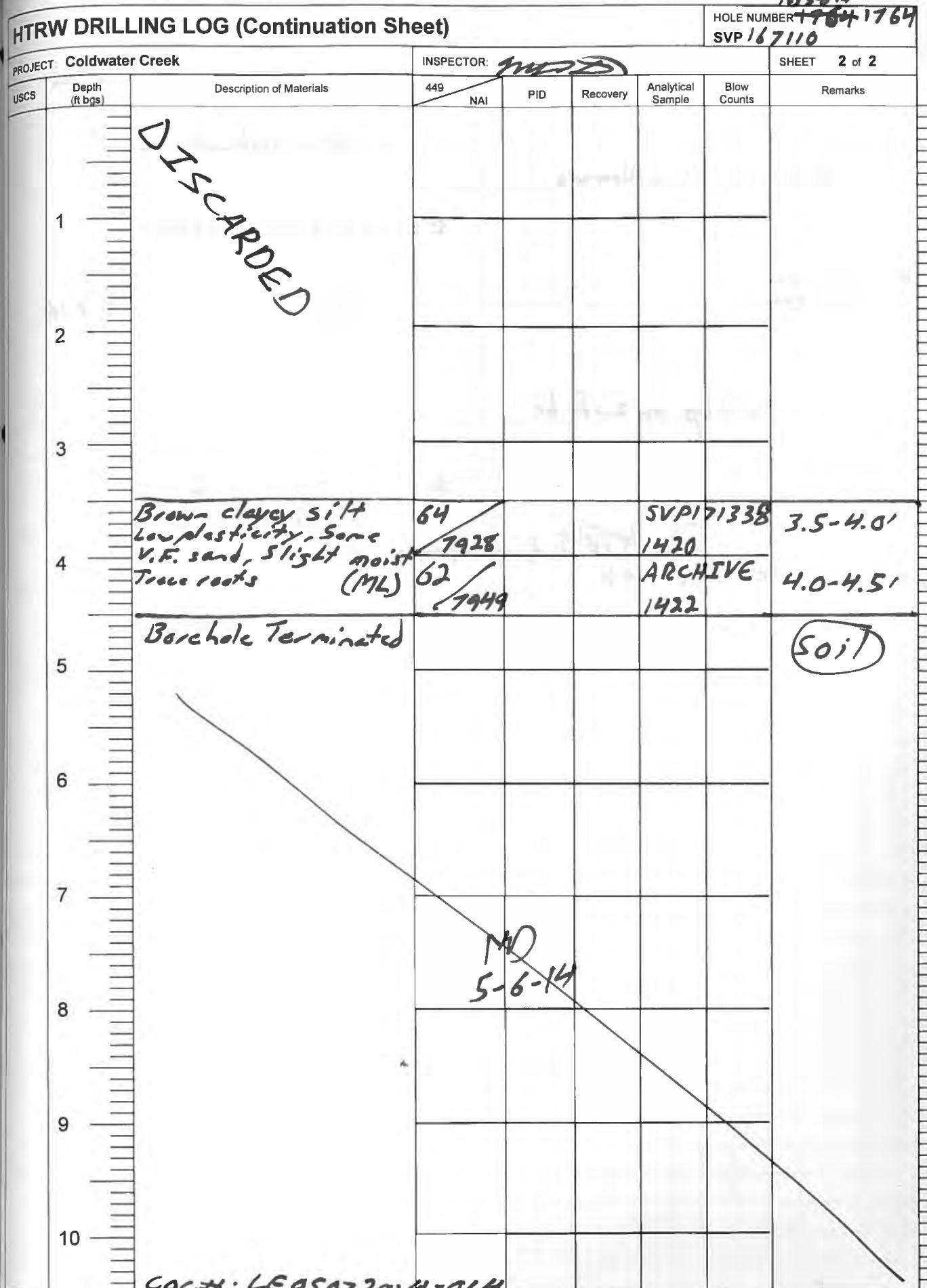


**HTRW DRILLING LOG**

HTRW DRILLING LOG		DISTRICT St. Louis USACE		HOLE NUMBER 1764 SVP 167110
1. COMPANY NAME: Leidos		2. DRILL SUBCONTRACTOR: Leidos		SHEET 1 OF 2
3. PROJECT: Coldwater Creek		4 LOCATION # 1764 (bounding loc.)		
5. NAME OF DRILLER: T. Keeler		6 MANUFACTURERS DESIGNATION OF DRILL N/A		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8 HOLE COORDINATES N: 1073776 E: 865002		
Meter - Background		9 SURFACE ELEVATION N/A		
44-9 F - 40 44-10 I - 7690		10. DATE STARTED: 5-6-14		11. DATE COMPLETED: 5-6-14
12. OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED N/A		
13. DEPTH DRILLED INTO ROCK: N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A		
14. TOTAL DEPTH OF HOLE 4.5 ft bgs.		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A		
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES N/A
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	RAD SAMPLES QA/QC SAMPLES ARCHIVE SAMPLE 21. TOTAL CORE RECOVERY: N/A
N/A		N/A	N/A	1 / 0 1 N/A
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)
Backfill using bentonite		w/bentonite	N/A	N/A
LOCATION SKETCH/COMMENTS COC#: LE05072014-014		SCALE: None		

Recorded By SM Date 5-6-14 QA By DR Date 5-12-14



Recorded By SM Date 5-6-14 QA By DR Date 5-12-14



Recorded By Gary Neutzing Date 5/15/14 QA By MSteiner Date 5-20-16

Recorded By J. Newtham Date 5/15/14 QA By M. Steinies Date 5.20.14

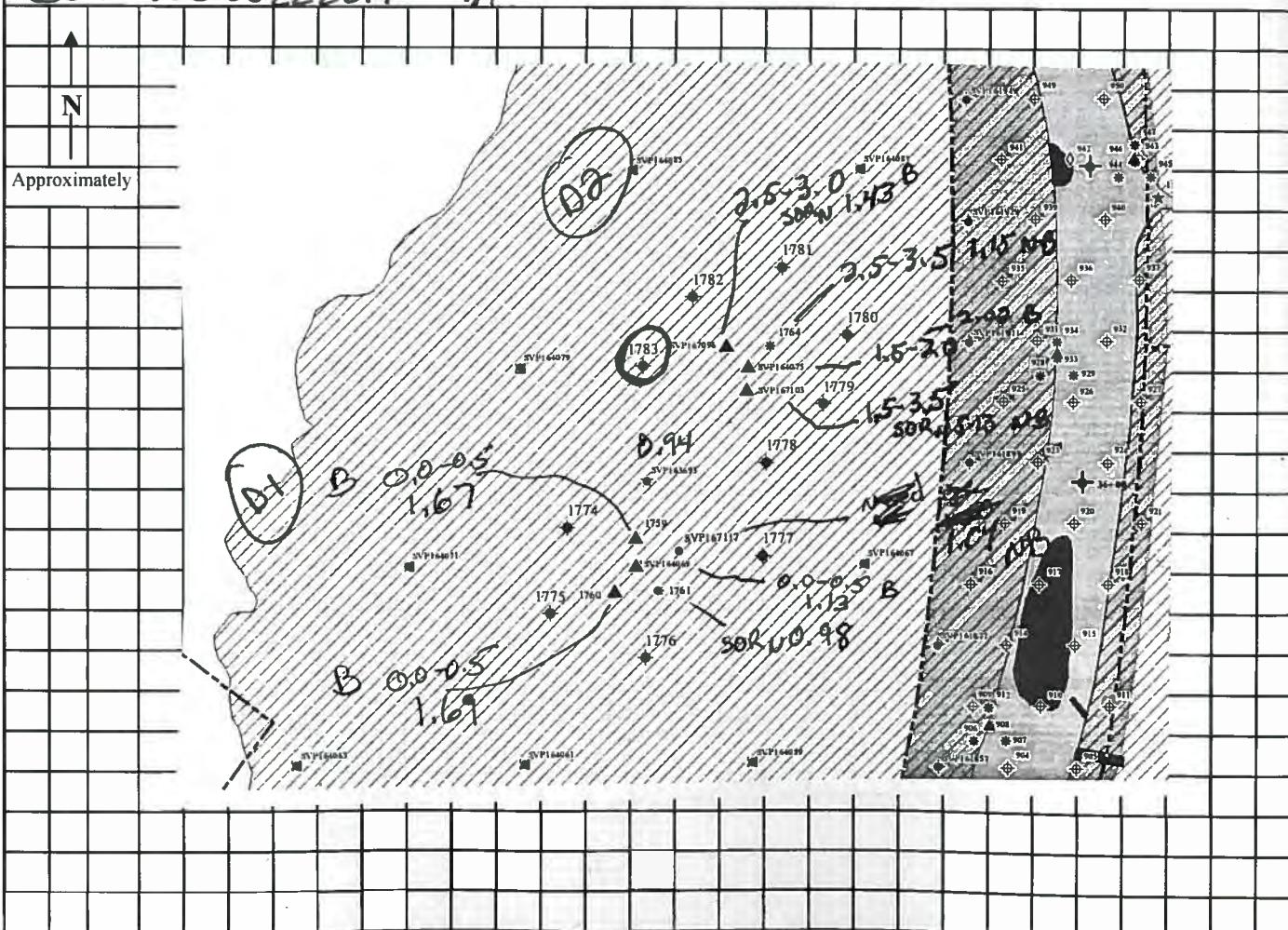




HTRW DRILLING LOG		DISTRICT: St. Louis USACE	HOLE NUMBER SVP 171328
1 COMPANY NAME Leidos		2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
3 PROJECT Coldwater Creek		4 LOCATION # 1783 Horizontal boring	
5 NAME OF DRILLER Juan Alverado		6 MANUFACTURERS DESIGNATION OF DRILL N/A	
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8 HOLE COORDINATES N 1073766 E 864936	
Meter - Background		9 SURFACE ELEVATION N/A	
44-9 C - 38 cpm		10 DATE STARTED 5/22/14	
44-10 C - 6183 cpm		11. DATE COMPLETED 5/22/14	
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED N/A	
13. DEPTH DRILLED INTO ROCK N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A	
14. TOTAL DEPTH OF HOLE 4 ft below grade		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A	
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS
N/A		N/A	N/A
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING
Backfill using bentonite		w/bentonite	N/A
23. SIGNATURE OF INSPECTOR <i>Mike Miller</i>			

LOCATION SKETCH/COMMENTS

COC# 12E 05222014 - 014

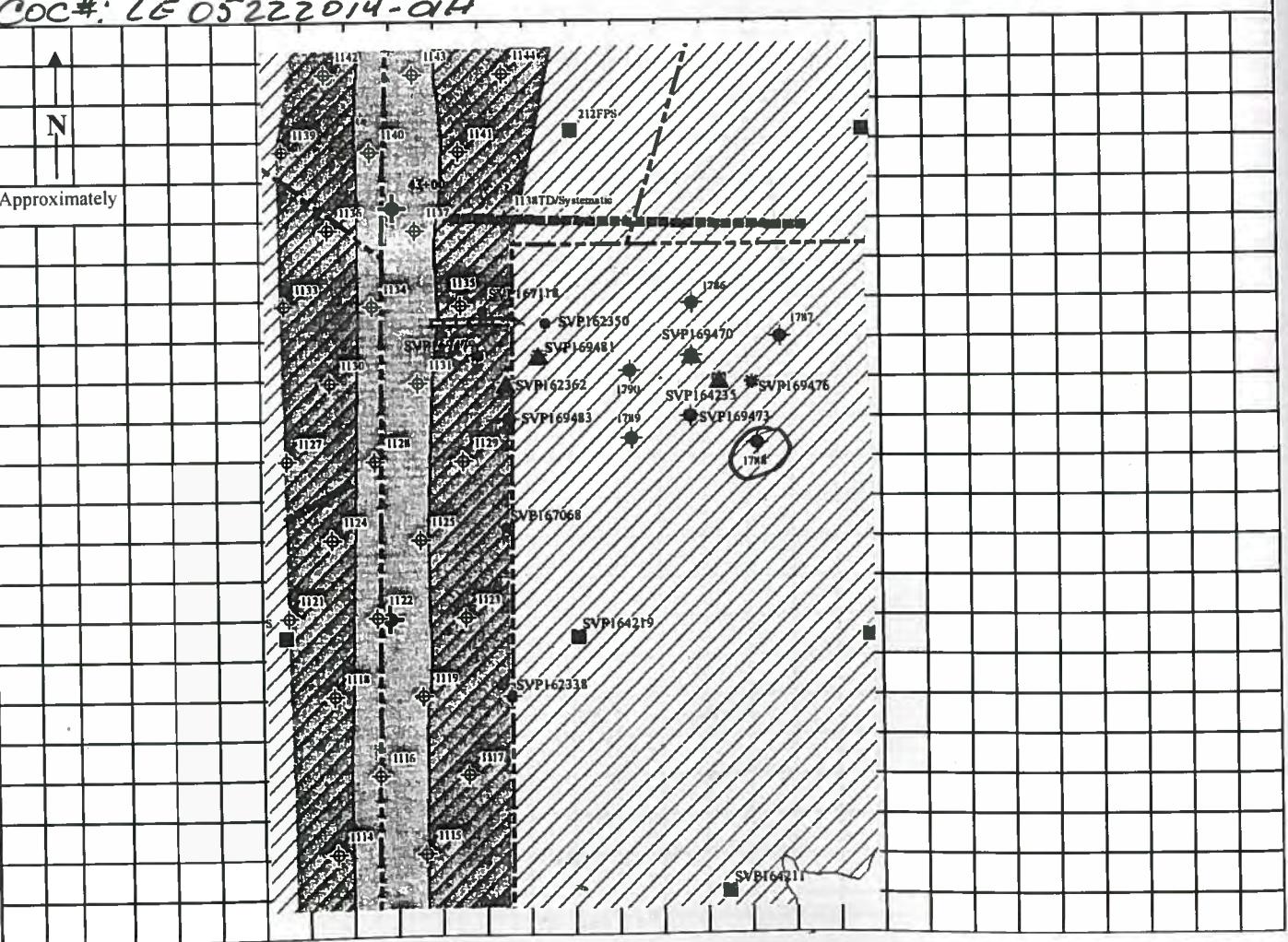
Recorded By *Mike Miller* Date 5/22/14 QA By *MSteiner* Date 5-28-14

HTRW DRILLING LOG (Continuation Sheet)						HOLE NUMBER 1783 SVP 171328		
PROJECT Coldwater Creek			INSPECTOR: <i>Mike Miller</i>			SHEET 2 of 2		
USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
		Brown clayey silt slightly plastic soft moist (cm)	59 7186	—	—	SVP 171328	825	O-0.5 + QC
1		Blind Auger	—	—	—	SVP 171329	825	5/22/14
2		Brown clayey silt slightly plastic soft moist (cm)	56 7072	—	Svp 171329	840	1.5-2.0 FT	
2		56 6878	—	Svp 171330	842	2.0-2.5 FT		
3		56 7150	—	Svp 171331	845	2.5-3.0 FT		
3		Brown and tan mottled clayey silt slightly plastic soft moist (cm)	74 7260	—	Svp 171332	847	3.0-3.5 FT	
4		51 7395	—	Svp 171333	850	3.5-4.0 FT		
4		Terminated boring at 4 ft below grade						
5								
6								
7								
8								
9								
10								

