCATION		NE 1/4 32	-19-16		
D	ATE	STARTED	07/07/2022	COMPLETED	07/07	7/2022	_ GRO	DUND	ELEVATION	780.31m	N 5610839.	.600 E	4145	38.900
D	RILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd	l.	GR0	DUND	WATER ELE	VATION / DEPTH	H777.21 n	n	3.10	) m
D	RILL	ING METHOD		6" SSA			DAT	E GRO	DUND WATE	R RECORDED		08/10/202	22	
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTUR</li> <li>PLASTIC</li> <li>SPT (N) Bi</li> <li>10 20</li> <li>100 200</li> <li>POCKET I</li> </ul>	E CONTENT - LIQUID lows/300 mm 30 40 ) 300 400 PEN (kPa)	REMA	RKS	Standpipe/	Elevation (m)
		CLAY TILL, silt plastic, light bro SHALE (Weath completely wea moist, high plas blocky 3.5 m - SEEF 4.6 m - becor	, some sand, o own hered), silt and athered, dark h stic, extremely PAGE ning wet	dry, firm, medium clay, trace sand, prown to grey, damp to weak to hard soil,		AU1 AU2 AU3 AU4		10.0 16.5 20.2 25.5		PEN (KPa)	1 m - Sand = 1 Silt = 5: Clay = 2.5 m - LL = 49 PL = 18 PI = 30 4 m - LL = 50.7 PL = 17 PI = 33 4 m - Sand = 4 Silt = 5: Clay = 5.5 m - LL = 56 PL = 17 PI = 39	2.1% 2.4% 35.3% 35.3% 0.0% 3.1% 0.9% 7.6% 3.2% 42.3% 5.8% 7.6% 0.2%		780 779 777 777 777 777 777 777 777 777 77
		Notes:												
16/11/2022		SW Borrow sea	arch. Backfille	d with bentonite.							Logged By: Reviewed By:		C. Ta T. Cu	ms



CLIENT	Eastern Irrigation District			_ PROJEC	T NAME	S	onake Lake Reservoir Expan	sion				
PROJECT NUMBER	1560-193-00			_ PROJEC	T LOCATION		NE 1/4 32-19-16					
DATE STARTED	07/07/2022 COMPLETED 0	)7/07	7/2022	GROUN	D ELEVATION	778.64m	N_5610835.600 E	414643.000				
DRILLING CONTRACT	OR Chilako Drilling Services	s Ltd	Ι.	GROUN	D WATER ELEVA	TION / DEPTH	Η					
DRILLING METHOD	6" SSA			DATE GI	ROUND WATER F	RECORDED						
Depth (m) SOIL SYMBOL	Soil Description	Sample Type	Sample Number	SPT (N) Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>⊢ PLASTIC - L</li> <li>■ SPT (N) Blow</li> <li>10 20</li> <li>100 200</li> <li>▲ POCKET PER</li> </ul>	CONTENT IQUID s/300 mm 30 40 300 400 N (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)				
CLAY TILL, silt dark brown wit staining SHALE (Weath highly weather moist, high pla	y, sandy, moist, stiff, medium plastic, h light brown sand, trace oxide nered), silt and clay, trace sand, ed, grey, some oxidation staining, stic, very weak, thinly laminated	-	AU1	17.	2		1 m - LL = 40.5% PL = 11.9% PI = 28.6%	778-				
3		=	AU2	17.	0		2.5 m - Sand = 1.9% Silt = 50.3% Clay = 47.8%	776-				
-4	bentonite seams	Ŧ	AU3	19.	5		4 m - Dispersivity Classification = D2 4 m - LL = 51.9% PL = 18.5% PI = 33.4% 4 m - Sand = 1.7% Sit = 14.3%	775–				
-7 -7 -9 -9 -9 -9 -9 Notes:	nd silt, trace sand, completely ey, damp, medium plastic, extremely oil, ground up End of Borehole @6.1 m		AU4	12.	2		Silt = 44.3% Clay = 54.0% 5.5 m - Sand = 0.7% Silt = 43.9% Clay = 55.4%	773- 772- 771- 770- 769-				
SW Borrow sea	SW Borrow search. Backfilled with bentonite.											
16/11/2022							Reviewed By:	T. Curtis				



	CLIEN	NT		Eastern Irrigation District			_ PRC	DJECT	NAME	S	Snake Lake Reservoir Expan	sion
1	PROJ	IECT NUMBER		1560-193-00			_ PRC	DJECT	LOCATION		NE 1/4 32-19-16	
1	DATE	STARTED	07/07/2022	COMPLETED	07/07	7/2022	GRO	DUND	ELEVATION	778.81m	N_5610836.600 E	414744.900
1	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	ł.	GRO	DUND	WATER ELEVAT	ION / DEPTI	н	
1	DRILI	LING METHOD		6" SSA			DAT	E GR	OUND WATER R	ECORDED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CI</li> <li>⊢ PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 20 3</li> <li>100 200 3</li> <li>▲ POCKET PEN</li> </ul>	ONTENT QUID /300 mm 30 40 00 400 (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
-1-1-2-2		CLAY TILL, silt mm, damp, firm SHALE (Weath highly weathere damp, high pla	, trace sand, s n, medium pla nered), clay an ed, grey, some stic, extremely	ome gravel up to 50 stic, brown d silt, trace sand, e oxidation staining, v weak, finely fissured	-	AU1		18.9	••••		1 m - Sand = 4.9% Silt = 43.2% Clay = 51.9%	778-
-3						AU2		18.8			2.5 m - LL = 55.7% PL = 16.9% PI = 38.8%	776–
4  5 5	SHALE, clayey, silty, completely weathered, gre damp, high plastic, extremely weak, thinly laminated					AU3		15.8	•		4 m - LL = 52.3% PL = 17.8% PI = 34.5% 4 m - Sand = 8.5% Silt = 38.7% Clay = 52.8%	774-
		Notes:	End of Borehole	@6.1 m		AU4		12.0			5.5 m - LL = 54.8% PL = 18.5% PI = 36.3%	773-772-7771-7771-7770-769-769-
16/11/2022	Notes: SW Borrow search. Backfilled with bentonite. Logged By: <u>C. Tams</u> Reviewed By: <u>T. Curtis</u>											



