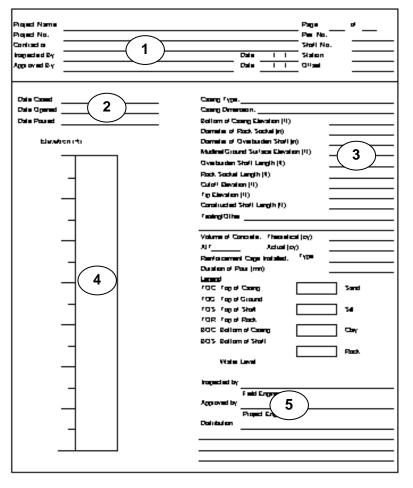


Project Name File No. Contractor Completed By Contractor Reviewed By SCDOT	DS Foreman -	Date	<u>/ / /                                </u>	Page 1 Bent No. Shaft No. Station Offset	of <u>6</u>
Date Cased Date Opened Date Poured  Elevation (ft)		Casing Type: Casing Dimension (OD): Bottom of Casing Elevation (FT) Top of Casing Elevation (FT) Diameter of Rock Socket (IN) Diameter of Shaft (IN) Mud-line/Ground Surface Elevation Wet & Dry Shaft Length (FT) Rock Socket Length (FT) Top of Shaft Elevation (FT) Tip Elevation (FT) Constructed Shaft Length (FT) Testing/Other: Volume of Concrete: OP = VP-VT = UP = VT Reinforcement Cage Installed: Duration of Pour (min) Legend TOC	Γ - VP=	Theoretical (VT Actual (VP) CY Type	
		Reviewed by	Foreman/Engine		

## HOW TO COMPLETE THE DRILLED SHAFT LOG





Fill in every blank on the form. If it does not apply put an "N/A" or a long dash.

Use pencil – but never erase. If you need to change something, strike a single line through the item and insert the correct information above it. If there is insufficient room to make a note, footnote the item and go to the bottom of the page, or use a separate page.

- 1. Heading:
- Fill in before drilling starts.
- Be sure to print your name and the start date of drilling.
- The Geotechnical Engineer will sign approval line.
- 2. Shaft Data: Fill in appropriate dates, elevations, and diameters.
- 3. Concrete Data: Record data from the Concrete Volumes form.
- 4. Construct Shaft Illustration using the symbols provided.
- 5. Fill in "Inspected by" and "Distribution".



Project Name File No. Contractor Completed By Contracto Reviewed By SCDOT	Replace Bridge over 4.995 Drilled Shaft, Inc. DS Foreman - John Inspector - John Sm	Q. Doe	Date	06/05/02 06/05/02	Page 1 Bent No. Shaft No. Station Offset	of 6 3 3 508 + 36 24 FT. Right
Date Cased	06/04/02	Casing Type:		Stee		Temporary
Date Opened	06/04/02	Casing Dimension	n (OD):	48.0	IN.	
Date Poured	06/05/02	Bottom of Casing	Elevation (FT)	86.0	FT. msl	
		Top of Casing El	evation (FT)	101.0	FT. msl	
Elevation (ft)		Diameter of Rock	Socket (IN)	42.0	IN.	
TOS = TOC = 101.0'	TOG = 100.0'	Diameter of Shaf	t (IN)	37 Ft	. @ <u>+</u> 48.0 IN. 8	k 15 FT. @ 47 IN.
97.0' = 🗸		Mud-line/Ground	Surface Elev. (F1	Γ) 100.0	FT. msl	
≅III	47"	Wet & Dry Shaft	Length (FT)	52.0	FT.	
	🖋 .	Rock Socket Len		10.0	FT. @ 42IN.	
<b>17</b>	<del>                                     </del>	Top of Shaft Elev		101.0	FT. msl	
		Tip Elevation (FT	. ,	39.0	FT. msl	
BOC = 86.0'		Constructed Sha	*	62.0	FT.	
			urry, Slump, Air, 0			CSL
	<u>+</u> 48"	Volume of Concr			Theoretical (VT	
<b>4</b> ₩ <sub>2</sub>	48		.6 CY UP = VT -		Actual (VP) CY	
W.F	<b>-1</b> 13	Reinforcement C			Type Spira	
1987	1 K 100	Duration of Pour		-	100 Min.	
LAN	. IVII	<u>Legend</u>	()	-		
1 1 1 1	\-\\\-\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	TOC	Top of Casing	F		Sand
<b>₩</b>	/ <sup>22</sup> x/()	TOG	Top of Ground	ľ		
65.0'	-73'l	TOS	Top of Shaft	- [		Silt
77	777	TOR	Top of Rock			
Y//	///]	BOC	Bottom of Casin	a [	///	Clay
//	///	BOS	Bottom of Shaft	9		J.L.,
[//	///	BOR	Bottom of Rock	- 1		Rock
Y/)	///	D		ı		rook
V/.	///	<del>_</del> _	- Water Level			
		Completed by				
TOR = 49.0'	<del>~~~</del>	Contractor	DS For	eman/Engi	neer - John Q [	Doe
. 5.1	<del>-' </del>	Reviewed by	50.0			
<del>                                      </del>	42"	SCDOT	Inspect	or/Enginee	r - John Smith	
<del></del>	<del>  ' </del>	Notes:	Поросс	goc		
<del>     </del>	<del>''</del>		riance at top: 2" a	fter plan st	ation & 1" right	
BOR =BOS = 39.0'	<del>' </del>					
-						