Recorded By *Mike Miller* Date 5/22/14 QA By *MSteiner* Date 5-28-14

HTRW DRILLING LOG		DISTRICT: St. Louis USACE		HOLE NUMBER SVP 173260			
1. COMPANY NAME: Leidos		2. DRILL SUBCONTRACTOR: Leidos		SHEET 1 OF 2			
3. PROJECT Coldwater Creek		4. LOCATION # 1788 - Horizontal boring					
5. NAME OF DRILLER Juan Alverado		6. MANUFACTURERS DESIGNATION OF DRILL: N/A					
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8. HOLE COORDINATES N1075861 E 865062					
Meter - Background		9. SURFACE ELEVATION: N/A					
44-9 E - 32 CPM 44-10 C - 6386 CPM		10. DATE STARTED 5/22/14 11. DATE COMPLETED 5/22/14					
12. OVERBURDEN THICKNESS: N/A		15. DEPTH GROUNDWATER ENCOUNTERED: N/A					
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A					
14. TOTAL DEPTH OF HOLE 2.5 ft below grade.		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A					
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	RAD SAMPLES 4	QA/QC SAMPLES Ø	ARCHIVE SAMPLE 1	21. TOTAL CORE RECOVERY: N/A
N/A		N/A	N/A				
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR: <i>Mike Miller</i>		
Backfill using bentonite		w/bentonite	N/A	N/A			

LOCATION SKETCH/COMMENTS  
COC#: LE05222014-04



Recorded By *Mike Miller* Date 5/22/14 QA By *MS Steiner* Date 5-28-14

HTRW DRILLING LOG (Continuation Sheet)						HOLE NUMBER 1788 SVP 173260			
PROJECT	Coldwater Creek		INSPECTOR	<i>Mike Miller</i>		SHEET 2 of 2			
USCS	Depth (ft bgs)	Description of Materials		449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
		Brown Silt with some fine sand slight plasticity SOFT MOIST (cm)		60 675 675 5/22/14	—	—	SVP 173260	956	0.0 - 0.5 FT
				58	—	—	SVP 173261	958	0.5 - 1.0 FT
1				6695	—	—			1
				34	—	—	SVP 173262	1000	1.0 - 1.5 FT
				7550	—	—			
2		Cream and Brown mottled Clayey silt slight plasticity SOFT MOIST (cm)		55 7715	—	—	SVP 173263	1002	1.5 - 2.0 FT
				48	—	—	Archive	1004	2 - 2.5 FT
				7799	—	—			
3		Terminated boring at 2.5 FT below grade							
4									
5									
6									
7									
8									
9									
10									

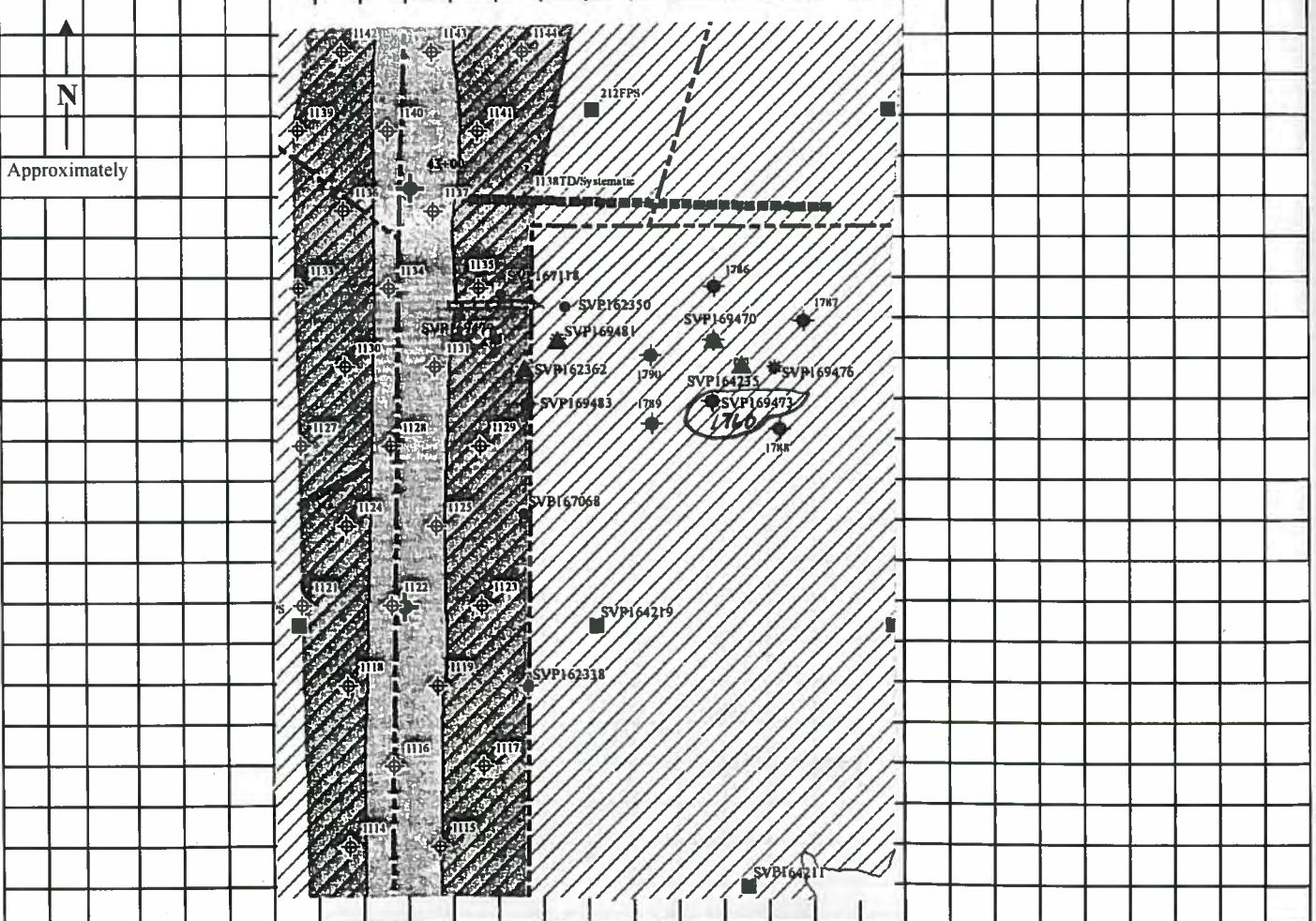
Recorded By *Mike Miller* Date 5/22/14 QA By *MS Steiner* Date 5-28-14

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<b>HTRW DRILLING LOG</b>		DISTRICT: St. Louis USACE	HOLE NUMBER SVP 169473			
1. COMPANY NAME: Leidos		2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2			
3. PROJECT: Coldwater Creek		4 LOCATION # 1766 Vertically baulking				
5. NAME OF DRILLER: Juan Alverado		6 MANUFACTURERS DESIGNATION OF DRILL N/A				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve					
Meter - Background		8 HOLE COORDINATES N 1075872 E 865036				
44-9 E - 32 cpm		9 SURFACE ELEVATION N/A				
44-10 C - 6386 cpm		10 DATE STARTED 5/22/14	11 DATE COMPLETED 5/22/14			
12 OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED N/A				
13. DEPTH DRILLED INTO ROCK: N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A				
14. TOTAL DEPTH OF HOLE 3.5 FT below grade		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A				
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY N/A
N/A	N/A	N/A	2	0	2	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR <i>Mil Mill</i>		
Backfill using bentonite	w/bentonite	N/A	N/A			

## LOCATION SKETCH/COMMENTS

COC #: LE 05222014-01H



Recorded By *Mil Mill* Date 5/22/14 QA By *MSteiner* Date 5-2874

<b>HTRW DRILLING LOG (Continuation Sheet)</b>						HOLE NUMBER 1766 SVP 169473		
PROJECT: Coldwater Creek			INSPECTOR: <i>Mil Mill</i>			SHEET 2 of 2		
USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
		<i>Blind Auger</i>	-	-	-	-	-	
1			-	-	-	-	-	
2		Dark Brown clayey silt slight plasticity soft moist (cmc)	67 6985	-	-	SVP 173 250	1015	1.5-2.0 FT
2			46 7080	-	-	Archive	1017	2.0-2.5 FT
3			65 7202	-	-	Archive	1019	2.5-3.0 FT
3			54 7561	-	-	Archive 5/22/14 SVP 169546	1043	3.0-3.5 FT
4		Terminated boring at 3.5 FT below grade. Collected additional sample interval from 3-3.5 FT due to elevated readings from 2.5-3.0 FT Per Chuck Franken been submit sample to lab from 3-3.5 ft below grade. To verify it is clean.						
5								
6								
7								
8								
9								
10								

Recorded By *Mil Mill* Date 5/22/14 QA By *MSteiner* Date 5-2874

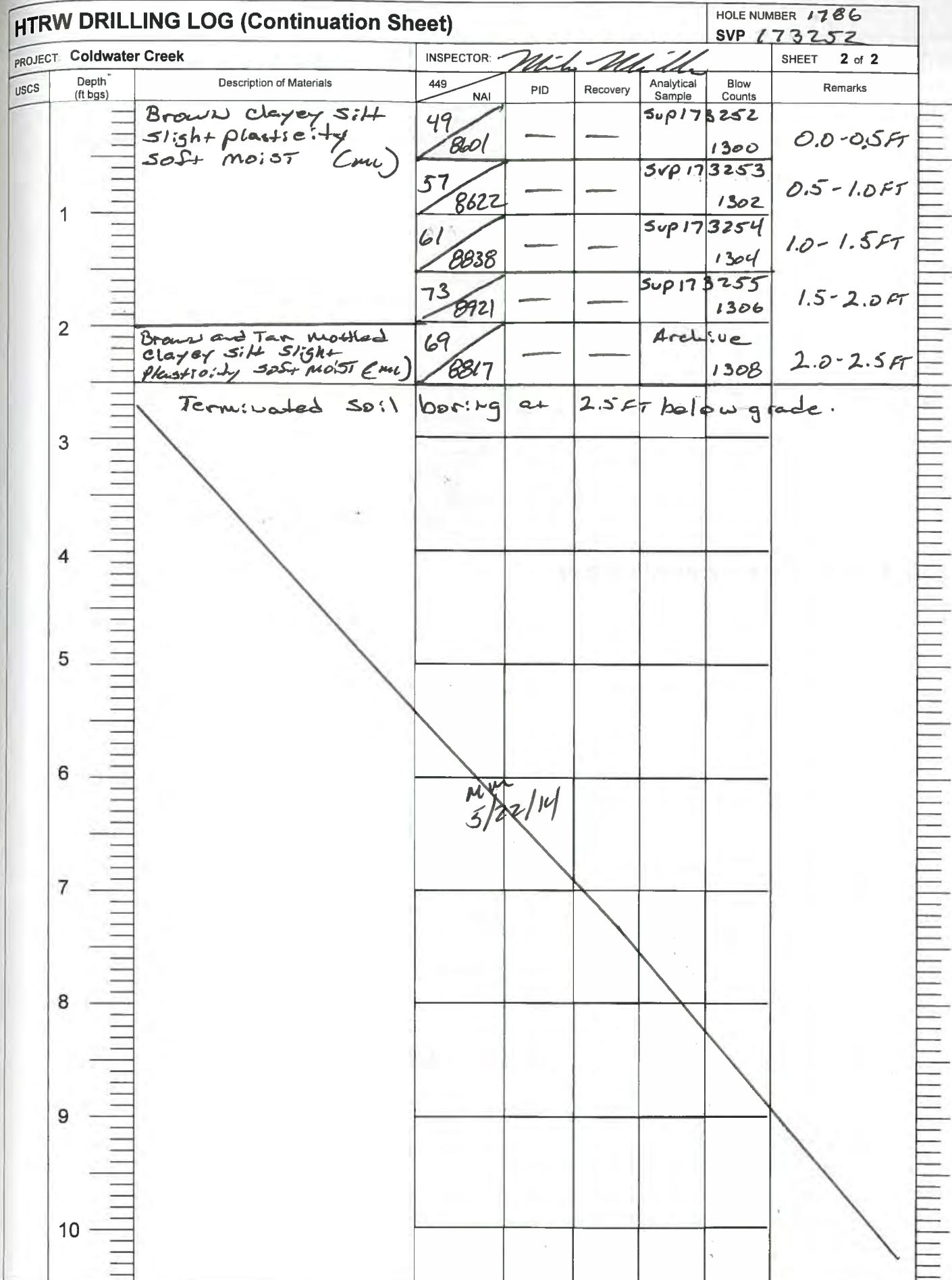
44





HTRW DRILLING LOG		DISTRICT St. Louis USACE		HOLE NUMBER SVP 173252	
1. COMPANY NAME: Leidos		2. DRILL SUBCONTRACTOR: Leidos		SHEET 1 OF 2	
3. PROJECT: Coldwater Creek		4 LOCATION # 1786 Horizontal boring			
5. NAME OF DRILLER: Juan Alverado		6 MANUFACTURERS DESIGNATION OF DRILL N/A			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8 HOLE COORDINATES: N 1075917 E 865037			
Meter - Background		9 SURFACE ELEVATION N/A			
44-9 E - 37 cpm		10. DATE STARTED: 5/22/14		11 DATE COMPLETED 5/22/14	
44-10 C - 6846 cpm					
12. OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED N/A			
13. DEPTH DRILLED INTO ROCK: N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A			
14. TOTAL DEPTH OF HOLE 2.5 ft below grade		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A			
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES N/A		
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	21 TOTAL CORE RECOVERY N/A
N/A	N/A	N/A	4	0	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR	
Backfill using bentonite	w/bentonite	N/A	N/A	Mike Miller	
LOCATION SKETCH/COMMENTS COC # CC 05222014-024					
SCALE: None					