CLIENT		Eastern Irrigation District			_ PRO	OJECT	NAM	1E	_		S	nake La	ake Res	ervoir E	xpans	ion		
PROJECT NUMBER		1560-193-00			_ PRO	JECT	LOC	ATION	ı _			1	NE 1/4 3	32-19-16	6			
DATE STARTED	07/07/2022	COMPLETED	07/07	7/2022	_ GR	OUND	ELE\	/ATIO	N _	779	.44m	N	561083	8.300	Е_	4148	37.400	)
DRILLING CONTRACT	OR	Chilako Drilling Service	s Lto	l.	GR	OUND	WAT	ER EL	EVATI	ON / D	EPTH	┥						
DRILLING METHOD		6" SSA			DAT	E GR	DUNE	) WAT	ER RE	CORE	DED							
Depth (m) SOIL SYMBOL	Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M 	//OISTL PLASTI 6PT (N) 10 2 00 2 20CKE	IRE CO C - LIQ Blows/3 20 30 00 30 T PEN (	NTENT UID 300 mm <u>) 40</u> 0 40 kPa)	)		REM	ARKS		Standpipe/	Instrument Elevation	(m)
CLAY TILL, silt sand, dry, stiff, oxidation stain 	y, some grave high plastic, li ing, trace coal elly nered), clay an athered, grey, , medium plas	e up to 30 mm, trace ght brown, trace staining d silt, trace sand, some oxidation tic, extremely weak to athered @6.1 m		AU1 AU2 AU3 AU4		12.9 8.6 15.1 16.6	•	•		·····		1 m - L 2.5 m - 2.5 m - 5.5 m -	L = 61 PL = 1 PI = 4 - Grave - Sand Silt = 3 Clay = PL = 1 PI = 3 - Sand Silt = 4 Clay =	.1% 17.6% 13.5% 13.5% = 39.0 32.0% = 19.8% 18.6% 33.7% = 1.6% 48.0% = 50.4%	% % 6 6 6		77 77 77 77 77 77 77 77 77 77 77	79 78 777 76 775 774 773 772 771 771 770
									. :									
Notes: SW Borrow sea	arch. Backfille	d with bentonite.										Logge Reviev	d By: ved By:		-	<u>С. Та</u> Г. Си	ms rtis	



	CLIEI	NT		Eastern Irrigation District			_ PRC	DJECT	NAME	5	Snake Lake Reservoir Expa	insion
1	PRO	IECT NUMBER		1560-193-00			_ PRC	DJECT	LOCATION		NE 1/4 32-19-16	
1	DATE	STARTED	07/07/2022		07/0	7/2022	_ GRO	DUND	ELEVATION	779.40m	N_5610732.700 E	414453.700
1	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	l.	GRO	DUND	WATER ELEVAT	ION / DEPT	н	
1	DRILI	LING METHOD		6" SSA			_ DAT	E GR	OUND WATER R	ECORDED		
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 20 3</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	DNTENT QUID /300 mm 30 40 100 400 (KPa)	REMARKS	Standpipe/ Instrument Elevation (m)
		grained sand le residual soil, da staining, moist, hard soil, block trace gypsum c	enses, comple ark brown to g medium plast y, suspect whi crystals	ely weathered to rey, some oxidation ic, extremely weak to te sulphate inclusions,	£	AU1 AU2		20.2 20.9	•	t	1 m - LL = 47.6% PL = 14.4% PI = 33.2% 1 m - Sand = 26.5% Silt = 21.1% Clay = 52.4% 2.5 m - Sand = 6.8% Silt = 56.3%	779– 778– 7777–
-3		3.5 m - becor staining, high p	ning grey, incr lastic, trace sa	easing oxidation nd	æ	AU3		19.1			Clay = 36.9% 4 m - LL = 51.4% PL = 20% PI = 31.4%	776- - 775-
		6 m - ground	up shale End of Borehole	@6.1 m		AU4		17.8	•		5.5 m - Sand = 2.8% Silt = 48.3% Clay = 48.9%	774-
	I	Notes:			<u> </u>			1	1		1	
16/11/2022	2	SW Borrow sea	arch. Backfilled	l with bentonite.							Logged By: Reviewed By:	C. Tams T. Curtis



(		T		Eastern Irrigation District			_ PRO	DJECT	NAN	IE	_		S	onake Lake Reservoir Expar	sion
F	PROJ	IECT NUMBER		1560-193-00			_ PRO	DJECT	LOC	ATION	1			NE 1/4 32-19-16	
[	DATE	STARTED	07/07/2022		07/07	7/2022	_ GRO	DUND	ELE\	/ATIOI	N	779	9.94m	N_5610738.600 E	414552.900
[	RILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd	l.	GR	DUND	WAT	ER EL	EVATI	ON / [	DEPTI	H	
[	RILL	ING METHOD		6" SSA			DAT	E GRO	DUNE	) WAT	ER RE	COR	DED		
Depth (m)	SOIL SYMBOL		Soil Descripti	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● N 	10ISTL PLASTI PT (N) 10 2 00 2 OCKE	JRE CC IC - LIQ Blows/ 20 3 00 30 T PEN (	0NTEN UID 300 mn 0 4 00 40 (kPa)	Г 1 0 00	REMARKS	Standpipe/ Instrument Elevation (m)
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		CLAY TILL, silt medium plastic staining SHALE (Weath completely wea staining, damp, hard soil, block	y, trace sand, , light brown, ered), silt and thered, grey, medium plas y	trace gravel, dry, firm, some oxidation		AU1 AU2 AU3		9.8					4	1 m - Dispersivity Classification = ND4 1 m - LL = 42.5% PL = 17.1% PI = 25.4% 2.5 m - Sand = 2.0% Silt = 51.1% Clay = 46.9% 3.7 m - LL = 36.6% PL = 18.5% PI = 18.1% 3.9 m - Auger refusal	779– 7778– 7777– 7776– 7776– 7776– 7776– 7778– 7778– 7778– 7778– 7778– 7778– 7778– 7778– 7778– 7778– 7778– 7778– 7778– 7778– 7779– 7778– 7779–
-															
		Notes:													
		SW Borrow sea	arch. Backfille	d with bentonite.										Logged By:	C. Tams
16/11/2022															



0		NT		Eastern Irrigation District	t		_ PRC	DJECT	NAM	E	_		S	Snake La	ake Res	ervoir E	xpans	ion	
F	PROJ	IECT NUMBER		1560-193-00			_ PRC	DJECT	LOCA	ATION	_			1	NE 1/4 ;	32-19-10	6		
٦ (	DATE	STARTED	07/07/2022	COMPLETED	07/0	7/2022	_ GRO	DUND	ELEV	ATION	I _	778	.47m	N	561073	88.800	E _	41464	9.300
٦ (	ORILL	ING CONTRACT	OR	Chilako Drilling Service	es Lto	l.	GR0	DUND	WATE	RELE	EVATIO	D / NC	EPTI	Η					
٦ (	ORILL	ING METHOD		6" SSA			DAT	E GR	OUND	WATE	ER RE	CORE	DED						
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H P ■ SF 10 ▲ P0	OISTUI PLASTIC PT (N) I 0 20 00 20 OCKET	RE COI C - LIQU Blows/3 0 30 0 30 . PEN (I	NTENT JID 00 mm 0 400 kPa)	)		REM	ARKS		Standpipe/	Instrument Elevation (m)
		CLAY TILL, silf, stiff, medium to oxidation staini SHALE (Weath completely weat oxidation staini extremely weat 3 m - becomin 5 m - becomin 5 m - groun	y, some grave high plastic, o ng lered), silt and athered, browr ng, damp, me < to hard soil, l ng grey ng grey <u>d up shale</u> End of Borehole	elay, trace sand, dark brown, some clay, trace sand, hish grey, some dium plastic, blocky		AU1 AU2 AU3 AU4		19.4 16.7 17.7 13.4		• •				1 m - L 2.5 m - 4 m - L 5 m - S	L = 46 PL = PI = Silt = Clay = Clay = Silt = Clay =	5.8% 10.7% 36.1% = 1.8% 53.2% = 45.0% 29.9% 3.5% 37.4% = 59.1%	6 % ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		778 777 776 775 774 777 777 777 777 777 777 777 777
										. i									
16/11/2022	:	Notes: SW Borrow sea	arch. Backfille								Logge Reviev	d By: wed By	:	(	<u>C. Tan</u> Г. Curl	is			