Project Name File No. Contractor Completed By Co Reviewed By SC		Replace Bridge ove 4.995 Drilled Shaft, Inc. DS Foreman - John Inspector - Jane Sn	Q. Doe	Date 06/	Page 1 Bent No. Shaft No. Station 05/02 Offset	of 6 6 3 508 + 36 24 FT. Right
					Construction	Temporary
Date Cased		06/04/02	Casing Type:			Steel
Date Opened		06/04/02	Casing Dimension	on (OD):		48.0 IN.
Date Poured		06/05/02	Bottom of Casing	g Elevation (FT)		86.0 FT.
			Top of Casing El	levation (FT)		101.0 FT.
Elevation	. ,	TOS & TOG =	Diameter of Roc	k Socket (IN)	42.0 IN.	
TOTC = 1	01.0	100.0'	Diameter of Shar	ft (IN)	<u>+</u> 48.0 IN.	
97.0' =	$\Pi \Pi \Pi$		Mud-line/Ground	Surface Elev. (FT)	100.0 FT. msl	
≃	$\Pi \Pi \Pi$		Wet & Dry Shaft	Length (FT)	51.0 FT.	
	$\Pi \Pi \Pi$		Rock Socket Ler	ngth (FT)	10.0 FT.	
	$\Pi \Pi \Pi$		Top of Shaft Elev	vation (FT)	100.0 FT. msl	
	$\Pi \Pi \Pi$		Tip Elevation (F7	Γ)	39.0 FT. msl	
BOTC = 86.0'	LL 1.1,	<u>,                                     </u>	Constructed Sha	ift Length (FT)	61.0 FT.	
-	7	بالمستوعون	Testing/Other: S	lurry, Slump, Air, Comp	pression Cylinders, &	CSL
		±48"	Volume of Concr	rete:	Theoretical (V	T) CY 27.3
	4 1/2	48	OP = VP-VT =	0.5 CY UP = VT - VP=	Actual (VP) CY	27.8
	MX-2	(No.)	Reinforcement C	age Installed:	Type: Welded	Hoops
		*X )( )	Duration of Pour	(min)	100 Min.	
	HMIN	-{Y}}	Legend			
	W \	v <i>2</i> 7 (i.)	TOC	Top of Casing	200	Sand
	14.2		TOG	Top of Ground		
65.0'	( -	17	TOS	Top of Shaft	ППППП	Silt
	777	777	TOR	Top of Rock		
	Y//	///	BOC	Bottom of Casing	7777	Clay
	V / /	///	BOS	Bottom of Shaft		
	///	///	BOR	Bottom of Rock		Rock
	I/I	///	∇			
	Y / /		<b>=</b>	- Water Level		
	ZZ		Completed by			
TOR = 49.0'			Contractor	DS Forema	an/Engineer - John Q	Doe
l			Reviewed by			
	4	2"	SCDOT	Inspector/E	ingineer - Jane Smith	
	$\perp$		Notes:			
				riance at top: 1" after p		
BOR =BOS = 39.0	0'		Construction Eng	gineer prior to pour. Re	eceived verbal approv	al to cast concrete
i			from BCE. Cont	ractor told to submit let	ter covering this shaft	variance.



Reviewed By	By Contracto y SCDOT	T DS Foremand Inspector -		onstruction casi	Date _ Date _	/ / / /	Page 2 Bent No. Shaft No. Station Offset	_ of _ _ _ _	6
		sing Information			J	Soil Au	ıger Diam.		
ID	OD	Top Elev.	Length	Bot. Elev.		Rock C	Core Diam.		
							d Surface Elev.		
							Table Elev.		
						Refere Drilling	nce Elev.		
Notes	<del></del>					Dilling	IVIUU		
Depth	Elev.	Time	<u> </u>		Soil De	scription an	d Notes		
( )	( )								
			In						
			Out						
			In						
			Out						
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### HOW TO COMPLETE THE DRILLED SHAFT EXCAVATION LOG



Project Name Project No. Confined o Iropacted Sy Age over Sy  D  Notes		1 mg tr'amatan rap Clav. Lang	Page of Pos No. Pos No. Stell No. Hold I I Offset  You Augustom Classed Stell Stell No. Stell No
Degih	Elley.	rma.	Sai December and Rolles
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Fill in every blank on the form. If it does not apply put an "N/A" or a long dash.

Use pencil – but never erase. If you need to change something, strike a single line through the item and insert the correct information above it. If there is insufficient room to make a note, footnote the item and go to the bottom of the page, or use a separate page.

- 1. Heading: -Fill in <u>before</u> drilling starts.
  - -Be sure to print your name and the start date for drilling.
  - -The Geotechnical Engineer will sign approval line.
- 2. Casing: -Measure Length (L) in the field.
  - -Surveyor provides Top of Casing elevation (TE).
  - -Compute bottom elevation (BE): TE-L=BE
- 3. Site Data -Soil Auger diameter measure and record in inches.
  - -Ground surface elev. provided by surveyor.
  - -Water table elev. measure w/tape in hole before slurry is introduced (if applicable).
  - -Water table may need to be estimated from seepage in dry hole method.
  - -Reference Elevation provided by surveyor.
  - -Drill mud If used, complete the "Slurry Inspection Log"; compare to Installation Plan
- 4. Depth/Elevation: Depth (D) can be measured by:
  - Contractor has kelly bar marked (spot checking only)
  - Weighted tape (for accurate measurements)

Reference elevation is always known; i.e., template, top of casing, or top of ground.