Recorded By Mike Miller Date 5/22/14 QA By MSSteiner Date 5-28-14

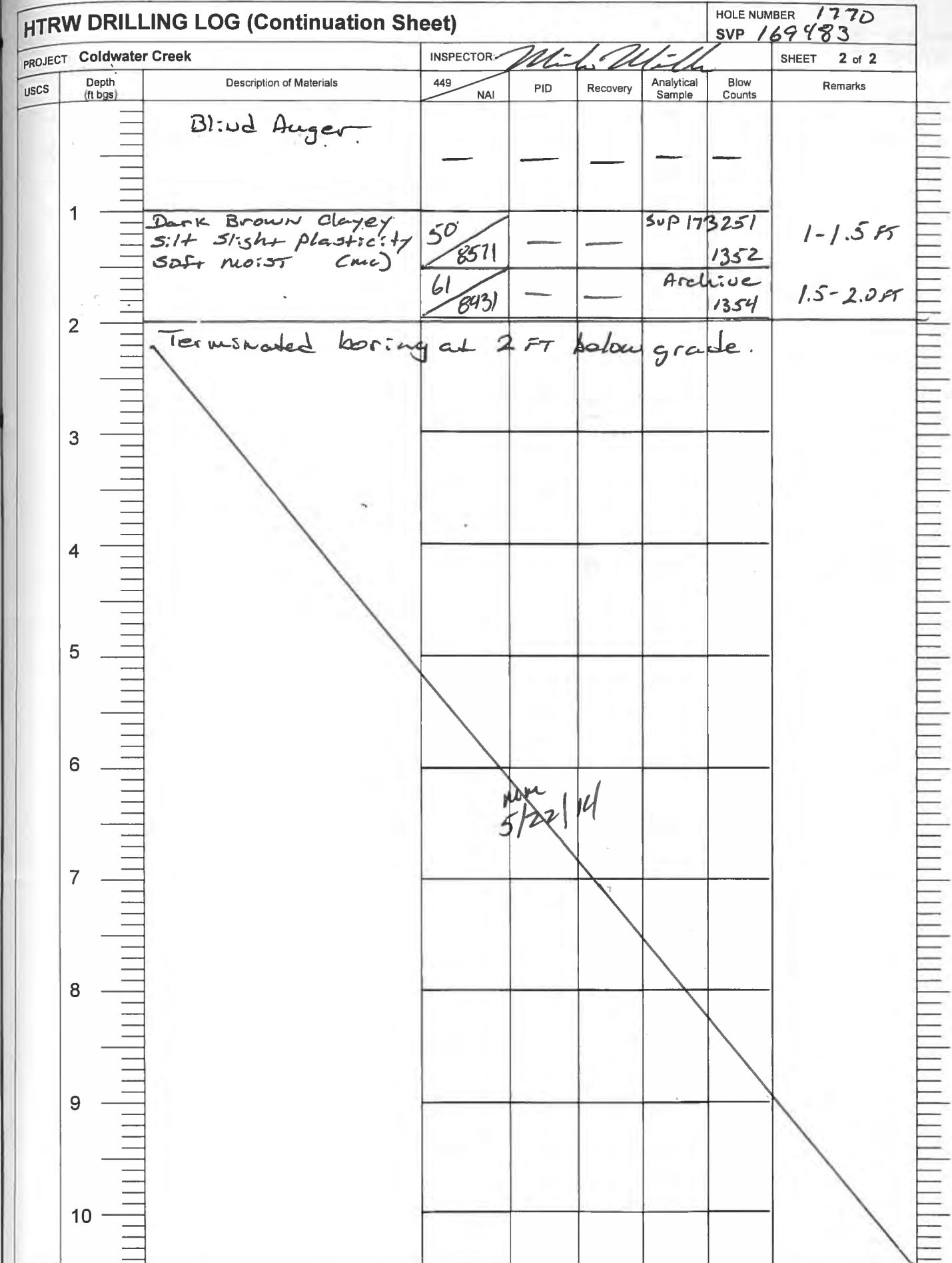


Recorded By Mike Miller Date 5/22/14 QA By MSSteiner Date 5-28-14



HTRW DRILLING LOG		DISTRICT: St. Louis USACE	HOLE NUMBER SVP 169483
1. COMPANY NAME: Leidos		2. DRILL SUBCONTRACTOR: Leidos	
3. PROJECT: Coldwater Creek		4 LOCATION # 1770 Vertical bounding	
5. NAME OF DRILLER: Juan Alverado		6 MANUFACTURERS DESIGNATION OF DRILL N/A	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve		
Meter - Background	8 HOLE COORDINATES N 1075871 E 864964		
44.9 C - 37 cpm	9 SURFACE ELEVATION N/A		
44.10 C - 6846 cpm	10. DATE STARTED: 5/22/14 11. DATE COMPLETED 5/22/14		
12. OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED N/A	
13. DEPTH DRILLED INTO ROCK: N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A	
14. TOTAL DEPTH OF HOLE 2 Ft below grade		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A	
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES N/A
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES
N/A	N/A	N/A	1/
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING	OTHER (SPECIFY)
Backfill using bentonite	w/bentonite	N/A	N/A
LOCATION SKETCH/COMMENTS LOC #: LE 05222014-024			
SCALE: None			
<p>Approximately</p>			

Recorded By Rich Mill Date 5/22/14 QA By MSteiner Date 5-28-14



Recorded By Rich Mill Date 5/22/14 QA By MSteiner Date 5-28-14

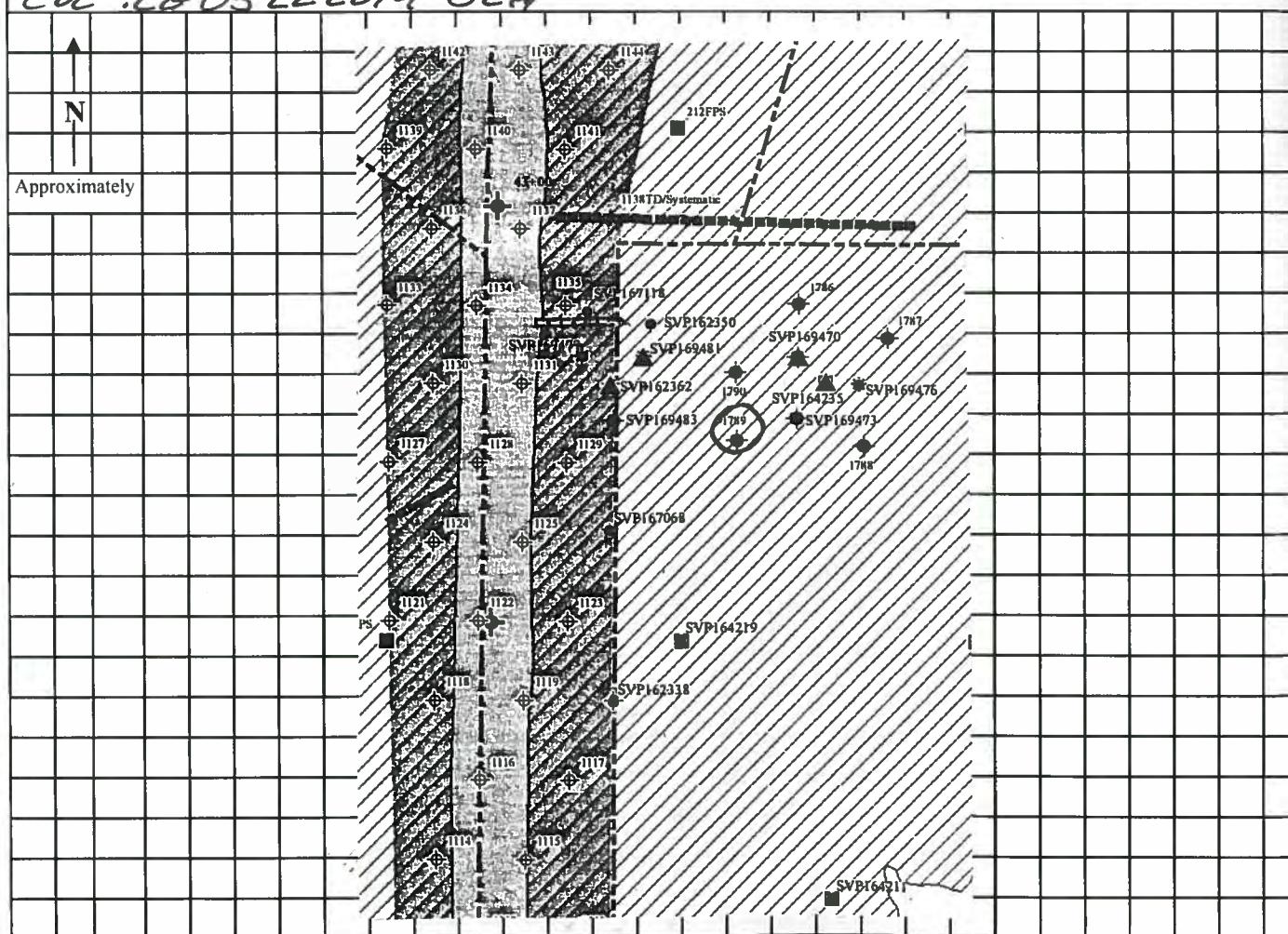
55

HTRW DRILLING LOG		DISTRICT: St. Louis USACE	HOLE NUMBER SVP 173264			
1. COMPANY NAME: Leidos		2 DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2			
3. PROJECT: Coldwater Creek		4 LOCATION # 1789 Horizontal boring				
5. NAME OF DRILLER: Juan Alverado		6 MANUFACTURERS DESIGNATION OF DRILL N/A				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve					
Meter - Background		8 HOLE COORDINATES N 075863 E 865012				
44-9 C - 37 cpm		9 SURFACE ELEVATION N/A				
44-10 C - 6896 cpm		10. DATE STARTED: 5/22/14	11. DATE COMPLETED 5/22/14			
12. OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED N/A				
13. DEPTH DRILLED INTO ROCK: N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A				
14 TOTAL DEPTH OF HOLE 2.5 FT below grade.		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A				
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A	N/A	N/A	4	φ	1	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR <i>Mih Mill</i>		
Backfill using bentonite	w/bentonite	N/A	N/A			

LOCATION SKETCH/COMMENTS

CDC #: CG05222014-024

SCALE: None



Recorded By Mih Mill Date 5/22/14 QA By MSteiner Date 5-28-14

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**HTRW DRILLING LOG (Continuation Sheet)**

PROJECT: Coldwater Creek      INSPECTOR: Mih Mill      HOLE NUMBER 1789  
SVP 173264      SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449	NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
			59	8608	—	—	Sup 173264	1404	
1	52	Brown clayey Silt Slight plasticity soft moist (cmc)	8727	—	—	—	Sup 173265	1406	0.0 - 0.5 FT
2	61	Brown and Tan mottled Clayey Silt Slight plasticity soft moist (cmc)	8721	—	—	—	Sup 173266	1408	0.5 - 1.0 FT
2	64	—	8742	—	—	—	Sup 173267	1410	1.0 - 1.5 FT
2	53	—	8877	—	—	—	Archive	1412	1.5 - 2.0 FT
3	—	—	—	—	—	—	Terminated boring at 2.5 FT below grade	—	2.0 - 2.5 FT
4	—	—	—	—	—	—	—	—	3
5	—	—	—	—	—	—	—	—	4
6	—	—	—	—	—	—	—	—	5
7	—	—	—	—	—	—	—	—	6
8	—	—	—	—	—	—	—	—	7
9	—	—	—	—	—	—	—	—	8
10	—	—	—	—	—	—	—	—	9

*Mih Mill  
5/22/14*

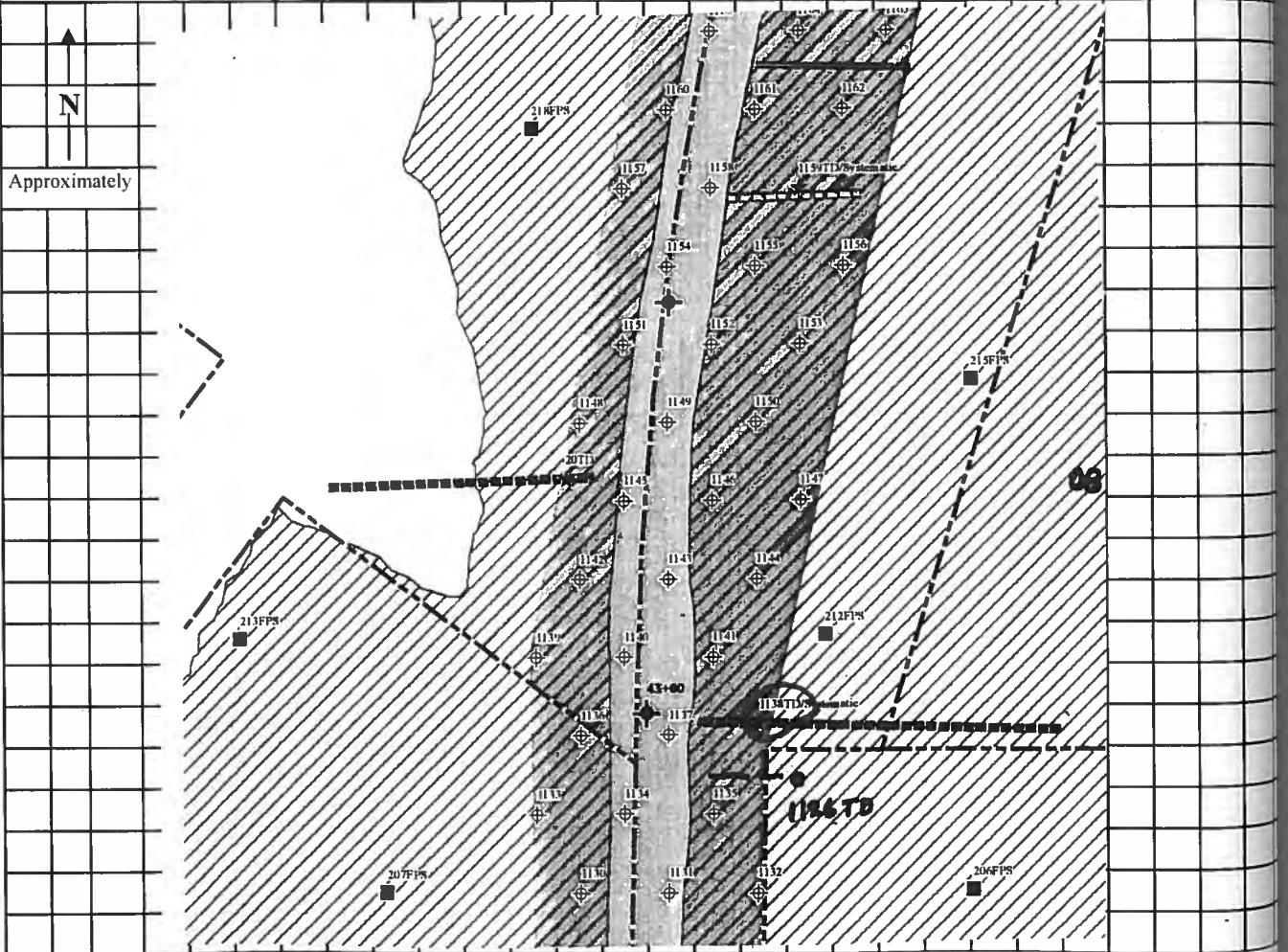
Recorded By Mih Mill Date 5/22/14 QA By MSteiner Date 5-28-14