	CLIEI	NT		Eastern Irrigation District			_ PRC	JECT	NAME	S	nake Lake Reservoir Expan	sion
	PRO	JECT NUMBER		1560-193-00			_ PRC	DJECT	LOCATION		NE 1/4 32-19-16	
	DATE	STARTED	07/07/2022		07/0	7/2022	GR0	DUND	ELEVATION	778.74m	N_5610733.100 E	414755.500
	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Lto	ł.	GR0	DUND	WATER ELEVA	TION / DEPTH	ł	
	DRILI	LING METHOD		6" SSA			DAT	E GR	OUND WATER F	RECORDED		
Depth (m)	SOIL SYMBOL		So Descri	l Dtion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE (</li> <li>PLASTIC - L</li> <li>SPT (N) Blow</li> <li>10 20</li> <li>100 200</li> <li>POCKET PEI</li> </ul>	CONTENT IQUID /s/300 mm 30 40 300 400 N (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
-4		TOPSOIL - 300 CLAY TILL, silt grained sand le dark brown, so suspect white s SHALE (Weath highly weather staining, damp blocky	) mm y, some gravenses, damp me oxidation sulphate incl erered), clay a ed, brownish high plastic	vel up to 60 mm, fine , stiff, medium plastic, n staining, yellow sand, usions and silt, trace sand, n grey, trace oxidation , very weak to hard soil, on staining		AU1 AU2 AU3 AU4		16.2 16.6 17.5 18.2			1 m - Gravel = 25.6% 1 m - Sand = 18.1% Silt = $30.8\%$ Clay = $25.5\%$ 2.5 m - LL = $54.5\%$ PL = $19.4\%$ PI = $35.1\%$ 4 m - LL = $52.1\%$ PL = $18.8\%$ PI = $33.3\%$ 4 m - Sand = $1.9\%$ Silt = $47.2\%$ Clay = $50.9\%$ 5.5 m - LL = $55.6\%$ PL = $19.7\%$ PI = $35.9\%$	778– 7777– 7776– 7776– 7774– 7774– 7774– 7774– 7772– 7771– 7771–
 - - - -		Notes:										769
		SW Borrow sea	arch. Backfil	ed with bentonite.								
											Logged By:	C. Tams
16/11/000	2										Reviewed By:	T. Curtis
16/11/202	2											



CLIE	NT		Eastern Irrigation District			_ PRC	JECT	NAME	S	nake Lake Reservoir Expar	ision
PRO	JECT NUMBER		1560-193-00			_ PRC	JECT	LOCATION		NE 1/4 32-19-16	
DATE	E STARTED	07/07/2022	COMPLETED 0	)7/07	7/2022	_ GRC	DUND	ELEVATION	778.95m	N_5610735.000 E	414861.600
DRIL	LING CONTRACT	OR	Chilako Drilling Services	s Ltd		GRC	DUND	WATER ELEVA	TION / DEPTH	ł	
DRIL	LING METHOD		6" SSA			DAT	E GRO	OUND WATER F	RECORDED		
Depth (m) SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - LI</li> <li>SPT (N) Blows</li> <li>10 20</li> <li>100 200</li> <li>POCKET PEN</li> </ul>	CONTENT QUID s/300 mm 30 40 300 400 300 400 0 (KPa)	REMARKS	Standpipe/ Instrument Elevation (m)
	CLAY TILL, silt dry, stiff, high p staining, suspe SHALE (Weath completely wea oxidation staini weak to hard so 3 m - becomin 5.2 m - becom	y, trace to son lastic, light br ct white sulph rered), silt and athered, brown ng, damp, hig poil, blocky ng more groun	ne gravel up to 30 mm, own, some oxidation ate inclusions	-	AU1 AU2 AU3 AU4		7.6 17.4 15.2 13.5			1 m - LL = 50.4% PL = 18.2% PI = 32.2% 2.5 m - Sand = 0.9% Silt = 51.2% Clay = 47.9% 4 m - LL = 51.8% PL = 18.2% PI = 33.6% 5.5 m - Sand = 11.2% Silt = 54.8% Clay = 34.0% 5.8 m - Auger refusal	778- 777- 7776- 7775- 7774- 7774- 7774- 7774- 7774- 7774- 7774- 7774- 7774- 7774- 7774- 7774- 7774-
_									: :		
16/11/2022	Notes: SW Borrow sea	arch. Backfille	d with bentonite.							Logged By: Reviewed By:	C. Tams T. Curtis



C		νT		Eastern Irrigation District			_ PRO	DJECT	NAME	Snake Lake Reservoir Expa	nsion
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT		NE 1/4 32-19-16	
[	DATE	STARTED	07/06/2022		07/06	6/2022	_ GRO	DUND	ELEVATION 779.85r	n N 5610634.300 E	414557.100
[	DRILL	ING CONTRACT	OR	Chilako Drilling Service	s Ltd	l.	GR0	DUND	WATER ELEVATION / DEP	TH 777.08 m	2.77 m
	DRILL	ING METHOD		6" SSA			_ DAT	E GRO	OUND WATER RECORDED	08/10/20	22
Depth (m)	SOIL SYMBOL		Soil Descriptio	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm</li> <li>10 20 30 40</li> <li>100 200 300 400</li> <li>POCKET PEN (kPa)</li> </ul>	REMARKS	Elevation (m)
-1		CLAY TILL, silt, medium plastic. SHALE (Weath some oxidation extremely weak 3.5 m - becon 3.8 m - TRAC	trace sand, tr light brown, t ered), silt and staining, dam to hard soil, t hing some san <u>E SEEPAGE</u> End of Borehole	ace gravel, dry, stiff, race oxidation specs, clay, trace sand, grey, p, high plastic, olocky d @4.0 m		AU1 AU2 AU3		9.1		1 m - Gravel = $1.5\%$ 1 m - Sand = $2.5\%$ Silt = $49.5\%$ Clay = $46.5\%$ 2.5 m - LL = $50.9\%$ PL = $19\%$ PI = $31.9\%$ 3.5 m - LL = $50.0\%$ PL = $18.7\%$ PI = $31.3\%$ 3.5 m - Sand = $11.7\%$ Silt = $52.7\%$ Clay = $35.6\%$ 4 m - Auger refusal	▼       7779-         7778-       7778-         7778-       7778-         7778-       7778-         7778-       7778-         7778-       7778-         7778-       7778-         7778-       7778-         7778-       7778-         7778-       7776-         7774-       7773-         7772-       7771-
<u> </u>										-	770-
		Notes:									
10/11/2017		SW Borrow sea	rch. Standpip	e installed to 4.0 m. Ba	ackfi	illed with	i sand	and b	pentonite.	Logged By: Reviewed By:	C. Tams T. Curtis
10/11/2022										-	