Elevation (E) – compute *TE-D=E* 

Enter Depth/Elev. For EVERY change in the soil/rock condition.

5. Time: May use military or 24 hour clock. Be consistent and correct! Remember that shaft

drilling can occur over several days, so be sure to mark date changes.

6. Material: Use this form to record all activity during shaft excavation. Label all major soil strata.



## DRILLED SHAFT EXCAVATION LOG (REV 06-03-02) SAMPLE 1 Construction Casing

Reviewed B  Note: Preau Casing Inform ID 47"	By Contractor y SCDOT  gering not a lation: Constru  OD  48"  1	4.995 Drilled Sha DS Forema Inspector - Illowed whe actionX Top Elev.	aft, Inc. an - John John Si n using Temp Length 15'	mith Date 06/03/02 Offset 24 Ft. Right  g construction casing.  borary Soil Auger Diam. 46"
Notes	Owneried to 42	2 TOOK COTE	@ 02.0 (	(40.0 MOL) at 1.00 pm.
Depth (Feet)	Elev. (Ft. MSL)	Time	)	Soil Description and Notes
1.0	100.0	7:30 am	In	Tan Silty Sand
15.0	86.0	9:00 am	Out	Tan Silty Sand
15.0	86.0	9:10 am	In	Dark Tan Sand
36.0	65.0	11:30 am	Out	Dark Tan Sand
36.0	65.0	11:40 am	In	Dense Silty Sand (PWR) w/Mica
52.0	49.0	1:30 pm	Out	Dense Silty Sand (PWR) w/Mica
52.0	49.0	1:50 pm	In	Very Dense Rock (Granite)
61.0	40.0	4:50 pm	Out	Very Dense Rock (Granite)
61.0	40.0	7:15 am	In	Very Dense Rock (Granite) Continued drilling from previous day
62.0	39.0	7:30 am	Out	Very Dense Rock (Granite) Continued drilling from previous day
			In	
			Out	
			In	
			Out	
			In	
			Out	
			In	
			Out	
			In	
			Out	



## DRILLED SHAFT EXCAVATION LOG (REV 06-03-02) SAMPLE 2 Temporary Casing

Reviewed By Note: Preau Casing Inform ID 47"	By Contractor y SCDOT gering not a ation: Constru OD 48"	4.995 Drilled Sha DS Forema Inspector - Illowed whe action Top Elev.	aft, Inc. an - Joh Jane Si n using Temp Length	construction casing.	Date	Page 2  Bent No. Shaft No. Shaft No. O6/03/02 Station O6/03/02 Offset  Soil Auger Diam. Rock Core Diam. Ground Surface Elev. Water Table Elev. Reference Elev. Drilling Mud	of 6 6 3 508 + 36 24 Ft. Right 46" 42" 100.0 MSL 97.0 MSL 101.0 MSL Slurry
			<u> </u>				
Depth (Feet)	Elev. (Ft. MSL)	Time	)		Soil D	escription and Notes	
1	100.0	7:30 am	In	Tan Silty Sand			
15.0	86.0	9:00 am	Out	Tan Silty Sand			
15.0	86.0	9:10 am	In	Dark Tan Sand			
36.0	65.0	11:30 am	Out	Dark Tan Sand			
36.0	65.0	11:40 am	In	Dense Silty Sand (PWR) v	v/Mica		
52.0	49.0	1:30 pm	Out	Dense Silty Sand (PWR) v	v/Mica		
52.0	49.0	1:50 pm	In	Very Dense Rock (Granite	)		
61.0	40.0	4:50 pm	Out	Very Dense Rock (Granite	)		
61.0	40.0	7:15 am	In	Very Dense Rock (Granite	) Contir	nued drilling from previous da	у
62.0	39.0	7:30 am	Out	Very Dense Rock (Granite	) Contir	nued drilling from previous da	y
			In				
			Out				
			In				
			Out				
			In				
			Out				
			In				
			Out				
			In				
			Out				



## SLURRY INSPECTION LOG (REV 06-03-02)

Project Name					
File Number		Composition:	Brand	Туре	Proportions
Bent No.	Shaft No.	Mineral Type			
Water Source: *		A desiring			
Date of Initial Hydration /	/ Time_	Sadillyes			

				TE	TEST PROPERTIES	IES				
:	Before	First	First 8 Hours During Construction **	ng Constructic	nر **	Additions	Additional Testing	At End of	Before	Before
Sampling	Introduction of Slurry	Test 1	Test 2	Test 3	Test 4	Test 1	Test 2	Excavation	Concreting Test 1	Concreting Test 2
Date:										
Time:										
Test Depth at Levels:	Holding Tank							At Bottom	At Bottom	At Bottom
Density										
Viscosity										
% Sand										
Н										
Cake / Filtrate	N/A									
Notes: * Salt	* Salt water shall not be used to hydrate the slurry or stabilize the excavation.	ot be used to	hydrate the slu	urry or stabiliza	e the excavati	on.				
₹ *	minimum of 4	sets of tests s	hall be made c	during the first	t8 hours of slu	urry use. Sluri	y sampling ar	** A minimum of 4 sets of tests shall be made during the first 8 hours of slurry use. Slurry sampling and testing shall be observed by the	l be observed	by the
Engi	Engineer. When the results show consistent	e results shov		ehavior, the te	sting frequen	cy may be dec	reased to 1 se	behavior, the testing frequency may be decreased to 1 set every 4 hours of slurry use.	s of slurry use	ai.
Contractor DS Foreman:	S Foreman:						Date: /	,		
SCDOT Inspector:	ector:						Date: /		Page 3	of 6