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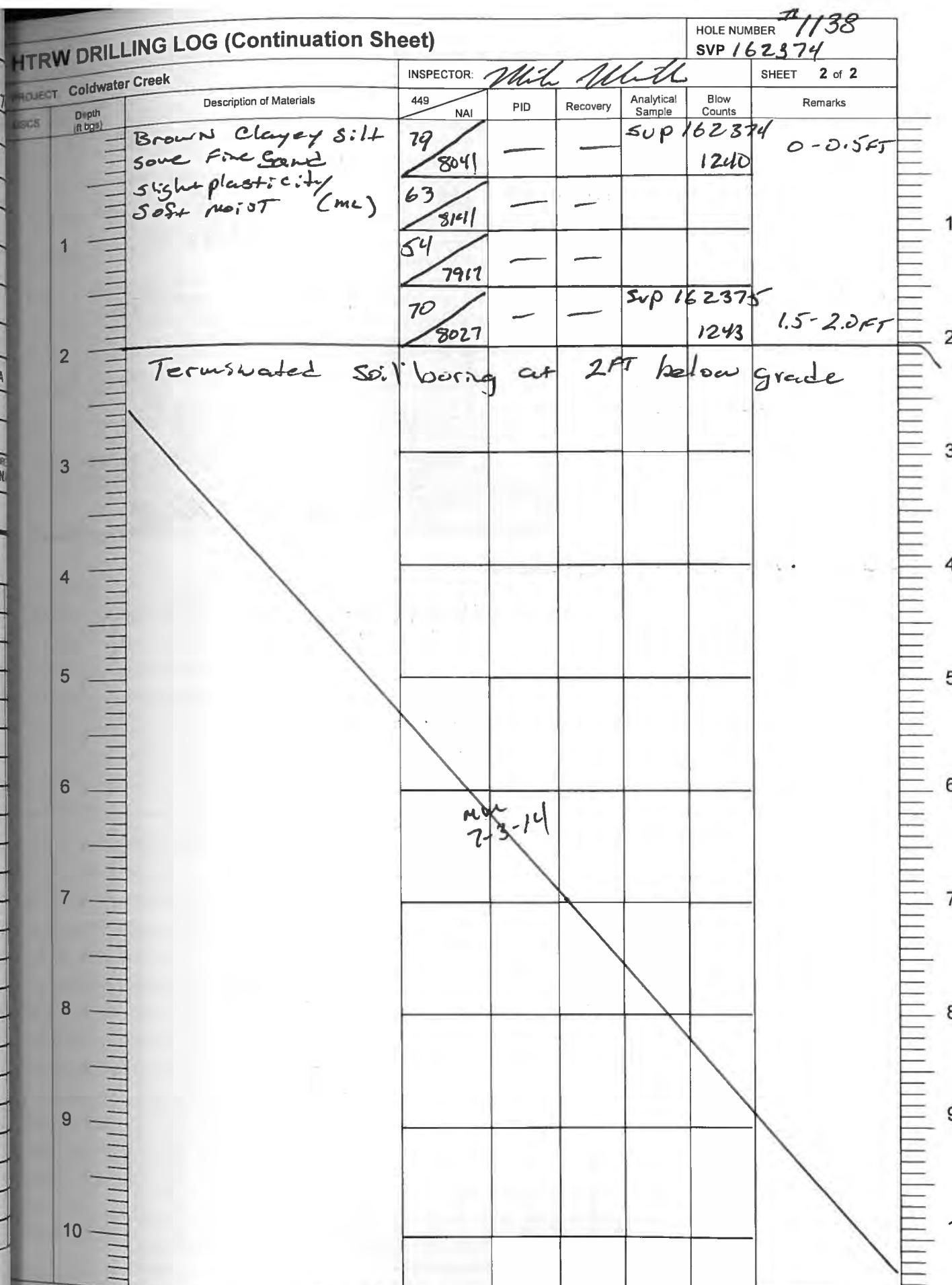
HTRW DRILLING LOG		DISTRICT: St. Louis USACE		HOLE NUMBER SVP 16 237	
1. COMPANY NAME: Leidos		2 DRILL SUBCONTRACTOR Leidos		SHEET 1 OF 2	
3 PROJECT: Coldwater Creek - Reach A		4 LOCATION # 1138			
5. NAME OF DRILLER: Juan Alcerado		6 MANUFACTURERS DESIGNATION OF DRILL: N/A			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8 HOLE COORDINATES E: 860964 N: 1075952			
Stainless Steel (ss) bowel, ss trowel with ss hand auger 3in ID.					
Meter - Background		9 SURFACE ELEVATION N/A			
44-9 F - 44		10. DATE STARTED 7-3-14		11. DATE COMPLETED 7-3-14	
44-10 K - 7654					
12. OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED N/A			
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A			
14. TOTAL DEPTH OF HOLE 2 ft below grade		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A			
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES N/A		
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	21. TOTAL CORE RECOVERY N/A
N/A	N/A	N/A	2	0	0
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR	
Backfill using bentonite	w/bentonite	N/A	N/A	Mike Miller	

## LOCATION SKETCH/COMMENTS

Loc#: LC07072014-024



Recorded By Mike Miller Date 7-3-14 QA By MS Steiner Date 7-10-14



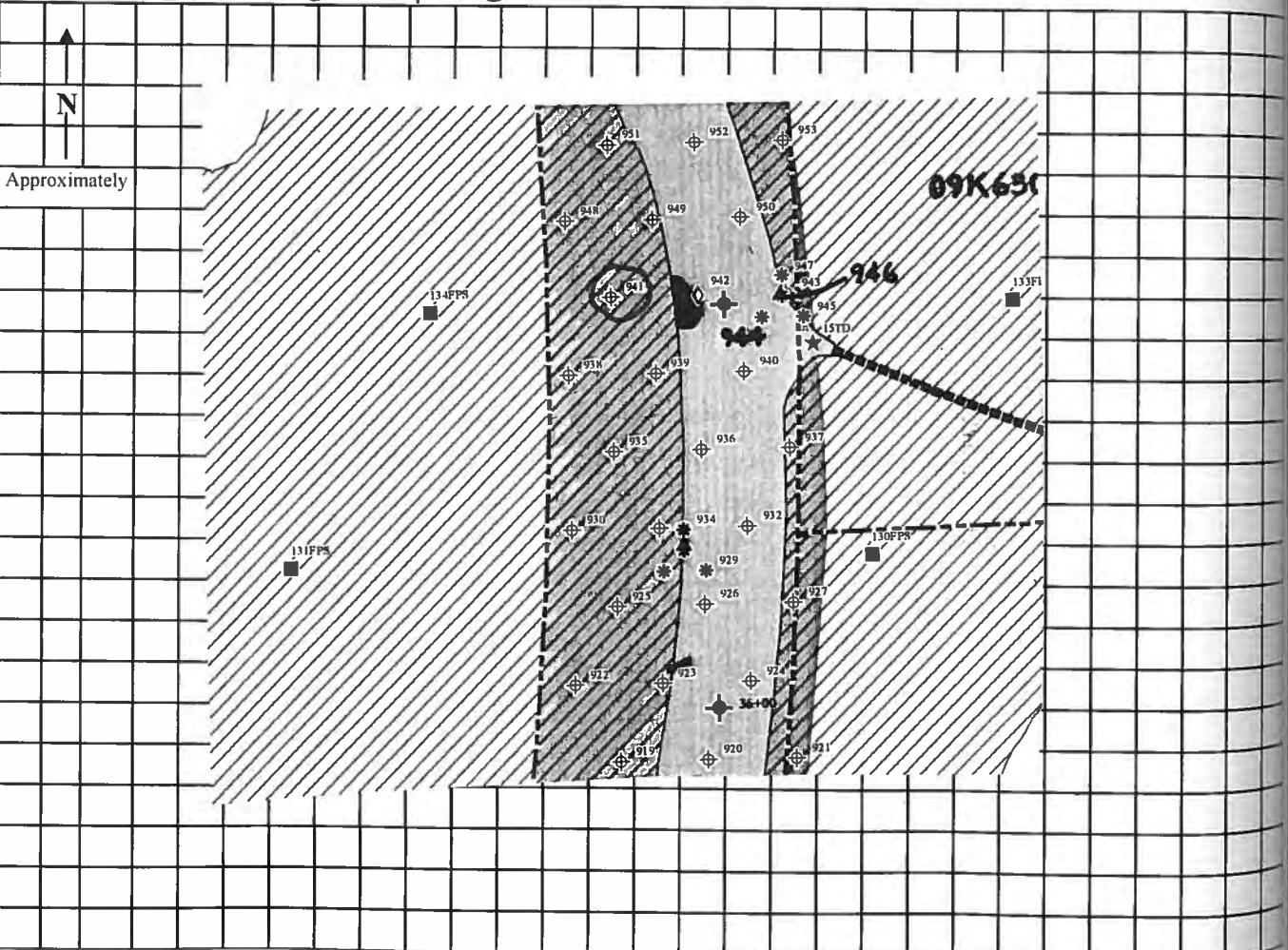
Recorded By Mike Miller Date 7-3-14 QA By MS Steiner Date 7-10-14

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HTRW DRILLING LOG		DISTRICT St. Louis USACE	HOLE NUMBER SVP 161934			
1 COMPANY NAME Leidos	2. DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2				
3 PROJECT Coldwater Creek - Reach A		4 LOCATION # 941				
5 NAME OF DRILLER Antonio Martinez		6 MANUFACTURERS DESIGNATION OF DRILL N/A				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT with ss hand auger 3in ID.		8 HOLE COORDINATES E: 865720 N: 1073870				
Meter - Background 44-9 E - 36 44-10 C - 6430		9 SURFACE ELEVATION N/A				
10 DATE STARTED 7-8-14		11. DATE COMPLETED 7-8-14				
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED: N/A				
13. DEPTH DRILLED INTO ROCK N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A				
14. TOTAL DEPTH OF HOLE 2 ft below grade		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A				
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS N/A	VOC N/A	METALS N/A	RAD SAMPLES 2	QA/QC SAMPLES 7	ARCHIVE SAMPLE 0	21. TOTAL CORE RECOVERY: N/A
22. DISPOSITION OF HOLE Backfill using bentonite	BACKFILLED w/bentonite	MONITORING WELL N/A	OTHER (SPECIFY) N/A	23. SIGNATURE OF INSPECTOR Mike Miller		

LOCATION SKETCH/COMMENTS  
COC# LG 0708 2014-064



Recorded By Mike Miller Date 7-8-14 QA By MSterner Date 7-10-14

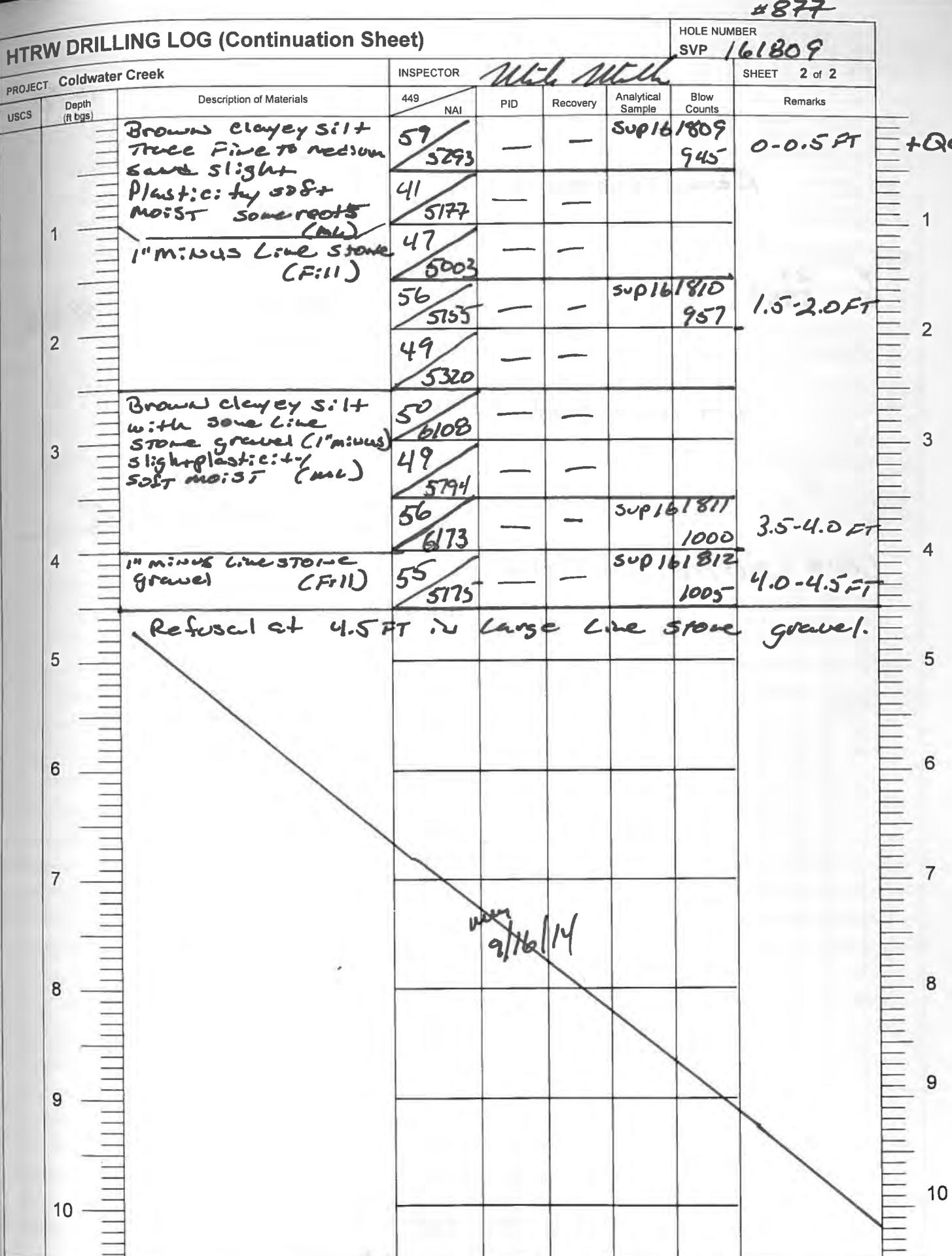
HTRW DRILLING LOG (Continuation Sheet)							HOLE NUMBER SVP 161934	
PROJECT: Coldwater Creek			INSPECTOR: <u>Mike Miller</u>				SHEET 2 of 2	
USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
		Brown clayey Silt with some fine sand slightly plastic soft moist (cm)	61 7507	—	—	Svp 161934	916	0-0.5 FT + QC
1			60 6979	—	—			
			57 7002	—	—			
2		Brown Silt with some fine sand slightly plastic soft moist (cm)	59 7000	—	—	Svp 161934	926	1.5-2.0 FT
		Terminated soil boring at 2 ft below grade						
3								
4								
5								
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Recorded By Mike Miller Date 7-8-14 QA By MSterner Date 7-10-14

40

HTRW DRILLING LOG		DISTRICT St. Louis USACE	HOLE NUMBER SVP 161809				
1. COMPANY NAME Leidos		2 DRILL SUBCONTRACTOR Leidos					
3. PROJECT: Coldwater Creek		4 LOCATION # 877					
5. NAME OF DRILLER Adam Queen		6 MANUFACTURERS DESIGNATION OF DRILL N/A					
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8 HOLE COORDINATES E: 865015' N: 1073374'					
Meter - Background		9 SURFACE ELEVATION N/A					
44-9 F - 39 44-10 F - 5954		10 DATE STARTED: 9/16/14 11. DATE COMPLETED: 9/16/14					
12 OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED N/A					
13. DEPTH DRILLED INTO ROCK: N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A					
14. TOTAL DEPTH OF HOLE 4.5 FT below grade		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A					
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS N/A		VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY N/A
22. DISPOSITION OF HOLE Backfilled		MONITORING	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR Mike Miller			
Backfill using bentonite w/bentonite		N/A	N/A				
LOCATION SKETCH/COMMENTS COCALE 09162014-014				SCALE: None			
Approximately							