	CLIE	NT		Eastern Irrigation District			_ PRC	DJECT	NAME		5	Snake Lak	e Reservoir Exp	ansior	۱	
	PROJ	JECT NUMBER		1560-193-00			_ PRC	JECT	LOCATION	N		NE	E 1/4 32-19-16			
	DATE	STARTED	07/07/2022	_ COMPLETED	07/07	7/2022	GRO	DUND	ELEVATIO	N	778.18m	N_5	610636.000	<u>= 4</u>	14653.60	)0
	DRILI	LING CONTRACT	OR	Chilako Drilling Service	s Ltd	1.	GR0	DUND	WATER EL	EVATIC	N / DEPT	н				
	DRILI	LING METHOD		6" SSA			DAT	E GR	OUND WAT	ER REG	CORDED					
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTL</li> <li>PLASTI</li> <li>SPT (N)</li> <li>10 2</li> <li>POCKE</li> </ul>	JRE CON IC - LIQU I Blows/30 20 300 200 300 T PEN (k	ITENT IID 00 mm 40 ) 400 Pa)	-	REMARKS		Standpipe/ Instrument	Elevation (m)
-1		CLAY TILL, silt trace oxidation SHALE (Weath completely weat oxidation staini weak to hard s 2.1 m - SEEF 3 m - becomin SHALE, silt and grey, damp, hig up	y, moist, stiff, l staining hered), clay an athered, browr ng, moist, higl oil, blocky AGE ng grey	high plastic, brown, d silt, trace sand, hish grey, some n plastic, extremely and, highly weathered, emely weak, ground		AU1 AU2 AU3 AU4		24.6 21.3 27.1 14.8		• • • • • • • • • • • • • • • • • • •		-1 m - LL 	. = 62.6% PL = 14.3% PI = 48.3% Sand = 2.6% Silt = 48.0% Clay = 49.4% . = 60.9% PL = 17.9% PI = 43.0% Sand = 0.4% Silt = 52.0% Clay = 47.6%		7	777 7776 7776 7775 7774 7773 7772 7771 7770 7770
												1				
16/11/2022	2	Notes: SW Borrow sea	arch. Backfille	d with bentonite.								Logged Reviewe	By:	<u> </u>	<u>Tams</u> Curtis	



CLIENT	Eastern Irrigation District		PROJEC	T NAME	S	Snake Lake Reservoir Expa	nsion
PROJECT NUMBER	1560-193-00		PROJEC	T LOCATION		NE 1/4 32-19-16	
DATE STARTED	07/07/2022 COMPLETED	07/07/2022	GROUN	D ELEVATION	778.37m	N 5610637.800 E	414750.100
DRILLING CONTRA	CTOR Chilako Drilling Service	s Ltd.	GROUN	D WATER ELEVA	TION / DEPTI	н	
DRILLING METHOD	6" SSA		DATE GI	ROUND WATER F	RECORDED		
Depth (m) SOIL SYMBOL	Soil Description	Sample Type Sample Number	SPT (N) Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>⊢ PLASTIC - LI</li> <li>SPT (N) Blow: 10 20 100 200</li> <li>▲ POCKET PEN</li> </ul>	CONTENT IQUID s/300 mm 30 40 300 400 v (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL, s firm to stiff, r staining -1 -2 -2 -2 	silt, trace sand, trace gravel, damp, nedium plastic, brown, some oxidation adup mudstone inclusions athered), clay and silt, trace sand, reathered, grey, some oxidation p, high plastic, extremely weak to cky and silt, trace sand, highly weathered, high plastic, extremely weak, ground End of Borehole @6.1 m	<ul> <li>AU1</li> <li>AU2</li> <li>AU2</li> <li>AU3</li> <li>AU4</li> </ul>	11. 15. 16. 11.			1 m - LL = 47.5% PL = 19.3% PI = 28.2% 1 m - Gravel = 1.0% 1 m - Sand = 7.2% Silt = 60.8% Clay = 22.3% 2.5 m - LL = 51.0% PL = 19.4% PI = 31.6% 4 m - LL = 50.5% PL = 19.3% PI = 31.2% 4 m - Sand = 6.8% Silt = 49.2% Clay = 44.0% 5.5 m - LL = 53.4% PL = 18% PI = 35.4%	778– 777– 777– 777– 777– 777– 777– 777–
Notes: SW Borrow s	search. Backfilled with bentonite.					Logged By: Reviewed By:	C. Tams T. Curtis



CLIENT	East	ern Irrigation Distric			_ PRC	JECT	NAME	-		Snake Lał	ke Reservoir Ex	pansio	n
PROJECT NUMBER		1560-193-00			_ PRC	JECT	LOCATIO	ON _		N	E 1/4 32-19-16		
DATE STARTED	07/07/2022 CO		07/07	7/2022	_ GRC	DUND	ELEVATI	ON	779.00	mN_5	610635.800	E _4	14843.600
DRILLING CONTRAC	TORCh	ilako Drilling Service	s Ltd	l.	GRC	DUND	WATER B	ELEVAT	ION / DEP	тн			
DRILLING METHOD		6" SSA			DAT	E GRO	OUND W	ATER RI	ECORDED	)			
Depth (m) SOIL SYMBOL	Soil Description		Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOIS</li> <li>⊢ PLAS</li> <li>SPT ( 100 100</li> </ul>	TURE CC STIC - LIC N) Blows/ 20 3 200 3 KET PEN	ONTENT QUID 300 mm 30 40 00 400 (kPa)	_	REMARKS		Standpipe/ Instrument Elevation
CLAY TILL, sil brown, some of sulphate inclus 	ty, dry, firm to stiff, r xxidation staining, s sions hered), clay and silf red, grey, some oxid astic, extremely wea ing more shale inclu End of Borehole @6.	nedium plastic, uspect white	£ £	AU1 AU2 AU3 AU4		 10.1 17.7 23.5 14.9		•		2.5 m - Classifi 2.5 m - 2.5 m - 2.5 m - 4 m - Ll 5.5 m -	_ = 41.6% PL = 12.6% PI = 29.0% Dispersivity cation = ND3 LL = 64.3% PL = 20.9% PI = 43.4% Sand = 0.8% Silt = 36.7% Clay = 62.5% PL = 19.4% PI = 31.8% Sand = 4.0% Silt = 51.9% Clay = 44.1%		778- 777- 7776- 7774- 7774- 7774- 7774- 7774- 7774- 7774- 7774- 7774- 7774-
										-			.
Notes:													
SW Borrow se	arch. Backfilled wit	h bentonite.								Logged Review	By: ed By:	<u>С.</u> Т.	Tams Curtis