## HOW TO COMPLETE THE SLURRY INSPECTION LOG

SLURRY INSPECTION LOG

Project No. Drilled Shaft Shaft Locatio	Oh	1	)		Composit Miheral T Additiue	уре	Braid	2	e P	roportions
Waer Source	e									
				Т	EST PROPERT	TES				
Sampling	Before		t 8 Hours Dur	ing Constru	ction *	Addition	nal Testing	At End of	Before	Before
Sampling	Introduction of Slurry	Test 1	Test 2	Test 3	Test 4	Test 1	Test 2	Excavation	Concreting Test 1	Concreting Test 2
Dante:										
Time:										
Properties	Test Deptirat Leuels:			3				At Bottom	At Bottom	At Bottom
Density										
Viscosity										

Cake / Filtrate										
Notes: 1 A m l	im um of 4 sets :	of tests shall be n	nade during the	first8 lours of s	larny ase. Slarny:	sampling and tes	ting shall be obse	enued by the Eng	heer. When the	results show
consis	tent behaulor, tio	e testing frequen	cymaybe decre	ased to 1 seteue	ery 4 hours of siu	rny use.				
" Sat	waterskall nott	be used to liydrat	e the slarny	the excau	etion.					
			$\overline{}$	<b>"</b> /						
				$\overline{}$						
Contractor Re	presentative:		7	5			Date:	1 1		
State Inspecto	r:		$\overline{}$				Date:	1 1	-	
									-	

1. Heading: - Fill in before drilling starts.

% Sand pH

- The Project Resident Engineer will sign approval line.

2. Slurry Data: - Fill in appropriate brands, types, and proportion.

3. Test Data: - Record test data as the testing Inspector performs the tests.

- Note the depth at which the samples were obtained.
- Make sure that a minimum of 4 tests are performed within the first 8 hours of slurry use.
- 4. Notes: Record any unusual events or results.
- 5. Fill in "Contractor Representative" and "State Inspector".

Fill in every blank on the form. If it does not apply put an "N/A" or a long dash.

Use pencil – but never erase. If you need to change something, strike a single line through the item and insert the correct information above it. If there is insufficient room to make a note, footnote the item and go to the bottom of the page, or use a separate page.



## SLURRY INSPECTION LOG (REV 06-03-02) SAMPLE 1 Construction Casing

Project Name	Replace Bridge over Cooper Creek along US-322				
File Number	4.995	Composition:	Brand	Туре	Proportions
Bent No.	3 Shaft No. 3	Mineral Type	Augua Gel	Bentonite	Bentonite 1400 LBS / 5000 GAL
Water Source: *	Hydrant (City water)				
Date of Initial Hydration	06/03/02 Time 9:00 am	Addillyes			
	TEST PROPERTIES	RIES			

Sampling Introduction ** Agrinal Introduction Test 1         First 8 Hours During Construction ** Agrinal Introduction ** Agrinal Introduction Test 1         Agrinal Introduction Test 2         First 3         Test 4         Test 3         Test 3         Test 3         Test 3         Agricanting Concreting Test 3         Concreti					TES	TEST PROPERTIES	ES				
Introduction of Solury         Test 1         Test 2         Test 3         Test 4         Test 2         Excavation           06/04/02         06/04/02         06/04/02         06/04/02         06/04/02         06/04/02         06/05/02           11:00 am         1:30 pm         2:30 pm         4:00 pm         5:00 pm         7:30 am           Holding For Tank Tank         53 FT         58 FT         66:3         At Bottom           65         67.1         67.3         65.8         66:3         At Bottom           10%         3%         4%         2%         2:5%         10%           10         9         9         9         9         9	200	Before		8 Hours Durir	ng Construction	** uc	Additiona	l Testing		Before	Before
06/04/02         06/04/02         06/04/02         06/04/02         06/04/02         06/04/02         06/04/02         06/04/02         06/04/02         06/04/02         06/05/02	Sampling	of Slurry		Test 2	Test 3	Test 4	Test 1	Test 2			Concreting Test 2
11:00 am         1:30 pm         2:30 pm         4:00 pm         5:00 pm         7:30 am         8:15 am           Holding Tank Tank         50 FT         58 FT         60 FT         At Bottom         At Bottom         At Bottom           65         67.1         67.3         65.8         66.3         69.1         69.1         66.1           33         37         38         36         37         42         38           10%         9         9         9         9         9         10	Date:	06/04/02	06/04/02	06/04/02	06/04/02	06/04/02			06/05/02	06/05/02	06/05/02
Holding Tank         50 FT         58 FT         60 FT         At Bottom         At Bottom         At Bottom           65         67.1         67.3         65.8         66.3         66.1         69.1         66.1           33         37         38         36         37         42         38           0%         3%         4%         2%         2.5%         10%         2%           10         9         9         9         9         10	Time:	11:00 am	1:30 pm	2:30 pm	4:00 pm	5:00 pm			7:30 am	8:15 am	9:20 am
65         67.1         67.3         66.8         66.3         66.3         66.1         66.1         66.1           33         37         38         36         37         42         38         38           0%         3%         4%         2%         2.5%         10%         2%         2%           10         9         9         9         9         10         9         10	Test Depth at Levels:	Holding Tank	50 FT	53 FT	58 FT	60 FT			At Bottom		At Bottom
33         36         36         37         42         38           0%         3%         4%         2.5%         10%         2%           10         9         9         9         9         10	Density	65	67.1	67.3	65.8	66.3			69.1	66.1	66.3
0%         3%         4%         2%         2.5%         10%         2%           10         9         9         9         9         10	Viscosity	33	37	38	36	37			42	38	37
10     9     9     9     9     10	% Sand	%0	3%	4%	2%	2.5%			10%	2%	2%
	Hd	10	6	6	6	6			6	10	10

Notes: \* Salt water shall not be used to hydrate the slurry or stabilize the excavation.