Recorded By Mike Miller Date 9/16/14 QA By Mr. J. Date 9/19/14



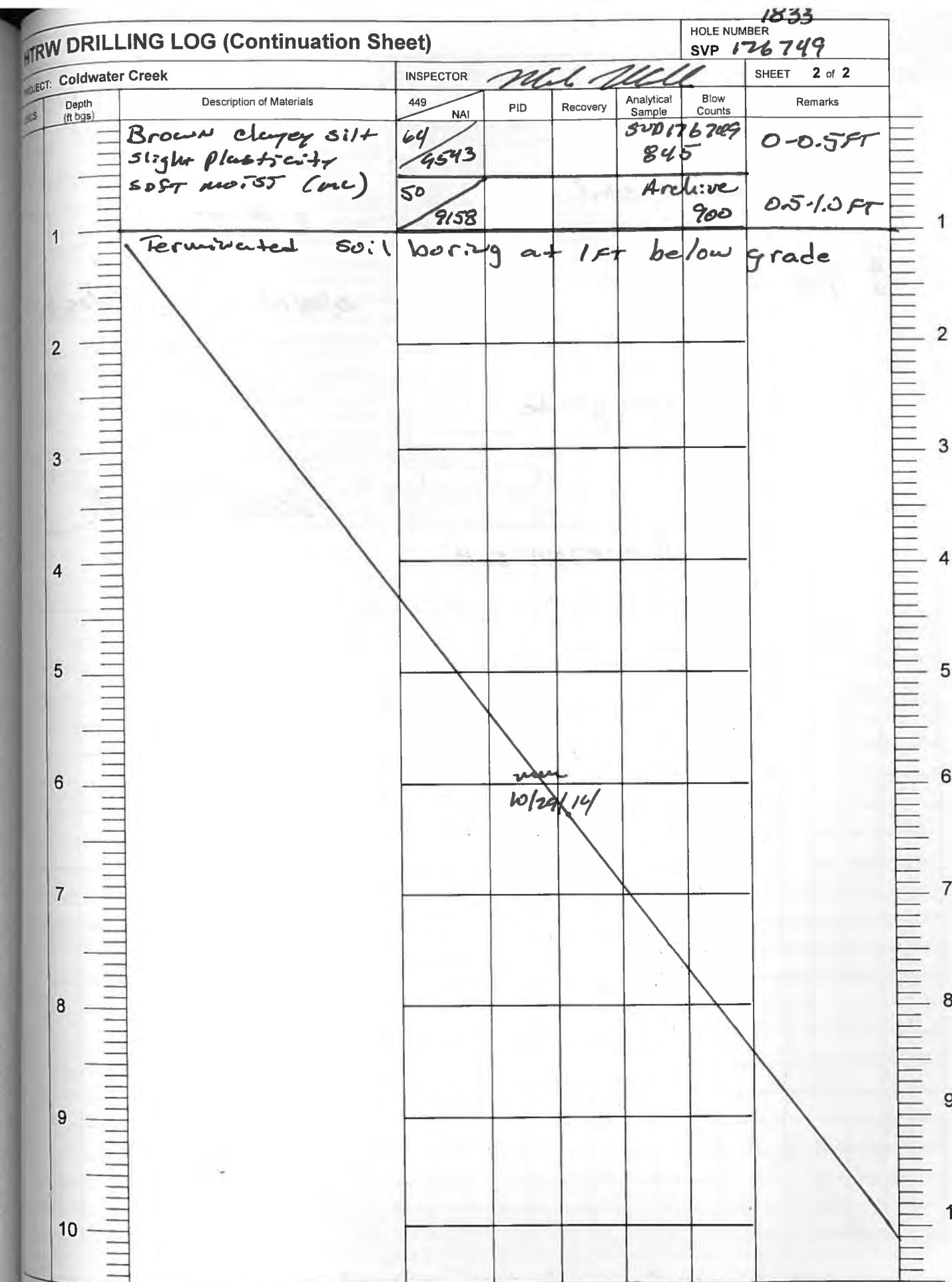
Recorded By Mike Miller Date 9/16/14 QA By Mr. J. Date 9/19/14



91

HTRW DRILLING LOG		DISTRICT St. Louis USACE		HOLE NUMBER SVP 176749		
1 COMPANY NAME Leidos		2 DRILL SUBCONTRACTOR Leidos		SHEET 1 OF 2		
3 PROJECT: Coldwater Creek - Reach A		4 LOCATION # 1833				
5 NAME OF DRILLER: Matt Dostal		6 MANUFACTURERS DESIGNATION OF DRILL N/A				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT with ss hand auger 3in ID.		8 HOLE COORDINATES G: 865224 N: 1074113				
Meter - Background 44-9 A - 37 44-10 I - 5781		9 SURFACE ELEVATION N/A				
12. OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED: N/A				
13. DEPTH DRILLED INTO ROCK: N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A				
14. TOTAL DEPTH OF HOLE 1 ft below grade		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A				
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS N/A	VOC N/A	METALS N/A	RAD SAMPLES 1	QA/QC SAMPLES 0	ARCHIVE SAMPLE 1	21. TOTAL CORE RECOVERY: N/A
22. DISPOSITION OF HOLE Backfill using bentonite	BACKFILLED w/bentonite	MONITORING WELL N/A	OTHER (SPECIFY) N/A	23. SIGNATURE OF INSPECTOR Matt Dostal		
LOCATION SKETCH/COMMENTS LE 10292014-02H				SCALE: None		

Recorded By Matt Dostal Date 10/29/14 QA By MS Leinen Date 11-3-14

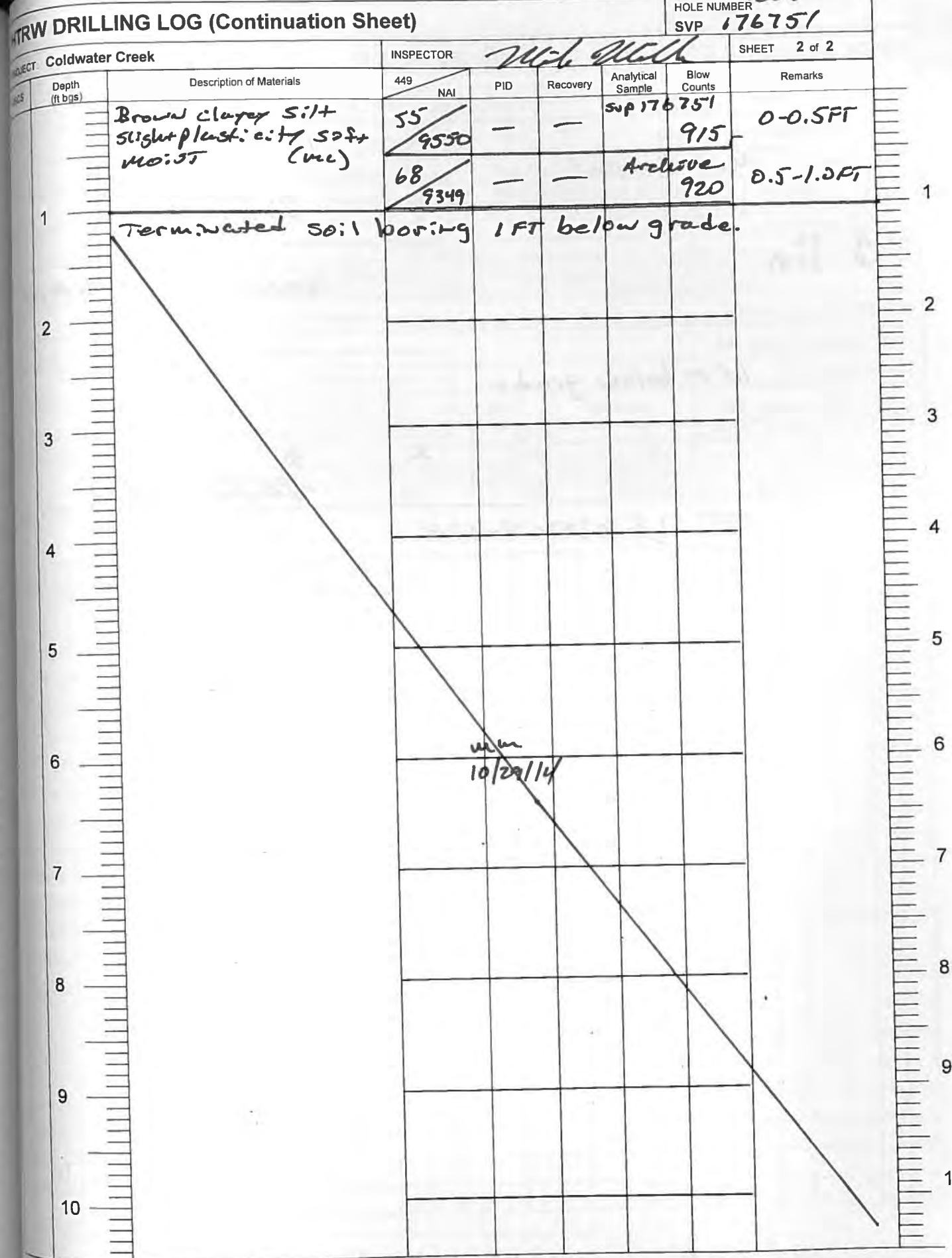


Recorded By Matt Dostal Date 10/29/14 QA By MS Leinen Date 11-3-14

93

HTRW DRILLING LOG		DISTRICT: St. Louis USACE		HOLE NUMBER SVP 176751		
1. COMPANY NAME: Leidos		2. DRILL SUBCONTRACTOR: Leidos		SHEET 1 OF 2		
3. PROJECT: Coldwater Creek - Reach A		4. LOCATION #: 1835				
5. NAME OF DRILLER: Matt Dostal		6. MANUFACTURER'S DESIGNATION OF DRILL: N/A				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: with ss hand auger 3in ID.		8. HOLE COORDINATES: E: 865269 N: 1079145				
Meter - Background		9. SURFACE ELEVATION: N/A				
44-9 A - 37	44-10 I - 9781	10. DATE STARTED: 10/29/14		11. DATE COMPLETED: 10/29/14		
12. OVERBURDEN THICKNESS: N/A		15. DEPTH GROUNDWATER ENCOUNTERED: N/A				
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A				
14. TOTAL DEPTH OF HOLE: 1 FT below grade		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A				
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS: N/A	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
22. DISPOSITION OF HOLE: Backfilled	MONITORING WELL	OTHER (SPECIFY): N/A	23. SIGNATURE OF INSPECTOR: Matt Miller			
Backfill using bentonite	w/bentonite	N/A				
LOCATION SKETCH/COMMENTS: LE 10292014-02H		SCALE: None				
<p>Approximately</p>						

Recorded By Matt Miller Date 10/29/14 QA By MSLeiner Date 11-3-14



Recorded By Matt Miller Date 10/29/14 QA By MSLeiner Date 11-3-14

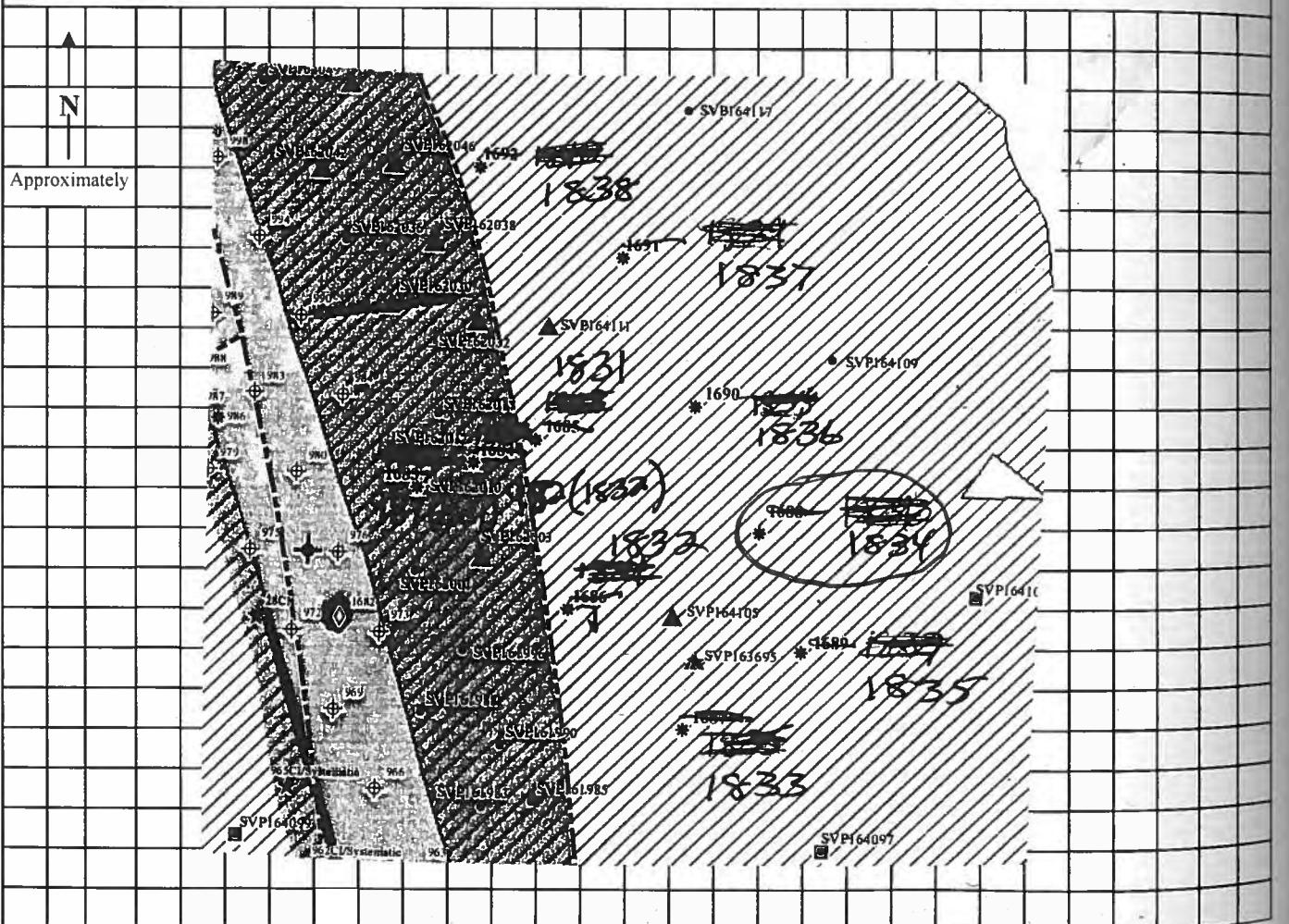
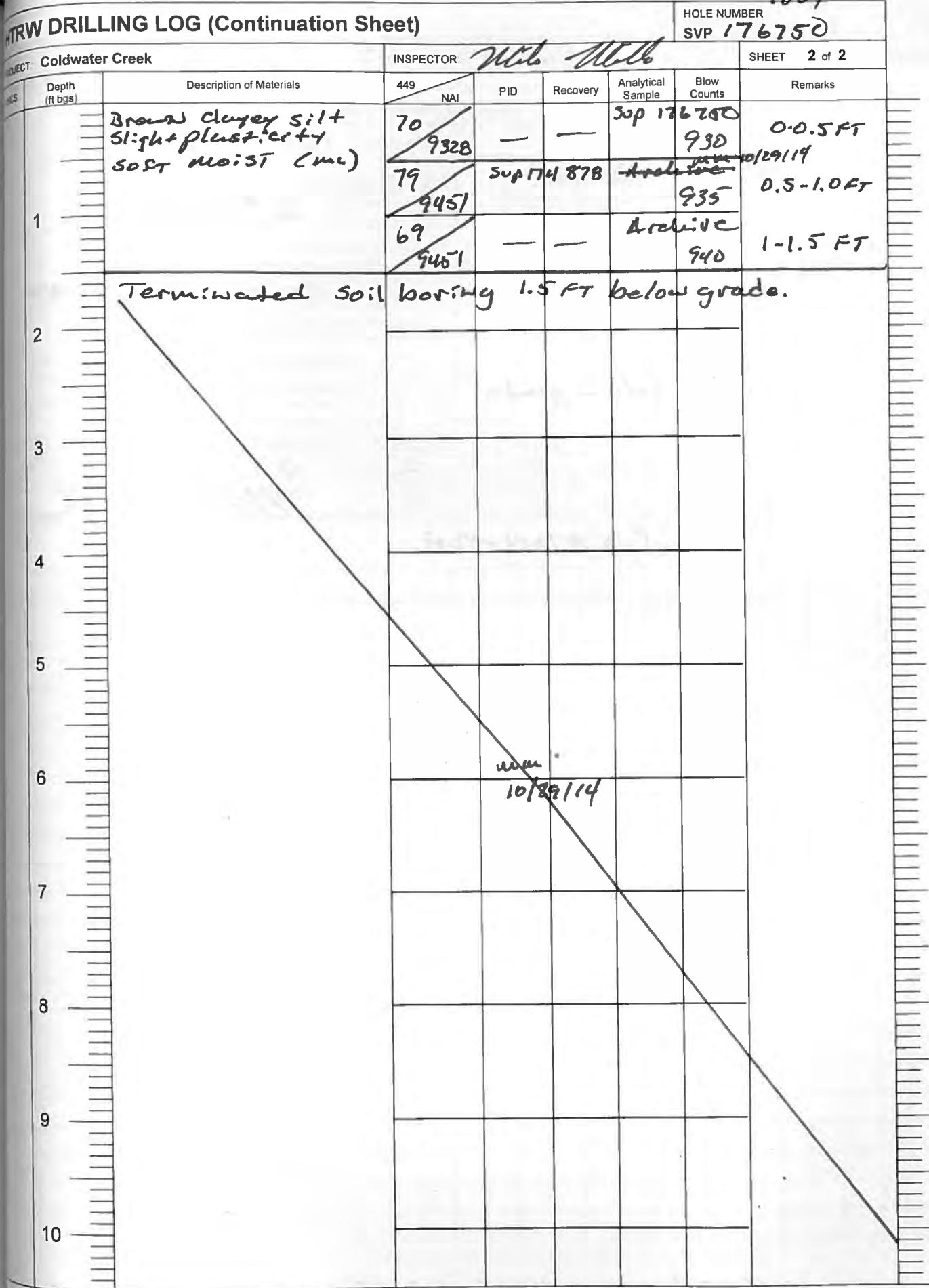
95