CLI	EN	Т		Eastern Irrigation Distri	ct		_ PRC	JECT	NAME	S	Snake Lake Reservoir Exp	ansior	n	
PRO	JJE	ECT NUMBER		1560-193-00			_ PRC	JECT	LOCATION		NE 1/4 32-19-16			
DAT	ΓE \$	STARTED	07/06/2022	COMPLETED	07/06	6/2022	_ GRO	DUND	ELEVATION	778.92m	N 5610544.900	= _41	14547.3	300
DRI	ILLI	ING CONTRACT	OR	Chilako Drilling Servio	es Lto	1.	GR0	DUND	WATER ELEVAT	ION / DEPT	н			
DRI	ILLI	ING METHOD		6" SSA			_ DAT	E GR	OUND WATER R	ECORDED				
Depth (m) SOII SYMBOI			Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows</li> <li>10 20 3</li> <li>POCKET PEN</li> </ul>	ONTENT QUID /300 mm 30 40 00 400 (kPa)	REMARKS		Standpipe/ Instrument	Elevation (m)
		CLAY, silty, trac plastic, brown SHALE (Weath completely wea oxidation staini weak, blocky	ered), clay ar athered, brown ng, moist, hig	moist, soft, medium nd silt, trace sand, nish grey, some h plastic, extremely		AU1 AU2 AU3 AU4		31.1 19.5 18.3 18.9			1 m - Sand = 3.5% Silt = 36.1% Clay = 60.4% PL = 15.6% PI = 35.5% 4 m - LL = 53.6% PI = 35.5% 4 m - Sand = 4.1% Silt = 43.3% Clay = 52.6% PL = 18.6% PI = 37.0%			7778 7777 7776 7775 7774 7773 7772 7771 7770
														-
	I	Notes:												
16/11/2022	:	SW Borrow sea	arch. Backfille	d with bentonite.							Logged By:	<u> </u>	<u>Tams</u> Curtis	
i														



CLIE	NT		Eastern Irrigation District			_ PRO	DJECT	NAME	Sn	ake Lake Reservoir Expar	nsion
PRO	JECT NUMBER		1560-193-00				DJECT			NE 1/4 32-19-16	
DATE	E STARTED	07/06/2022	COMPLETED 0	07/06	6/2022	_ GRO	DUND	ELEVATION	778.50m	N 5610532.600 E	414651.800
DRIL	LING CONTRACT	OR	Chilako Drilling Services	s Lto	l.	GR0	DUND	WATER ELEVATION	/ DEPTH		
DRIL	LING METHOD		6" SSA			_ DAT	E GR	OUND WATER RECO	ORDED		
Depth (m) SOIL SYMBOL		Soil Descript	ion	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONT</li> <li>PLASTIC - LIQUIE</li> <li>SPT (N) Blows/300</li> <li>10 20 30</li> <li>100 200 300</li> <li>POCKET PEN (kPa</li> </ul>	ENT mm 40 400 a)	REMARKS	Standpipe/ Instrument Elevation (m)
	CLAY TILL, silt plastic, brown, inclusions SHALE (Weath completely weat very weak to ha 0.8 m - 400 n 1.3 m - high p	y, moist, stiff, trace organics hered), clay ar athered, grey, ard soil, thinly m ironstone I blastic layer	medium to high s, trace bentonite d silt, trace sand, moist, medium plastic, laminated ayer		AU1 AU2 AU3 AU4		18.8 17.9 16.2 16.5			m - LL = 44.2% PL = 14.2% PI = 30.0% 2.5 m - Sand = 2.1% Silt = 47.3% Clay = 50.6% 2.5 m - LL = 51.4% PL = 18.7% PI = 32.7% 3.5 m - Sand = 1.2% Silt = 38.6% Clay = 60.2% 3.8 m - Auger refusal	778- 777- 777- 776- 775- 774- 777- 777- 777- 777- 777- 777
	Notes:							1			
16/11/2022	SW Borrow sea	arch. Backfille	d with bentonite.						L F	.ogged By:	C. Tams T. Curtis



CLIENT	Eastern Irrigation District		PRO	JECT	NAME	Sn	ake Lake Reservoir Expan	sion
PROJECT NUMBER	1560-193-00		PRO	JECT			NE 1/4 32-19-16	
DATE STARTED	07/06/2022 COMPLETED 0	07/06/2022	GRO	UND	ELEVATION	777.87m	N_5610540.800 E	414744.800
DRILLING CONTRACT	OR Chilako Drilling Services	s Ltd.	GRO	UND	WATER ELEVATION	N / DEPTH		
DRILLING METHOD	6" SSA		DATE	E GRO	OUND WATER REC	ORDED		
Depth (m) SOIL SYMBOL	Soil Description	Sample Type Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONT</li> <li>PLASTIC - LIQUI</li> <li>SPT (N) Blows/300</li> <li>100 200 300</li> <li>100 200 300</li> <li>POCKET PEN (KF</li> </ul>	TENT D 0 mm <u>40</u> 2a)	REMARKS	Standpipe/ Instrument Elevation (m)
CLAY TILL, so inclusions, silty brown, sand p SHALE (Weath completely we staining, damp hard soil, block	me completely weathered shale /, moist, stiff, medium plastic, greyish ockets nered), clay and silt, trace sand, athered, grey, some oxidation i, high plastic, extremely weak to Ky	- <b>-</b> AU1		21.6	•		m - Sand = 3.5% Silt = 35.1% Clay = 61.4%	777-
		■ AU2		18.7	•	2	.5 m - LL = 50.5% PL = 19.8% PI = 30.7%	775
		■ AU3		12.7	•	4	m - LL = 47.5% PL = 17.4% PI = 30.1% m - Sand = 4.2% Silt = 42.7% Clay = 53.1%	774
SHALE, clay a grey, damp, hi 	nd silt, trace sand, highly weathered, gh plastic, extremely weak, thinly End of Borehole @6.1 m	<b>■</b> AU4		14.9	•	5	.5 m - LL = 56.5% PL = 18.9% PI = 37.6%	772–
								770-
								768-
SW Borrow se	arch. Backfilled with bentonite.					L	ogged By:	C. Tams T. Curtis