\*\* A minimum of 4 sets of tests shall be made during the first 8 hours of slurry use. Slurry sampling and testing shall be observed by the Engineer. When the results show consistent behavior, the testing frequency may be decreased to 1 set every 4 hours of slurry use.

Note: Side of shaft caked. Cleaned shaft sides.

9



# SLURRY INSPECTION LOG (REV 06-03-02) SAMPLE 2 Temporary Casing

Project Name	ne	Replace Bridge over Cooper Creek along US-322	je over Coope	er Creek along	g US-322					
File Number	_	4.995				Composition:	Brand	Type	Prop	Proportions
Bent No.		9	Shaft No. 3			Mineral Type	Augua Gel	Bentonite		1400 LBS / 5000 GAL
Water Source: *	* .eo	Hydrant (City water)	water)			() ::: :::				
Date of Initia	Date of Initial Hydration	06/03/02	Time 9:00 am	0 am		Addillyes				
				TES	TEST PROPERTIES	IES				
	Before	First 8 H	8 Hours Durir	ours During Construction **	** nc	Additional Testing	l Testing	At End of	Before	Before
Sampling	sampling Introduction of Slurry	Test 1	Test 2	Test 3	Test 4	Test 1	Test 2	Excavation	Concreting Test 1	Concreting Concreting Test 1 Test 2
Date:	06/04/02	06/04/02	06/04/02	06/04/02	06/04/02			06/05/02	06/05/02	06/05/02
Time:	11:00 am	1:30 pm	2:30 pm	4:00 pm	2:00 pm			7:30 am	8:15 am	9:20 am
Test Depth at Levels:	Holding Tank	50 FT	53 FT	58 FT	60 FT			At Bottom	At Bottom	At Bottom
Density	92	67.1	67.3	65.8	66.3			69.1	66.1	66.3
Viscosity	33	37	38	36	37			42	38	37

Notes: \* Salt water shall not be used to hydrate the slurry or stabilize the excavation.

\*\* A minimum of 4 sets of tests shall be made during the first 8 hours of slurry use. Slurry sampling and testing shall be observed by the

2%

10%

2.5%

2%

4%

3%

%0

% Sand

Hd

0

10

10

0

Engineer. When the results show consistent behavior, the testing frequency may be decreased to 1 set every 4 hours of slurry use.

Note: Side of shaft caked. Cleaned shaft sides.

	Page 3 of
06/05/02	06/05/02
Date:	Date:
.: John Q. Doe	le Smith
Contractor DS Foreman:	SCDOT Inspector: Jane
	vreman: John Q. Doe Date:

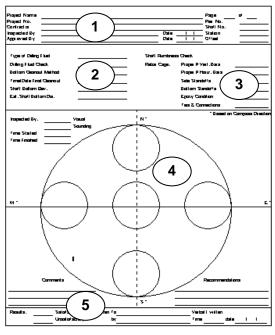
9



Project Name File No. Contractor Completed By Contractor Reviewed By SCDOT	DS Foreman - Inspector -		Date	Page 4 Bent No. Shaft No. Station Offset	of <u>6</u>
Type of Drilling Fluid DS Location Variance at To Bottom Cleanout Method Time/Date Final Cleanout Shaft Bottom Elev. Est. Shaft Bottom Dia.	pp		age: Proper # Proper # Side Spa Bottom S	Spacers Connections	
Inspected By: Time Test Started Time Test Finished Time Test Started Time Test Finished	Visual Soundii	N *		or to placing Rebar ca	
W *					E *
	ave < 1/2 Inch of sediment hall be more than 1 1/2 Inc	İ		Comments/Recomm	nendations
	factory DS Foreman atisfactory SCDOT Inspectors - Location Variance at the second seco	-	ax. Vertical (I	<u> </u>	Date

## HOW TO COMPLETE THE DRILLED SHAFT INSPECTION LOG





Fill in every blank on the form. If it does not apply put an "N/A" or a long dash.

Use pencil – but never erase. If you need to change something, strike a single line through the item and insert the correct information above it. If there is insufficient room to make a note, footnote the item and go to the bottom of the page, or use a separate page.

- 1. Heading:
- -Fill in before drilling starts.
- -Be sure to print your name and the start date of drilling.
- -The Project Resident Engineer or designated representative will sign approval line.
- 2. Shaft Status:

Drill Fluid Check – Responsibility of Contractor. Record density check performed by Contractor or Inspector.