HTRW DRILLING LOG		DISTRICT St. Louis USACE	HOLE NUMBER SVP 176750			
1 COMPANY NAME Leidos	2 DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2				
3 PROJECT Coldwater Creek - Reach A		4 LOCATION # 1834				
5 NAME OF DRILLER Matt Dostal		6 MANUFACTURERS DESIGNATION OF DRILL N/A				
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT with ss hand auger 3in ID.		8 HOLE COORDINATES E: 865252 W: 1074192				
Meter - Background 44-9 A - 37 44-10 I - 9781		9 SURFACE ELEVATION N/A				
		10. DATE STARTED: 10/29/14	11. DATE COMPLETED: 10/29/14			
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED N/A				
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A				
14. TOTAL DEPTH OF HOLE 1.5 ft below grade		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A				
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS N/A	VOC N/A	METALS N/A	RAD SAMPLES 2	QA/QC SAMPLES 0	ARCHIVE SAMPLE 1	21. TOTAL CORE RECOVERY: N/A
22. DISPOSITION OF HOLE Backfill using bentonite	BACKFILLED w/bentonite	MONITORING WELL N/A	OTHER (SPECIFY) N/A	23. SIGNATURE OF INSPECTOR Mike Mill		

LOCATION SKETCH/COMMENTS

LE 10292014-02H

SCALE: None

Recorded By Mike Mill Date 10/29/14 QA By M Steiner Date 11-3-14Recorded By Mike Mill Date 10/29/14 QA By M Steiner Date 11-3-14

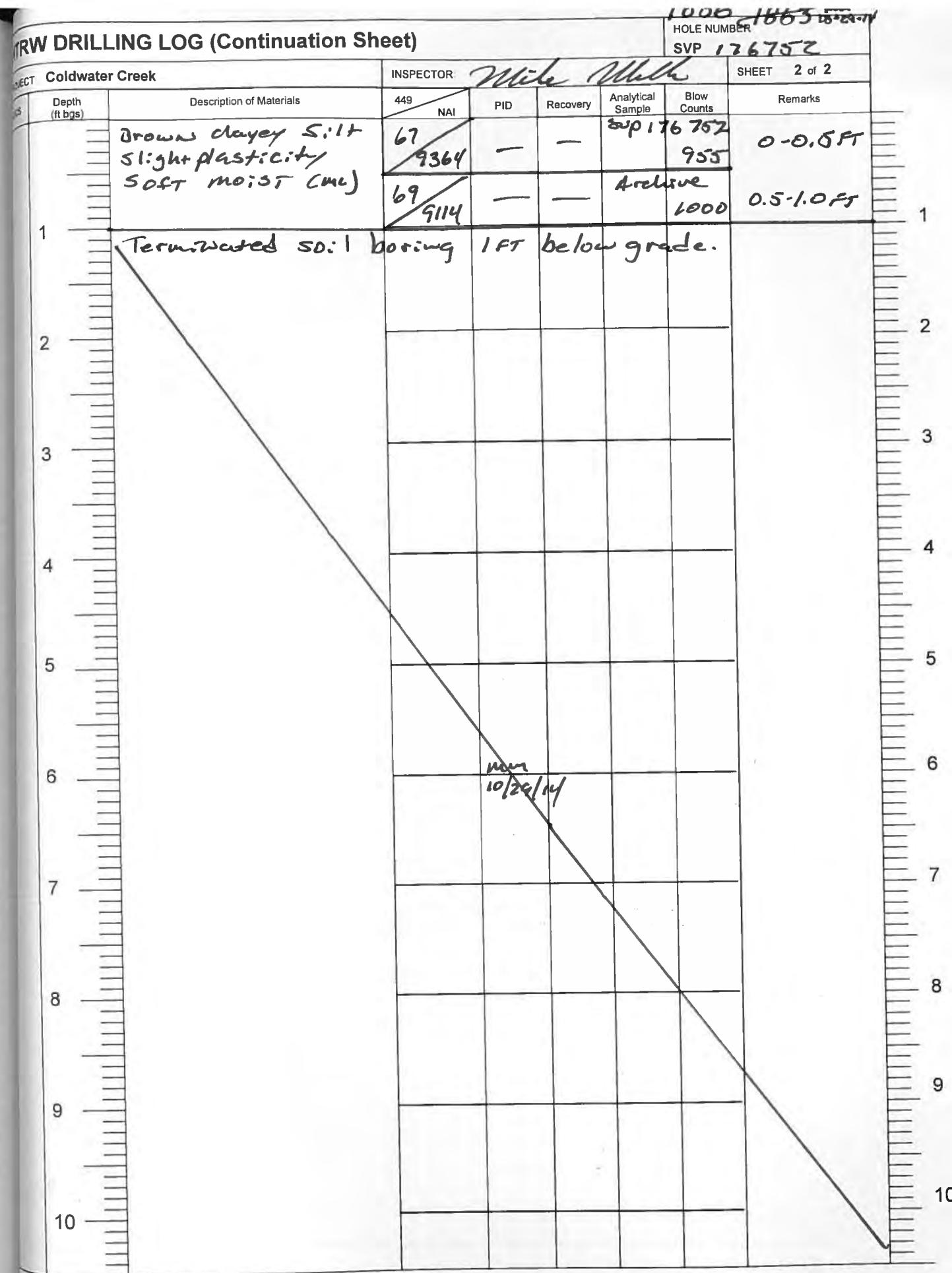
97

HTRW DRILLING LOG		DISTRICT: St. Louis USACE		HOLE NUMBER SVP 176748			
1 COMPANY NAME Leidos		2 DRILL SUBCONTRACTOR Leidos		SHEET 1 OF 2			
3 PROJECT Coldwater Creek - Reach A		4 LOCATION # 1832					
5 NAME OF DRILLER Matt Dosta!		6 MANUFACTURERS DESIGNATION OF DRILL N/A					
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT Stainless Steel (ss) bowel, ss trowel with ss hand auger 3in ID.		8 HOLE COORDINATES E: 80517782 Q8 L: 10741695 12-11-14					
Meter - Background 44-9 A - 37 44-10 I - 9781		9 SURFACE ELEVATION N/A					
		10. DATE STARTED: 10/29/14		11. DATE COMPLETED: 10/29/14			
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED: N/A					
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A					
14. TOTAL DEPTH OF HOLE 1.5 FT below grade		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A					
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A		N/A	N/A	2	0	1	N/A
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR <i>Mike Miller</i>		
Backfill using bentonite		w/bentonite	N/A	N/A			
LOCATION SKETCH/COMMENTS LE 10292014-02H				SCALE: None			
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99

HTRW DRILLING LOG		DISTRICT St. Louis USACE	HOLE NUMBER SVP 176752
1. COMPANY NAME: Leidos		2. DRILL SUBCONTRACTOR: Leidos	
3. PROJECT: Coldwater Creek - Reach A		4 LOCATION # 1836	
5. NAME OF DRILLER: Matt Dostal		6 MANUFACTURERS DESIGNATION OF DRILL N/A	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT with ss hand auger 3in ID.		8 HOLE COORDINATES E: 865225 N: 1074241	
Meter - Background 44-9 A - 37 44-10 I - 9781		9 SURFACE ELEVATION N/A	
10 DATE STARTED 10/29/14		11 DATE COMPLETED: 10/29/14	
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED: N/A	
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A	
14. TOTAL DEPTH OF HOLE 1 FT below grade		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED
20. SAMPLES FOR CHEMICAL ANALYSIS N/A		VOC N/A	METALS N/A
22. DISPOSITION OF HOLE Backfill using bentonite		BACKFILLED w/bentonite	MONITORING WELL N/A
		23. SIGNATURE OF INSPECTOR Mike Mills	
LOCATION SKETCH/COMMENTS LE 10292014-02H		SCALE: None	
<p>Approximately</p> <p>N</p>			

Recorded By Mike Mills Date 10/29/14 QA By MSteiner Date 11-3-14



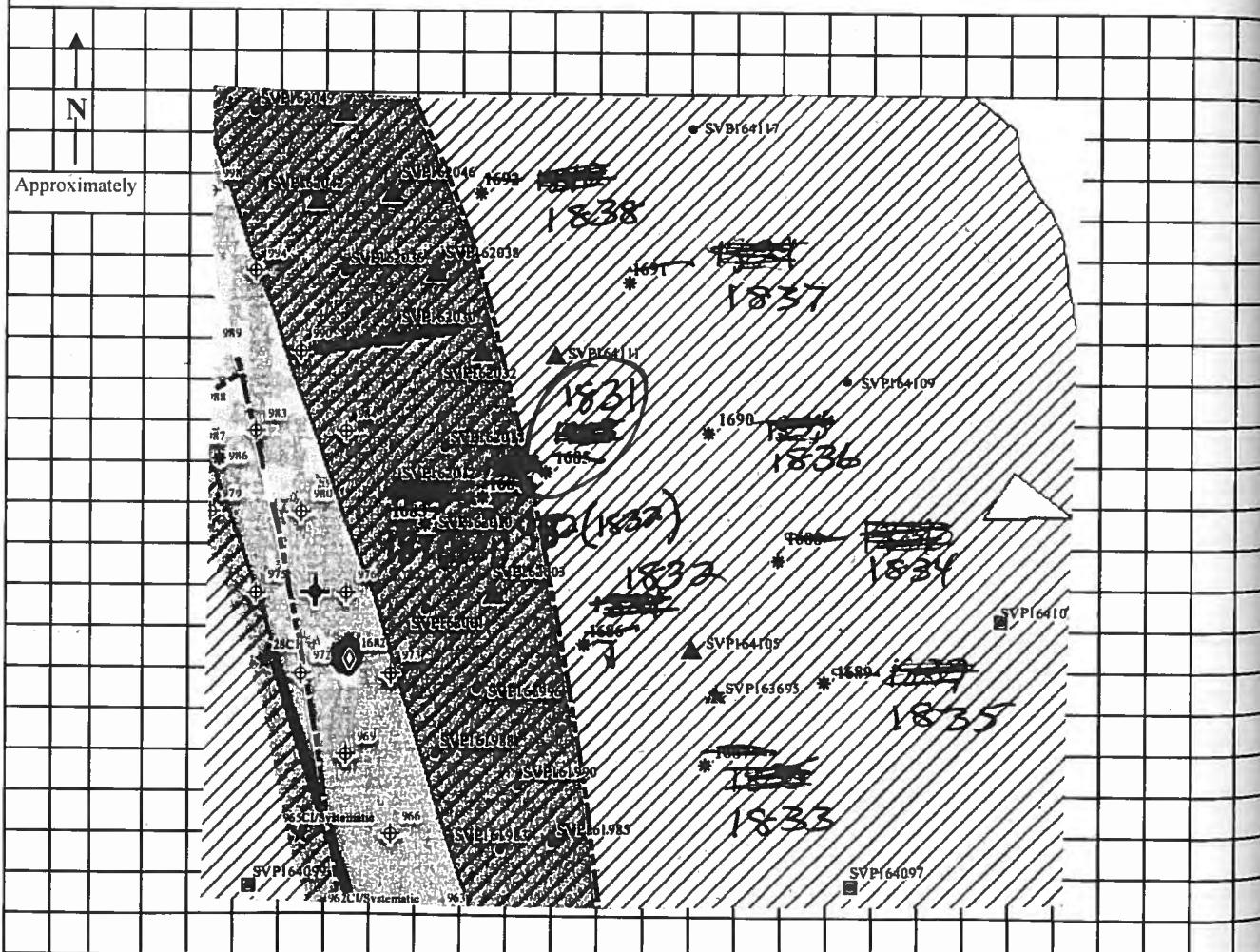
Recorded By Mike Mills Date 10/29/14 QA By MSteiner Date 11-3-14

HTRW DRILLING LOG		DISTRICT: St. Louis USACE		HOLE NUMBER SVP1767		
1. COMPANY NAME: Leidos		2. DRILL SUBCONTRACTOR: Leidos		SHEET 1 OF 2		
3. PROJECT: Coldwater Creek – Reach A		4 LOCATION # 1831				
5. NAME OF DRILLER: Matt Dostal		6 MANUFACTURERS DESIGNATION OF DRILL N/A				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8 HOLE COORDINATES E: 865162 N: 1074227				
Stainless Steel (ss) bowel, ss trowel with ss hand auger 3in ID.						
Meter - Background		9 SURFACE ELEVATION. N/A				
44-9 A - 37		10. DATE STARTED: 10/29/14		11. DATE COMPLETED: 10/29/14		
44-10 I - 9781						
12. OVERTBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED N/A				
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A				
14. TOTAL DEPTH OF HOLE 2.5 ft below grade		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A				
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY:
N/A	N/A	N/A	5	Ø	Ø	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR: <i>Matt Dostal</i>		
Backfill using bentonite	w/bentonite	N/A	N/A			

**LOCATION SKETCH/COMMENTS**

LE10292014-024

**SCALE: None**



## BW DRILLING LOG (Continuation Sheet)

HOLE NUMBER  
SVP 176743

RW DRILLING		INSPECTOR: <i>Milt Mich</i>	SHEET 2 of 2				
ECT Coldwater Creek		Description of Materials					
Depth (ft bgs)		449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
0	Brown clayey silt slight plasticity soft moist (cm)	65 9200	—	—	Sup 176743	1005	0-0.5 FT
1		79 9216	—	—	Sup 176744	1007	0.5-1.0 FT
2		50 8987	—	—	Sup 176745	1009	1.0-1.5 FT
3		49 9245	—	—	Sup 176746	1011	1.5-2.0 FT
4		63 9219	—	—	Sup 176747	1013	2.0-2.5 FT
5	Terminated soil	boring 2.5 FT below grade.					
6							
7							
8							
9							
10							