C	CLIEN	Т		Eastern Irrigation Distric	t		_ PRO	DJECT	NAM	Ξ			Snake	Lake Res	ervoir Exp	ansion		
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOCA	TION				NE 1/4 3	82-19-16			
0	DATE	STARTED	07/06/2022	COMPLETED	07/06	6/2022	_ GRO	DUND	ELEV	ATION	_	778.6	2m N	561053	8.300 E	41	4845.9	900
C	DRILL	ING CONTRACT	OR	Chilako Drilling Service	es Ltd		GR0	DUND	WATE	RELE	EVATIC	N / DE	PTH					
C	DRILL	ING METHOD		6" SSA			DAT	E GRO	DUND	WATE	ER REO	CORDE	D					
Depth (m)	SOIL SYMBOL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	● M H P ■ SF 1 10 ▲ P0	OISTUF LASTIC PT (N) E 0 20 00 20 DCKET	RE CON - LIQU Blows/30 0 300 PEN (k	ITENT IID 00 mm <u>40</u> 9 400 Pa)		REM/	ARKS		Standpipe/ Instrument	Elevation (m)
-1		CLAY TILL, silt some oxidation SHALE (Weath completely wea oxidation staini weak to hard so 3.8 m - trace	y, dry, firm, me o staining hered), silt and athered, browr ng, damp, higl oil, blocky bentonite inclu d up shale inc End of Borehole	edium plastic, brown, clay, trace sand, ish grey, some n plastic, extremely usions from 3.8 m		AU1 AU2 AU3 AU4		11.7 14.5 18.2 16.7		• •			1 m - 2.5 n  4 m - 5.5 n 5.8 n	LL = 53 PL = 1 PI = 3 Silt = 3 Clay = Sand = Silt = 4 Clay = n - Sand Silt = 4 Clay = n - Auger	.6% .6% .5% .5% 20.5% .1.0% .2.9% 41.8% .55.3% .55.7% 			7778 7777 7776 7775 7774 7773 7772 7771 7770 7770 7769
-																		
16/11/2022		Notes: SW Borrow sea	arch. Backfilleo	d with bentonite.									Logg Revie	ed By: ewed By:		<u>С.</u> Т. (	Tams Curtis	



CL	IEN	т		Eastern Irrigation District			_ PRC	JECT	NAM	1E	-		S	ake Lake Reservoir Exp	ansion		
PR	OJE	ECT NUMBER		1560-193-00			_ PRC	JECT	LOC	OITA	N _			NE 1/4 32-19-16			
DA	TE	STARTED	07/06/2022	COMPLETED 0	07/06	6/2022	_ GRO	DUND	ELE	/ATIO	N	778	.95m	N_5610438.300 E	41	4646.8	00
DR	RILL	ING CONTRACT	OR	Chilako Drilling Services	s Ltd	l.	GR0	DUND	WAT	ER EL	.EVAT	ION / D	EPTI	н			
DR	RILL	ING METHOD		6" SSA			_ DAT	E GR	DUNI	D WAT	ER RI	ECORE	DED				
Depth (m)	SUL SYMBUL		Soil Descripti	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOISTU PLAST SPT (N) 10 2 20CKE	JRE CC IC - LIC Blows/ 20 3 100 3 T PEN	ONTENT QUID 300 mm 30 40 00 40 (kPa)	) 0	REMARKS		Standpipe/ Instrument	Elevation (m)
		CLAY TILL, silt up to 15 mm, d brown, some o crystals, coal si 1.4 m - 200 m SHALE (Weath highly weathere damp, high pla blocky, trace gy	y, some sand, amp, stiff, me xidation stainin taining, trace l m ironstone la iered), clay an ed, grey, some stic, extremely psum crystals	some rounded gravel, dium plastic, greyish ng, trace gypsum pentonite seams ayer d silt, trace sand, e oxidation staining, weak to hard soil, s ming @5.2 m		AU1 AU2 AU3 AU4		14.7 18.4 16.2 15.6						1 m - LL = 49.7% PL = 14.4% PI = 35.3% 2.5 m - Sand = 2.5% Silt = 45.7% Clay = 51.8% 4 m - LL = 52.9% PL = 20.1% PI = 32.8% 5 m - Sand = 2.1% Silt = 44.6% Clay = 53.3% 5.2 m - Auger refusal			778 7777 7776 7775 7774 7773 7772 7771 7770
_		Nistan								1	;	: :					_
16/11/2022		Notes: SW Borrow sea	arch. Backfille	d with bentonite.										Logged By: Reviewed By:	С. <sup>-</sup> Т. С	Tams Curtis	



C	CLIENT PROJECT NUMBER DATE STARTED			Eastern Irrigation Distri	ct		PRO	DJECT	NAME	5	Snake Lake Reservoir Expa	ansion
F	PROJ	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16	
[	DATE	STARTED	07/06/2022		07/06	6/2022	GR0	DUND	ELEVATION	777.68m	N 5610434.300 E	414752.600
[	ORILL	ING CONTRACT	OR	Chilako Drilling Servio	es Lto	l.	GR	DUND	WATER ELEVAT	ION / DEPT	н	
[	ORILL	ING METHOD		6" SSA			DAT	E GRO	OUND WATER RI	ECORDED		
Depth (m)	SOIL SYMBOL		Soil Descriptio	on	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CC</li> <li>PLASTIC - LIC</li> <li>SPT (N) Blows/ 10 20 3</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	DNTENT QUID /300 mm 30 40 00 400 (KPa)	REMARKS	Standpipe/ Instrument Elevation (m)
1		CLAY TILL, silty weathered shal plastic, dark bro	y, trace sand, s le inclusions, n own, trace oxic	some completely noist, stiff, medium lation staining	#	AU1		17.8	•		1 m - Sand = 8.5%	777-
2		SHALE (Weath completely wea oxidation stainin weak to hard so	ered), clay and athered, brown ng, damp, high pil, blocky	d silt, trace sand, ish grey, some n plastic, extremely							Silt = 20.8% Clay = 70.7%	776-
-3					*	AU2		17.6	•			775-
-4		3.5 m - increa	sing oxidation	staining	æ	AU3		16.6	•		4 m - LL = 51.7% PL = 20.1% PI = 31.6% 4 m - Sand = 2.4%	774-
-5		5 m - becomir SHALE, clay ar damp, high plas	ng grey nd silt, highly w stic, very weak	veathered, grey, , thinly laminated	#	AU4		14.5	•		Silt = 49.1% Clay = 48.5% 5.5 m - LL = 55.8% PL = 17.1% PI = 38.7%	772-
- - - - - - - - - - - - - - - - - - -			End of Borehole	@6.1 m								771-
												770-
- - - - - - - - - - - - - - - - - - -												769-
		Notes:						I	1		1	
16/11/2022		SW Borrow sea	arch. Backfillec	l with bentonite.							Logged By: Reviewed By:	C. Tams T. Curtis