Contra	ictor or mapector.
Type c	of Drill Fluid – record
a)	Natural
b)	Mineral (commercial)
c)	Plain water
Remer	mber: Polymer slurry not allowed

- -Bottom Cleanout Method: Observe and record equipment type (i.e., cleanout bucket, air lift, submersible pump, etc.). Must match Installation Plan.
- -Time/Date Final Cleanout: Record when last cleanout performed prior to rebar cage placement.
- -Shaft Bottom Elevation Use weighted tape to measure; record.
- -Estimate Shaft Bottom Diameter record auger diameter.
- 3. Cage Check:
- -Reinforcing cage usually checked by others.
- -Proper number of Vertical bars count and record # of vertical bars in hole; compare to plan.
- -Epoxy you should <u>never</u> see coated rebar
- 4. Shaft Cleaniness:
- check procedure being used, record
- 1) Using S.I.D., visually inspect the shaft bottom in each of a minimum of 5 locations as shown on form.
- 2) Using a weighted tape, sound the shaft in each of a minimum of 5 locations as shown on form. "Feel" for hard bottom it translates to clean hole. Remember specifications.
- 5. Record Results:



#### DRILLED SHAFT INSPECTION LOG (REV 06-03-02) SAMPLE 1 Construction Casing

File No. Contractor Completed By Contractor	Replace Bridge over Cooper 4.995 Drilled Shaft, Inc. DS Foreman - John Q. Doe Inspector - John Smith	Creek along US-3	B6 SI e 06/05/02 St	ent No. haft No.	of 6 3 3 508 + 36 24 FT. Right
Type of Drilling Fluid DS Location Variance at Top Bottom Cleanout Method Time/Date Final Cleanout Shaft Bottom Elev. Est. Shaft Bottom Dia.	Bentonite  2" After Sta. & 1" Right  Airlift  7:45 am on 06/05/02  39.0 msl  42 Inches		ness Check/4' 1/2 Proper # Vert. Bai Proper # Horiz. Bai Side Spacers Bottom Spacers Ties & Connection	16 EA # 36 ars # 19 Bar @ 4 EA ev 16 EA @	
Time Test Started         7:45           Time Test Finished         8:00           Time Test Started         9:10	OD Visual Sounding 5 am 0 am 5 am 5 am	1/2"	est just prior to placir est just prior to pla Direction	ng Rebar cage	impass Direction (inches) (inches)
W* 1/4" 3/8"	0"	1/4"			0" E*
Note: 50% of base shall ha No area of shaft bottom sh Notes 80% area < 1/2", first test ok 60% area < 1/2", second te	all be more than 1 1/2 Inches.		Comments ebar cage placed & c oncrete placed after		d after first test.
Unsat	actory DS Foreman isfactory SCDOT Inspector nces - Location Variance at To			9:25 am Date	06/05/02 r <b>4 Ft. Max</b> .



## DRILLED SHAFT INSPECTION LOG (REV 06-03-02) SAMPLE 2 Temporary Casing

File No. 4 Contractor [ Completed By Contractor [	Replace Bridge over Cooper 4.995 Drilled Shaft, Inc. DS Foreman - John Q. Doe Inspector - Jane Smith	Creek along US-3  Date Date	e 06/05/02	Page 4 Bent No. Shaft No. Station Offset	of 6 6 3 508 + 36 24 FT. Right
Type of Drilling Fluid DS Location Variance at Top Bottom Cleanout Method Time/Date Final Cleanout Shaft Bottom Elev. Est. Shaft Bottom Dia.	Bentonite  1" Before Sta. & 4" Left**  Airlift  7:45 am on 06/05/02  39.0 msl  42 Inches		pness Check/4'	Bars 16 EA # 36 Bars # 19 W Hoo 4 EA e	
Inspected By:         JQ           Time Test Started         7:45           Time Test Finished         8:00           Time Test Started         9:10           Time Test Finished         9:25	5 am 1/2"	1/2" Te	est just prior to pla est just prior to p * Direction	acing Rebar cage	
W * 1/4" 3/8"	0"	1/4"			0" E*
Note: 50% of base shall have no area of shaft bottom shall notes 60% area < 1/2", first test oke 60% area < 1/2", second test	nall be more than 1 1/2 Inches.	1" Re Cc	Commer ebar cage placed oncrete placed aft - See note on Pag	ter second test wa	ed after first test.
Unsati	actory DS Foreman J tisfactory SCDOT Inspector J nces - Location Variance at Tor		Time	9:25 am Date	



#### DRILLED SHAFT CONCRETE PLACEMENT LOG (REV 06-03-02)

Project N File No. Contract							Ве	age <u>5</u> c ent No. naft No.	of <u>6</u>	
	ed By Contracto d By SCDOT	DS Forem Inspector			Da Da			ation ffset		
Placement De-airing Reference Shaft Top	Method  Elev.	_Tremie _Pumped _Relief Valve _Plug _Cap	Total \	/olume in Lines First Truck Bato	s + Pump Truc	ck			Vo	lume
Top of Ro Shaft Bott	·			of Water Per l Cage Top Ele			-	inish		_
Truck No.	Concrete Volume	Arrival Time	Start	Finish Time	Tremie Depth	Depth Concre		Notes		
	Concrete Volur	me Delivered			Total Placem	ent Time (	Temp. Casi	ng Removed)		
T Casing	OI Removal**			Bot. Elev.	Start	Finish	Rebar Cag	e Centered* e Re-centered	YES	NO
Notes * If	no, then re-cent	er rebar cage	e. ** If una	ble to remove	temporary c	asing, the	en call Brid	ge Constructio	on Office	<b>).</b>

## HOW TO COMPLETE THE DRILLED SHAFT CONCRETE PLACEMENT LOG

		DRII	LED SHA	FT CONCE	RETE PLA	CEMENT	. <b>o</b> g		
Project N Project N Contract Inspected Approved	o. r By		1			ale / d	Page Pier ) Shani Stalio Ontse	No.	
Placement Decreng to	Method 2	Frame Pumped Palet V:  Frame F	Ave Nug	Volume in	Limis	3	D	Length	Volume
Palaianca Shali fag fag of Pas Shali Balli	Elev. A. Ellev.	4	Degil	al Volume in Li h lo Wales Iros Carge Fon Cler	<b>.</b>	an Com	gal Skal Al Fanah	I	
Fruck No.	Volume	Asserti	rema	1 1 1 1 1 1	Dagih	Depth for Concrete		Notes	
5			6					8	
		l lolume Delves			1	ma (Casang Pa	Cago Con		
Casing Removal			9			Core	ale f mahe	d	

Fill in every blank on the form. If it does not apply put an "N/A" or a long dash.