Recorded By Mike Miller

Date 10/28/14 Checked By MS/legis Date: 11-3-14

Recorded By Mike Miller

Date 10/22/14 QA By MSteiner

Date 11-3-14





HTRW DRILLING LOG		DISTRICT St. Louis USACE		HOLE NUMBER SVP 1620
1. COMPANY NAME: Leidos	2 DRILL SUBCONTRACTOR Leidos			SHEET 1 OF 2
3. PROJECT: Coldwater Creek - Reach A		4 LOCATION # 981		
5 NAME OF DRILLER <i>Matt Dostal</i>	6 MANUFACTURERS DESIGNATION OF DRILL N/A			
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT Stainless Steel (ss) bowel, ss trowel with ss hand auger 3in ID.	8 HOLE COORDINATES E: 865116 N: 1074206			
Meter - Background 44-9 A - 37 44-10 I - 9781	9 SURFACE ELEVATION N/A			
12. OVERBURDEN THICKNESS N/A	15. DEPTH GROUNDWATER ENCOUNTERED N/A			
13. DEPTH DRILLED INTO ROCK N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A			
14. TOTAL DEPTH OF HOLE 3 ft below grade.	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A			
18 GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES N/A	
20. SAMPLES FOR CHEMICAL ANALYSIS N/A	VOC N/A	METALS N/A	RAD SAMPLES 1	QA/QC SAMPLES Ø
22. DISPOSITION OF HOLE Backfilled using bentonite	BACKFILLED w/bentonite	MONITORING WELL N/A	OTHER (SPECIFY) N/A	21. TOTAL CORE RECOVERY RECOVERY %
LOCATION SKETCH/COMMENTS LE 10292014-02H		SCALE: None		

Recorded By *Mil Mil* Date 10/29/14 QA By *MSSteiner* Date 11-3-14

HTRW DRILLING LOG (Continuation Sheet)						HOLE NUMBER SVP 162010	
PROJECT Coldwater Creek		INSPECTOR: <i>Mil Mil</i>	SHEET 2 of 2				
Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
1	Preciously sampled no samples collected This time from 6-2 ft below grade.						
2	Brown clayey silt slight plasticity soft moist (me)	59 5509	—	—	SVP 16741 1114		2-2.5 FT
2		66 9082	—	—	Archive	1120	2.5 ft 3.0 ft
3	Terminated soil boring at 3ft below grade.						
4							
5							
6							
7							
8							
9							
10							

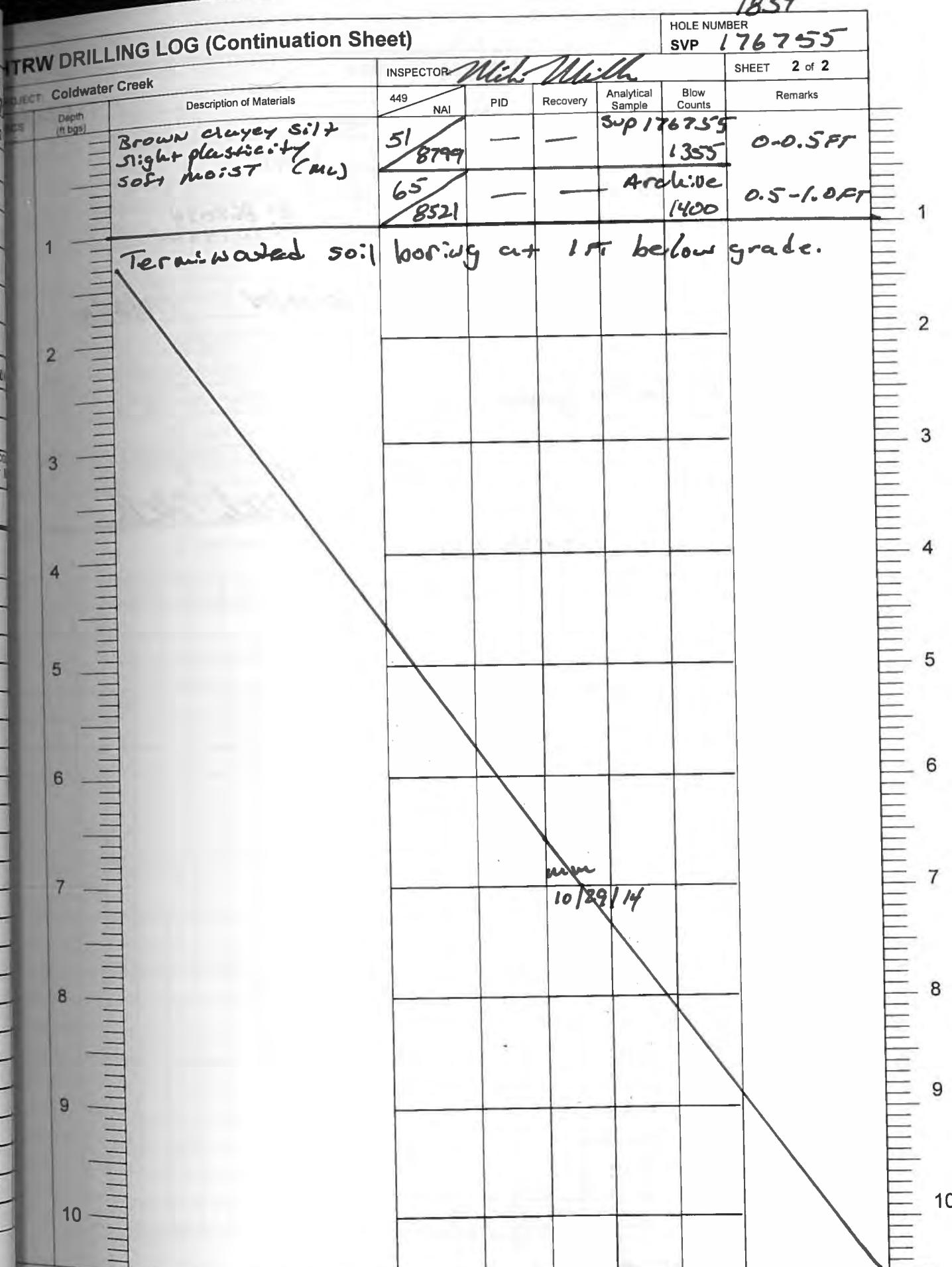
Recorded By *Mil Mil* Date 10/29/14 QA By *MSSteiner* Date 11-3-14

HTRW DRILLING LOG		DISTRICT: St. Louis USACE		HOLE NUMBER SVP 1767	HTRW DRILLING LOG (Continuation Sheet)					HOLE NUMBER SVP 176754	SHEET 2 of 2	
1. COMPANY NAME: Leidos		2 DRILL SUBCONTRACTOR: Leidos		SHEET 1 OF 2								
3. PROJECT: Coldwater Creek - Reach A		4 LOCATION # 1838										
5. NAME OF DRILLER: Matt Dosal		6 MANUFACTURERS DESIGNATION OF DRILL: N/A										
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Stainless Steel (ss) bowel, ss trowel with ss hand auger 3in ID.		8 HOLE COORDINATES: E: 865137 N: 1074335										
Meter - Background 44-9 A - 42 44-10 I - 9322		9 SURFACE ELEVATION N/A										
10. DATE STARTED: 10/29/14		11. DATE COMPLETED: 10/29/14										
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED N/A										
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A										
14. TOTAL DEPTH OF HOLE: 1 FT below grade		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A										
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED		UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A							
20. SAMPLES FOR CHEMICAL ANALYSIS: N/A		VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A					
22. DISPOSITION OF HOLE: Backfilled using bentonite		BACKFILLED w/bentonite	MONITORING WELL N/A	OTHER (SPECIFY): N/A	23. SIGNATURE OF INSPECTOR: M. Miller							
LOCATION SKETCH/COMMENTS: LE 1030 Z014-02H		SCALE: None										
<img alt="A site plan showing various drilling locations marked with labels like 1838, 1837, 1831, 1836, 1832, 1834, 1835, 1833, 1830, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 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1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 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1839

18

HTRW DRILLING LOG		DISTRICT: St. Louis USACE		HOLE NUMBER SVP 176755	HTRW DRILLING LOG (Continuation Sheet)					HOLE NUMBER SVP 176755	
1 COMPANY NAME Leidos		2 DRILL SUBCONTRACTOR Leidos		SHEET 1 OF 2	PROJECT: Coldwater Creek					INSPECTOR: <i>Mil Milh</i>	SHEET 2 of 2
3 PROJECT: Coldwater Creek - Reach A		4 LOCATION # 1839		Depth (ft bgs)	Description of Materials						
5 NAME OF DRILLER <i>Matt Doedel</i>		6 MANUFACTURERS DESIGNATION OF DRILL N/A		449	NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks	
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT with ss hand auger 3in ID.		8 HOLE COORDINATES E: 865143 N: 1074416		51	8799	—	—	Svp 176755	1355	0-0.5 ft	
Meter - Background 44-9 A - 42 44-10 I - 9322		9 SURFACE ELEVATION N/A		65	8521	—	—	Archive	1400	0.5-1.0 ft	
10. DATE STARTED 10/29/14		11. DATE COMPLETED 10/29/14									
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED N/A									
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A									
14. TOTAL DEPTH OF HOLE 1 FT below grade		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A									
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A							
20. SAMPLES FOR CHEMICAL ANALYSIS N/A		VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL DRILL RECOVERY				
22. DISPOSITION OF HOLE Backfilled using bentonite		BACKFILLED w/bentonite	MONITORING WELL N/A	OTHER (SPECIFY) N/A	23. SIGNATURE OF INSPECTOR: <i>Mil Milh</i>						
LOCATION SKETCH/COMMENTS LE10302014-02H											
SCALE: None											



Recorded By *Mil Milh* Date 10/29/14 QA By *M. Steiner* Date 11-3-14

Recorded By *Mil Milh* Date 10/29/14 QA By *M. Steiner* Date 11-3-14

13

HTRW DRILLING LOG (Continuation Sheet)						HOLE NUMBER SVP <del>176 756</del> 176 756	
PROJECT Coldwater Creek		INSPECTOR: <i>Mitch</i>	SHEET 2 of 2				
Depth (in ft.)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	Brown clayey silt + slight plasticity SOIL MOIST (m)	62 8918	—	—	SUP 176 756 1408		0-0.5 FT
		59 8872	—	—	Archaeo 1410		0.5-1.0 FT
1	Terminated soil boring at 1 FT below grade.						
2							
3							
4							
5							
6							
7							
8							
9							
10							

Recorded By Nik Nik Date 10/29/14 QA By M8teries Date 11-3-14

Recorded By Nik Math Date 10/29/14 QA By KMSteiner Date 11-3-14

15

1841

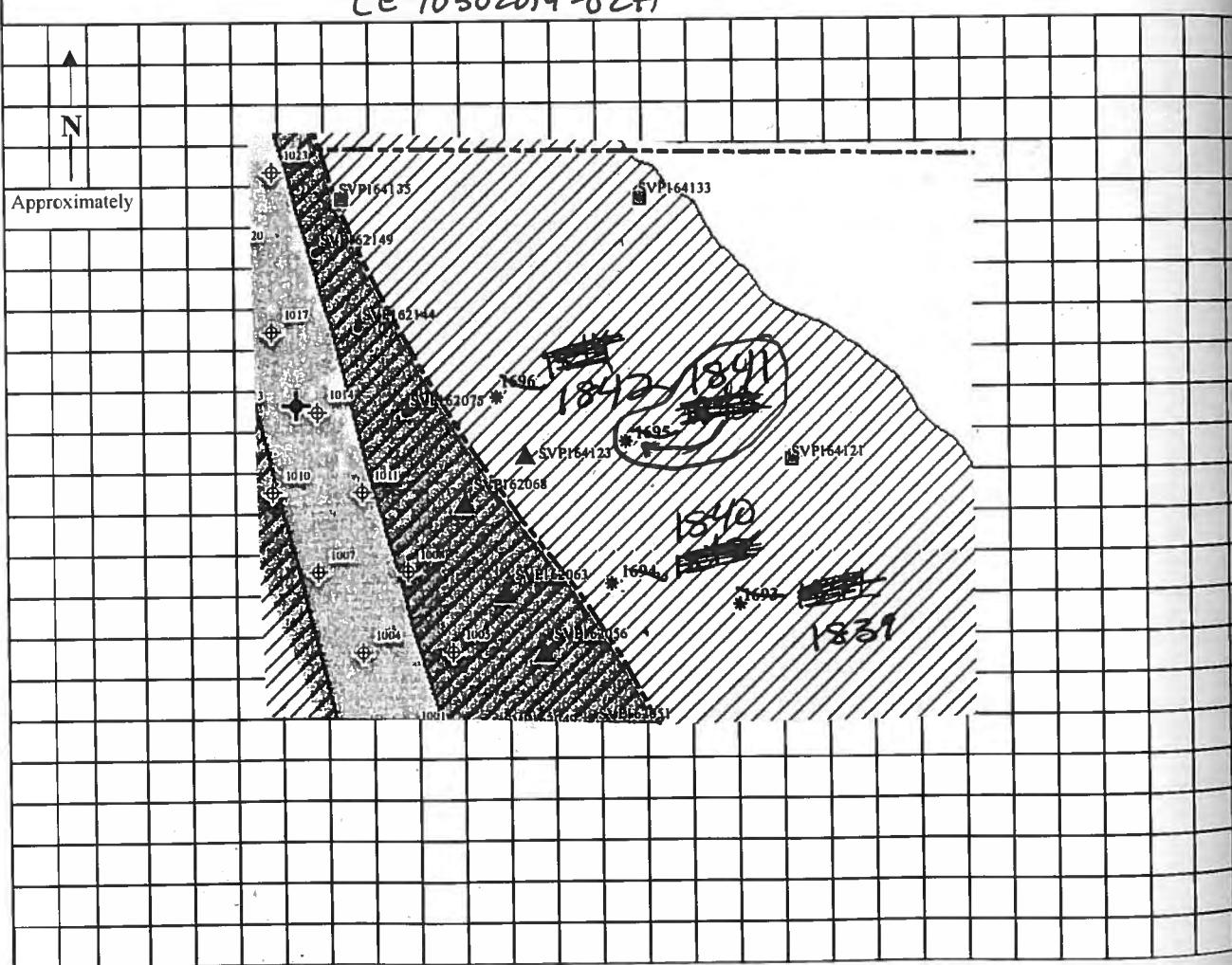
10

<b>HTRW DRILLING LOG</b>		DISTRICT: St. Louis USACE		HOLE NUMBER <b>SVP 176</b>
1. COMPANY NAME: Leidos		2 DRILL SUBCONTRACTOR: Leidos		SHEET 1 OF 2
3. PROJECT: Coldwater Creek - Reach A		4 LOCATION #: <b>1841</b>		<b>Coldwater Creek</b> Depth (ft bgs) Description of Materials 449 NAI PID Recovery Analytical Sample Blow Counts Remarks 67 8816 — — SVP 176757 0-0.5FT 8816 1420 54 8850 — — Archive 1422 0.5-1.0FT 8850 Terminated Soil boring at 1 FT below grade
5. NAME OF DRILLER: Matt Dostal		6. MANUFACTURERS DESIGNATION OF DRILL: N/A		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Stainless Steel (ss) bowel, ss trowel with ss hand auger 3in ID.		8. HOLE COORDINATES: E: 885100 N: 1074479		
Meter - Background		9. SURFACE ELEVATION: N/A		
44-9 A - 42	44-10 I - 5322	10. DATE STARTED: 10/29/14 11. DATE COMPLETED: 10/29/14		
12. OVERBURDEN THICKNESS: N/A		15. DEPTH GROUNDWATER ENCOUNTERED: N/A		
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A		
14. TOTAL DEPTH OF HOLE: 1 FT below grade		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A		
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A	
20. SAMPLES FOR CHEMICAL ANALYSIS: N/A	VOC	METALS	RAD SAMPLES QA/QC SAMPLES ARCHIVE SAMPLE 21. TOTAL CORE RECOVERY	
22. DISPOSITION OF HOLE: Backfilled		MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR: Mike Miller
Backfill using bentonite		w/bentonite	N/A	N/A