(	CLIENT Eastern Irrigation District						PR0	OJECT	NAME	5	Snake Lake Reservoir Expansion							
F	PROJ	IECT NUMBER		1560-193-00			PR0	OJECT	LOCATION		NE 1/4 32-19-16							
[	DATE	STARTED	07/06/2022	COMPLETED	07/0	6/2022	GR	OUND	ELEVATION	778.23m	N_5610335.700 E	414655.40	)0					
[	DRILI	LING CONTRACT	OR	Chilako Drilling Service	es Lto	1.	GR	OUND	WATER ELEVA	TION / DEPTI	Η							
[	DRILI	LING METHOD		6" SSA			DA	TE GR	OUND WATER F	RECORDED								
Depth (m)	SOIL SYMBOL		Soil Descript	Soil Description				Moisture Content (%)	<ul> <li>MOISTURE C</li> <li>PLASTIC - L</li> <li>SPT (N) Blow</li> <li>10 20</li> <li>100 200</li> <li>POCKET PET</li> </ul>	CONTENT IQUID s/300 mm 30 40 300 400 v (kPa)	REMARKS	Standpipe/ Instrument Elevation	Elevauori (m)					
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		CLAY TILL, silt grained sand le shale inclusion brown, some o crystals SHALE (Weath completely wea moist, high plas gypsum crystal	y, some grave enses, some of s, moist, stiff, xidation stain ered), silt and athered, grey, stic, very wea s	el, some medium completely weathered medium plastic, dark ing, trace gypsum d clay, trace sand, with oxidation specs, k to hard soil, trace		AU1 AU2 AU3		21.2 20.5			1 m - Gravel = 6.8% 1 m - Sand = 23.7% Silt = 20.7% Clay = 48.8% 2.5 m - LL = 53.8% PL = 20.8% PI = 33.0% 4 m - LL = 52.4% <u>PL = 18.4%</u> PI = 34.0% 4 m - Sand = 3.9% Silt = 50.0% Clay = 46.1% 4.3 m - Auger refusal	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	7777 7776 7775 7774 7772 7772 7771 7770 7770					
_										1								
		Notes:	arch Backfills	d with bostopita														
		SW DUITOW Sea	aron. Dackille								Logged Bv:	C. Tams						
											Reviewed Bv:	T. Curtis						
16/11/2022											-,		_					



(	CLIEI	NT		_ PRO	OJECT	NAME	Ξ		S	Snake Lake Reservoir Expansion								
1	PRO	IECT NUMBER		1560-193-00			_ PRO	_ PROJECT LOCATION						NE 1/4 32-19-16				
I	DATE	STARTED	07/06/2022	COMPLETED	07/0	6/2022	GR0	OUND	ELEV	ATION	_	778.52m	N_56	743.400				
1	DRILI	LING CONTRACT	OR	Chilako Drilling Service	es Lto	l.	GR	OUND	WATE	R ELE	VATIO	N / DEPT	н					
I	DRILI	LING METHOD		6" SSA			DAT	E GR	OUND	WATE	R REC	ORDED						
Depth (m)	SOIL SYMBOL		Soil Description			Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>M</li> <li>H</li> <li>P</li> <li>■ SF</li> <li>10</li> <li>10</li> <li>A</li> <li>PC</li> </ul>	DISTURI LASTIC PT (N) BI <u>0 200</u> 0 200 DCKET F	E CON - LIQU ows/30 30 300 PEN (kf	TENT ID 0 mm <u>40</u> 2a)	F	REMARKS	Standnine/	Elevation (m)		
		CLAY TILL, silt damp, firm, me oxidation staini SHALE (Weath completely wea staining, damp,	y, some sand dium plastic, ng ered), clay at thered, grey, high plastic,	, trace gravel, dry to light brown, some and silt, trace sand, some oxidation extremely weak		AU1 AU2 AU3		11.3		• • • • • • • • • •			11 m - LL P 2.5 m - S C 4 m - LL P 4.3 m - A	= 49.8% L = 15% I = 34.8% Sand = 1.7% ilt = 46.6% Clay = 51.7% E = 51.4% L = 21.4% I = 30.0% uger refusal		778 777 776 775 774 774 773 772 771 771 770 769		
_																		
		Notes:																
		SW Borrow sea	arch. Backfille	ed with bentonite.									Logged E Reviewe	Зу: d Ву:	<u>C. Ta</u> <u>T. Cı</u>	ams urtis		
16/11/2022																		



CLIEN	т		Eastern Irrigation Distric		_ PRO	DJECT	NAME	S	Snake Lake Reservoir Expansion						
PROJE	ECT NUMBER		1560-193-00			_ PRO	DJECT	LOCATION		NE 1/4 32-19-16					
DATES	STARTED	07/06/2022	COMPLETED	07/0	6/2022	_ GRO	DUND	ELEVATION	777.67m	N_5610330.100 E	414851.000				
DRILLI	ING CONTRACT	OR	Chilako Drilling Service	es Lto	1.	GR	DUND	WATER ELEVA	ATION / DEPT	H775.02 m	2.65 m				
DRILLI	ING METHOD		6" SSA			DAT	E GR	OUND WATER	RECORDED	09/15/202	22				
Depth (m) SOIL SYMBOL	Soil Description				Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE</li> <li>PLASTIC - I</li> <li>SPT (N) Blow</li> <li>10 20</li> <li>100 200</li> <li>POCKET PE</li> </ul>	CONTENT LIQUID ws/300 mm <u>30 40</u> 300 400 EN (kPa)	REMARKS	Standpipe/ Instrument Elevation (m)				
	CLAY TILL, silty brown, some or sulphate inclusi SHALE (Weath highly weathere damp, high plas blocky, thinly la sulphate inclusi	y, dry, firm, lov kidation staini ions ered), clay ar ed, grey, some stic, extremely minated, tractions	v to medium plastic, ng, suspect white d silt, trace sand, e oxidation staining, / weak to hard soil, e suspect white		AU1 AU2 AU3		13.5 16.6 16.4			1 m - Sand = 10.4% Silt = 33.0% Clay = 56.6% 2.5 m - LL = 54.9% PL = 19.8% PI = 35.1% 4 m - LL = 50.5% PL = 18.7% PI = 31.8% 4 m - Sant = 2.4%	<ul> <li>▼</li> <li>777-</li> <li>776-</li> <li>777-</li> <li>776-</li> <li>777-</li> <li>7</li></ul>				
	BENTONITE (5 SHALE (Weath	5.5 m), 100 m ered), "" End of Borehole	n layer @@6.1 m		AU4		36.6			Silt = 49.0% Clay = 48.6% 5.5 m - LL = 158.1% PL = 35.4% PI = 122.7%	772- 771- 7769- 768-				
Notes: SW Borrow search. 25 mm PVC standpipe installed to a depth of 6.1 m. Logged By: <u>C. T</u> Reviewed By: <u>T. C</u>															