Use pencil – but never erase. If you need to change something, strike a single line through the item and insert the correct information above it. If there is insufficient room to make a note, footnote the item and go to the bottom of the page, or use a separate page.

- Heading: -Fill in <u>before</u> drilling starts.
  - -Be sure to print your name and the start date of drilling.
  - -The Project Resident Engineer or designated representative will sign approval line.
- 2. Indicate correct "Placement" and "Deairing" method.
- 3. Compute and fill in Concrete Volumes:  $V = (\pi d^2/4) \times L$
- 4. Fill in as much as possible prior to pour.
- 5. Record Truck number and amount of concrete.
- 6. Time: -May be military or standard clock. Be consistent and correct.

Watch for date changes on late night pours.

7. Depths: -Tremie embedment may be measured by markings on the tremie. Depth to

concrete may be measured by weighted tape.

- 8. Notes: Record any unusual events or items.
- 9. Casing/Rebar Data: -The rebar cage fabrication will normally be performed on-site. Observe the lifting

to make sure deformation or damage does not occur (especially to CSL tubes). Check that the correct cage is being used. Check reinforcing steel diagram against the actual cage to be sure cage is correct. When the cage is being placed, observe the spacing to assure the cage is set to the proper elevation.



### DRILLED SHAFT CONCRETE PLACEMENT LOG (REV 06-03-02) SAMPLE 1 Construction Casing

	or	4.995 Drilled S actor DS Fore	Shaft, Inc.	ın Q. Doe	reek along US  Date	06/05/02	Sha Stat	t No. ft No. ion 5	6 3 3 508 + 36 FT. Right
Placemer	nt Method	Tremie X Pumped		Volume in P Truck Lines (6		# 17	ID 6"	Total Length	Volume 1.2 CY
De-airing	Method	X Plug	alve Pump	Truck					0.2 CY
Reference Shaft Top Top of Ro Shaft Bott	Elev. ock Elev.	101.0 msl 101.0 msl 49.0 msl 39.0 msl	Time F	irst Truck Bato of Water Per I	s + Pump Truck ched: <u>9:10 am</u> Hr. Inside Shaft vv. At Start - 10				1.4 CY
Truck No.	Concrete Volume	Arrival Time	Start Time	Finish Time		Depth To Concrete from Casing Top		Notes	
17	9.0 CY	9:20 am	9:25 am	9:40 am	160 FT	41.0 FT	Remo	ved 10' of pun	np line.
22	9.0 CY	9:30 am	9:45 am	10:00 am	160 FT	21.7 FT	Remo	ved 20' of pun	np line.
8	9.0 CY	9:40 am	10:05 am	10:20 am	130 FT	2.4 FT		ved 20' of pun	
17	4.0 CY	10:30 am	10:35 am	10:50 am	120 FT	0		2.0 CY (Rem lines and over	
		<u> </u>							
31.0 C	Y_Concrete \	Volume Deliver	ed		Total Placemer	nt Time (Temp. 0	Casing F		100 Min.
T Casing	Removal** _ _ _	OD Top	Elev. E	Bot. Elev.	Start Fi		_	YEentered* Xe-centered	
Notes * If	f no, then re-	center rebar c	age. ** If u	nable to remo	ove temporary of	casing, then ca	II Bridg	e Construction	Office.



## DRILLED SHAFT CONCRETE PLACEMENT LOG (REV 06-03-02) SAMPLE 2 Temporary Casing

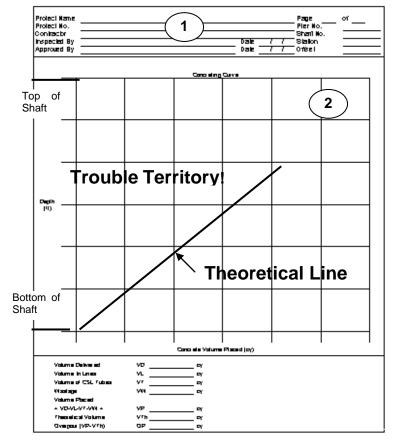
	or	4.995 Drilled actor DS For	Shaft, Inc.		[	US-3 Date Date	06/05/02 06/05/02	Sha Stat	t No. ft No. ion		6 6 3 08 + 36 FT. Right
Placemen	_	Tremie X Pumper Relief Valve	d Pump 1	Volume in P ruck Lines (6			# 17	ID 6"	Total Len	gth	Volume 1.2 CY 0.2 CY
Reference Shaft Top Top of Ro Shaft Bott	Elev. ock Elev.	101.0 msl 100.0 msl 49.0 msl 39.0 msl	Time F Depth	olume in Line irst Truck Bat of Water Per Cage Top Ele	ched: <u>9:10 a</u> Hr. Inside Sl	am haft (D	ry Hole Chec			ed.	1.4 CY
Truck No.	Concrete Volume	Arrival Time	Start Time	Finish Time	Tremie Pump Lin Total Len	/ nes C	Depth To Concrete from Casing Top	1	Not		
17	9.0 CY	9:20 am	9:25 am	9:40 am	160 FT		41.0 FT	Remo	ved 10' of	pum	p line.
22	9.0 CY	9:30 am	9:45 am	10:00 am	160 FT	г	21.7 FT	Remo	ved 20' of	pum	p line.
8	9.0 CY	9:40 am	10:05 am	10:20 am	130 F7	r	2.4 FT	Remo	ved 20' of	pum	p line.
17	4.0 CY	10:30 am	10:35 am	10:50 am	120 F7	г	0	Waste	2.0 CY (F	Remo	ved the
								tempo	rary casin	g, pu	mp lines
								and c	oncrete ov	/erflo	w.)
					1						
		:			:			:			
					İ	Ť		İ			
						$\neg$					
24.2.0		(			T Di		T: /T		2	-	
31.0 C	Y_Concrete \	/olume Delive	rea		l otal Place	ement	Time (Temp.	casing l	removed)		00 Min.
T Casing	Removal**			Bot. Elev. 85.0 msl	Start 10:25 am	Finis 10:35			entered* e-centered	YES	X
Notes * If	no, then re-	center rebar o	cage. ** If u	nable to rem	ove tempor	ary ca	sing, then ca	ıll Bridg	e Construc	ction	Office.