CLIE	NT		Eastern Irrigation District		_ PRO	JECT	NAME	S	Snake Lake Reservoir Expansion					
PRO	JECT NUMBER		1560-193-00		PROJECT LOCATION					NE 1/4 32-19-16				
DATE	E STARTED	07/27/2022	_ COMPLETED	)7/2	7/2022	_ GRC	DUND	ELEVATION	774.42m	N_5612095.700 E	415843	.700		
DRIL	LING CONTRACT	OR	Chilako Drilling Service	s Lto	1.	GRC	DUND	WATER ELEVAT	ION / DEPTH	۹				
DRIL	LING METHOD		6" SSA			DAT	E GRO	OUND WATER RI	ECORDED	09/15/202	22			
Depth (m) SOIL SYMBOL		Soil Description			Sample Number	SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CO</li> <li>PLASTIC - LIO</li> <li>SPT (N) Blows/</li> <li>10 20 3</li> <li>100 200 3</li> <li>POCKET PEN</li> </ul>	DNTENT QUID /300 mm 30 40 00 400 (kPa)	REMARKS	Standpipe/	Elevation (m)		
	CLAY TILL, silt medium plastic inclusions 1 m - becomin 2 m - becomin 2 m - becomin SHALE (Weath completely weat staining, damp, blocky, suspect	y, gravelly, so , brown, susp ng trace to so ning damp, da ng some oxid rered), clay ar athered, grey, , high plastic, ; white sulpha	me cobbles, dry, firm, lect white sulphate me gravel, no cobbles ark brown ation staining nd silt, trace sand, some oxidation extremely weak, te inclusions		AU1 AU2 AU3 AU4 AU5 AU6 AU7 AU8		5.2 8.4 11.0 12.5 16.3 15.8 16.3			0.6 m - LL = 40.6% PL = 13.3% PI = 27.3% 1.2 m - Gravel = 4.2% Clay = 32.3% 2.1 m - LL = 49.9% PL = 13.2% PI = 36.7% 2.7 m - Sand = 9.7% Silt = 50.6% Clay = 39.7%		774 773 772 771 770 769 768 766 766		
16/11/2022	Notes: NW Borrow sea	arch. Backfille	ed with bentonite chips.							Logged By: Reviewed By:	<u>C. Tam</u> T. Curti	s		

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	CLIE	NT	Eastern Irrigation Distric	t		PR0	OJECT	NAME	Sr	Snake Lake Reservoir Expansion							
	PRO	JECT NUMBER		1560-193-00			PR0	OJECT			NE 1/4 32-19-16						
	DATE	STARTED	07/28/2022	COMPLETED	07/2	8/2022	GR	OUND	ELEVATION774	.99m	n N 5612106.700 E 41558						
	DRIL	LING CONTRACT	OR	Chilako Drilling Service	es Lto	d	GR	OUND	WATER ELEVATION / D	DEPTH							
	DRIL	LING METHOD		6" SSA			DA1	E GR	OUND WATER RECORD	DED							
Depth (m)	SOIL SYMBOL		Soil Description CLAY TILL, silt, some sand, trace gravel, damp,				SPT (N)	Moisture Content (%)	<ul> <li>MOISTURE CONTENT</li> <li>H PLASTIC - LIQUID</li> <li>SPT (N) Blows/300 mm 10 20 30 40 100 200 300 40</li> <li>POCKET PEN (kPa)</li> </ul>	Г 1 2 0	REMARKS	Standpipe/ Instrument Elevation (m)					
-1		CLAY TILL, silt firm, medium p staining, suspe SHALE (Weath completely wea mottling, some plastic, extrem sulphate inclus	, some sand, lastic, brown, act white sulph nered), clay ar athered, light l oxidation stai ely weak, bloc ions, trace gy End of Borehole	trace gravel, damp, some oxidation nate inclusions and silt, trace sand, prown to dark grey ning, damp, high rky, suspect white psum crystals		AU1 AU2 AU3 AU4 AU5 AU6 AU7 AU8		<ul> <li>≥</li> <li>12.9</li> <li>12.9</li> <li>15.6</li> <li>16.6</li> <li>13.1</li> <li>18.3</li> <li>17.6</li> <li>18.8</li> </ul>	POCKET PEN (KPa)		0.6 m - Gravel = 2.1% 0.6 m - Sand = 11.2% Silt = 43.3% Clay = 43.4% PL = 14.2% PL = 14.2% PI = 30.7% 2.1 m - LL = 58.8% PL = 16.4% PI = 42.4% 2.1 m - Sand = 3.0% Silt = 58.1% Clay = 38.9% 2.7 m - LL = 62.1% PL = 18% PI = 44.1%	7774– 7773– 7773– 7772– 7771– 7770– 769– 768– 766– 766–					
├		Notes:															
16/11/2022	2	NW Borrow sea	arch. Backfille	d with bentonite chips						L	.ogged By: Reviewed By:	C. Tams T. Curtis					



(	CLIENT Eastern Irrigation District						PROJECT NAME							Snake Lake Reservoir Expansion						
F	PROJ	ECT NUMBER		1560-193-00			_ PRC	PROJECT LOCATION							NE 1/4 32-19-16					
	DATE	STARTED	07/28/2022		7/28	3/2022	gROUND ELEVATION774.66					4.66m	n <u> </u>							
0	ORILL	ING CONTRACT	OR	Chilako Drilling Services	s Ltd	l.	GROUND WATER ELEVATION / DEF							H						
	ORILL	ING METHOD		6" SSA			_ DAT	DATE GROUND WATER RECORDED												
Depth (m)	SOIL SYMBOL		Soil Descripti	Sample Type	Sample Number	SPT (N)	Moisture Content (%)		MOIST PLAST SPT (N 10 20CKE	URE C0 FIC - LIC ) Blows, 20 ; 200 3 <u>ET PEN</u>	DNTEN QUID /300 mr 30 4 00 40 (kPa)	T 0 00		REMARK	S	Ctondaino/	Billingtrument Elevation	(m)		
- - - - - - - - - - - - - - - - - - -	///////////////////////////////////////	to stiff, medium staining, suspe gypsum crystal 1 m - becomi 1.5 m - becor	ng moist nigt trace grav	vel	<b>æ</b>	AU1 AU2		5.4 12.1	•	•				0.6 m - LL = 32.3% PL = 12.4% PI = 19.9% 1.2 m - Gravel = 9.1% 1.2 m - Sand = 18.6%	% % 0.1% 5.6%		774	4		
_2 		2 m - becomi	ng high plastic	, trace sand	*	AU3 AU4		19.4 21.0		H	•		Clay = 36.3% 2.1 m - LL = 59.1% PL = 16% PI = 43.1% 2.7 m - Sand = 6.2% Silt = 50.6%				772	2		
-4		SHALE (Weath highly weatherd damp to moist, blocky, suspect 4.5 m - becor	iered), silt and ed, grey, some high plastic, e t white sulphat ning no oxidat	-		AU5 AU6		20.9 19.2		-	•				Clay = 43.2%			77 <sup>,</sup> 770	- 1- - - -	
	· · · · ·				- - -	AU7 AU8		18.1 16.6	1 • 6 •									769	9	
		Notes:	End of Borehole	@6.1 m														768 767 766	3 	
16/11/2022		NW Borrow sea	arch. Backfilled	d with bentonite chips.										Logged Reviewe	By: ed By:		<u>C. Ta</u> T. Cı	ams urtis		