Project Name File No. Contractor Completed By Contractor Reviewed By SCDOT  DS Foreman - Inspector -						Page Bent No. Shaft No.	 of <u>6</u>	- ,
			Date Date	/ /	Station Offset			
			Concreting	Curve				
	-							
Depth								
(ft)								
								1
			Concrete Valume	Diagod (av)				
			Concrete Volume					
	/olume Delivered /olume In Pump Tru	ick i Linos	VD VPTL	cy				
	olume of CSL Tube		VCSLT	cy cy				
	Vastage	,,	VW	cy				
	/olume Placed							
	= VD-VPTL-VCSLT-	VW =	VP	cy				
	Theoretical Volume	( 4.00)	VTh	cy				
	Over Pour (VP-VTh		OP	cy				
	Under Pour (VP-VTI	n < 1.00)	UP	су				

## HOW TO COMPLETE THE DRILLED SHAFT CONCRETE VOLUMES LOG





Fill in every blank on the form. If it does not apply put an "N/A" or a long dash.

Use pencil – but never erase. If you need to change something, strike a single line through the item and insert the correct information above it. If there is insufficient room to make a note, footnote the item and go to the bottom of the page, or use a separate page.

1.	Heading:	-Fill in before drilling starts.					
		-Be sure to print your name and the start date of drilling.					
		-The Project Resident Engineer or designated representative will sign approval line.					
2.	Concrete curve:	-compute Theoretical Volume of Concrete based on shaft size:					
		$Vth = (\pi c^2 / 4)x L$					
		-locate points based on known cubic yards of concrete placed at measured "bottom" depth.					
		-must be plotted during concrete placement.					

Note: Plotted line should closely parallel Theoretical line.

There is a problem if:

- a point plots way above or below the Theoretical line and/or
- there is a significant rise or fall in an otherwise straight line (change in slope of line).



## DRILLED SHAFT CONCRETE VOLUMES LOG (REV 06-03-02) SAMPLE 1 Construction Casing

File No.  Contractor  Completed By Contractor			Replace Bridge over Cooper Creek along US-322         Page         6         of         6           4.995         Bent No.         3           Drilled Shaft, Inc.         Shaft No.         3           DS Foreman - John Q. Doe         Date         06/05/02         Station         508 +           Inspector - John Smith         Date         06/05/02         Offset         24 FT. F					3		
	61 60		Concreting Curve			Curve				
	50								10	
	40					— <i>[</i> ;			20	
Depth (FT)	30		Theoretic	al					30	
	20				A	ctual			40	
	10								50	
	_0								60 61	
		0	5	10 Concret	1: e Volume Pl		20	25	30	
Volume Delivered Volume In Pump Truck + Lines Volume of CSL Tubes Wastage Volume Placed			VD VPTL VCSLT VW	31.0 -1.4 +0.2 -2.0	CY - N	olume left in pump				
= VD-VPTL-VCSLT-VW = Theoretical Volume Over Pour (VP-VTh =/> 1.00) Under Pour (VP-VTh < 1.00)				VP VTh OP UP	27.8 27.2 0.6 NA	CY CY CY CY				



## DRILLED SHAFT CONCRETE VOLUMES LOG (REV 06-03-02) SAMPLE 2 Temporary Casing

Project Name File No. Contractor Completed By Contractor Reviewed By SCDOT		4.995 Drilled Shaft, In	John Q. Doe	ek along US-322  Date Date	Bei Sha	nt No. aft No. ition	6 6 3 508 + 36 FT. Right		
	61 60		Cond	creting Curve	Curve				
	50						10		
	40						20		
Depth (FT)	30	Theoretical.					30		
	20	<i></i>		Actual			40		
	10						50		
							60		
	0	5	10 Concrete Vo	15 lume Placed (CY)	20	25	30		
Volume Delivered Volume In Pump Truck + Lines Volume of CSL Tubes Wastage Volume Placed		VD	VPTL -1.4 CY - Volume left in pump truck and lines. VCSLT +0.2 CY						
= VD-VPTL-VCSLT-VW = Theoretical Volume Over Pour (VP-VTh =/> 1.00) Under Pour (VP-VTh < 1.00)			VP VTh OP UP	27.8 CY 27.3 CY 0.5 CY NA CY					