LOCATION SKETCH/COMMENTS

LE 10302014-02H

SCALE: None



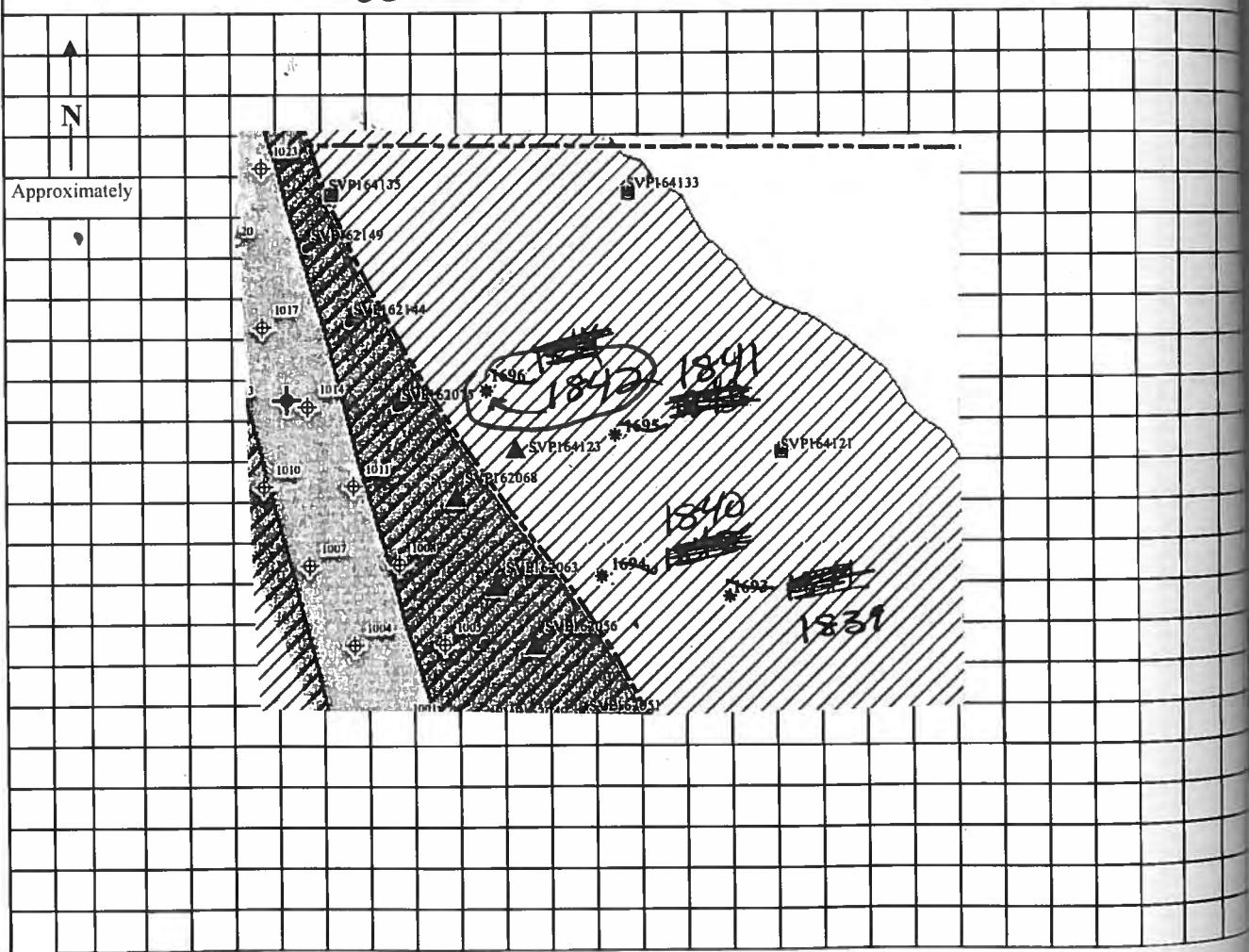
17

HTRW DRILLING LOG		DISTRICT: St. Louis USACE		HOLE NUMBER SVP 1767		
1 COMPANY NAME Leidos		2 DRILL SUBCONTRACTOR Leidos		SHEET 1 OF 2		
3 PROJECT Coldwater Creek - Reach A		4. LOCATION: # 1842 10/29/14 1842				
5 NAME OF DRILLER Matt Dostal		6 MANUFACTURERS DESIGNATION OF DRILL N/A				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT Stainless Steel (ss) bowel, ss trowel with ss hand auger 3in ID.		8. HOLE COORDINATES E: 865050 N: 1074496				
Meter - Background 44-9 A - 42 44-10 E - 9322		9. SURFACE ELEVATION N/A				
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED N/A				
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A				
14. TOTAL DEPTH OF HOLE 1 FT below grade		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A				
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS N/A	VOC N/A	METALS N/A	RAD SAMPLES 1	QA/QC SAMPLES 0	ARCHIVE SAMPLE 1	21. TOTAL CORE RECOVERY
22. DISPOSITION OF HOLE Backfilled using bentonite	BACKFILLED w/bentonite	MONITORING WELL N/A	OTHER (SPECIFY) N/A	23. SIGNATURE OF INSPECTOR Mike Miller		

LOCATION SKETCH/COMMENTS

LE 10302014-02H

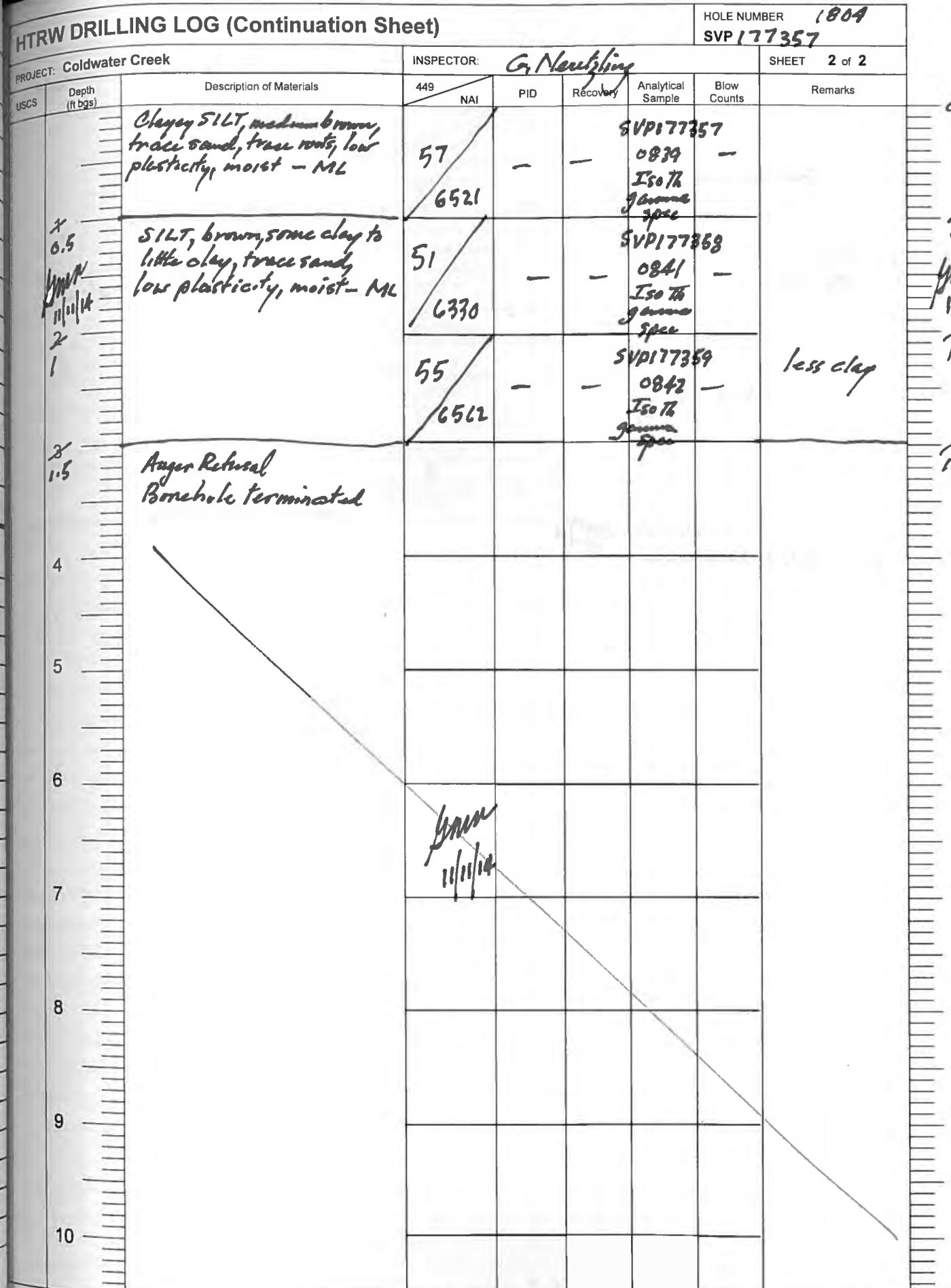
SCALE: None



19

HTRW DRILLING LOG		DISTRICT: St. Louis USACE		HOLE NUMBER SVP	
1 COMPANY NAME Leidos		2 DRILL SUBCONTRACTOR Leidos		SHEET 1 OF 2	
3 PROJECT: Coldwater Creek - Reach A		4 LOCATION #1804			
5 NAME OF DRILLER Tom Schmitzgus/Antonio Martinez		6 MANUFACTURERS DESIGNATION OF DRILL N/A			
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT with ss hand auger 3in ID.		8 HOLE COORDINATES E864980 N1073625			
Meter - Background 44-9 E - 39 cpm 44-10 L - 5497 cpm		9 SURFACE ELEVATION N/A			
10. DATE STARTED: 11/11/14		11 DATE COMPLETED 11/11/14			
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED N/A			
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A			
14. TOTAL DEPTH OF HOLE 1.5 Ft bgs		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A			
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A		
20. SAMPLES FOR CHEMICAL ANALYSIS N/A	VOC N/A	METALS N/A	RAD SAMPLES 3	QA/QC SAMPLES 0	21. TOTAL CORE RECOVERY: N/A
22. DISPOSITION OF HOLE Backfill using bentonite	BACKFILLED w/bentonite	MONITORING WELL N/A	OTHER (SPECIFY) N/A	23. SIGNATURE OF INSPECTOR Gary Neutzing	
LOCATION SKETCH/COMMENTS COC # LE 1112014-04H		SCALE: None			

Recorded By G. Neutzing Date 11/11/14 QA By MSleiner Date 11-19-14



Recorded By G. Neutzing Date 11/11/14 QA By MSleiner Date 11-19-14

HTRW DRILLING LOG		DISTRICT St. Louis USACE		HOLE NUMBER SVP 177354			
1. COMPANY NAME: Leidos		2 DRILL SUBCONTRACTOR Leidos		SHEET 1 OF 2			
3 PROJECT: Coldwater Creek – Reach A		4 LOCATION # 1803					
5 NAME OF DRILLER: Tom Schmitz		6 MANUFACTURERS DESIGNATION OF DRILL N/A					
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8 HOLE COORDINATES E864980 N1073625					
Meter - Background 44-9 E - 38 gpm 44-10 L - 5497 gpm		9 SURFACE ELEVATION N/A					
		10 DATE STARTED 11/11/14 11 DATE COMPLETED 11/11/14					
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED N/A					
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A					
14. TOTAL DEPTH OF HOLE 1.5 ft bgs		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A					
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A		N/A	N/A	3	0	0	
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite		w/bentonite	N/A	N/A	<i>Gary Newell</i>		
LOCATION SKETCH/COMMENTS LOC #: LE1112014-04H		SCALE: None					

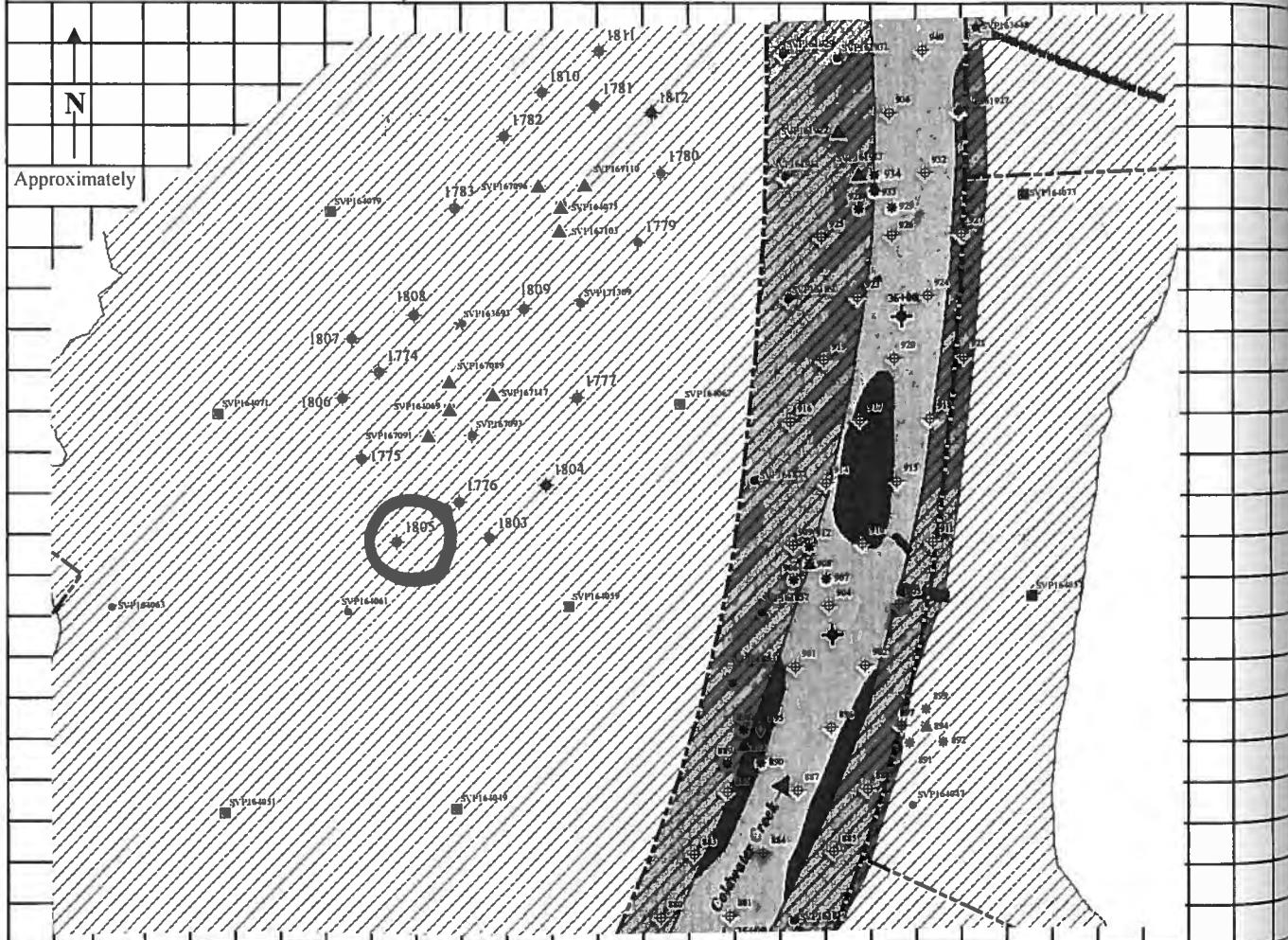
HTRW DRILLING LOG (Continuation Sheet)							HOLE NUMBER SVP 177354	
PROJECT Coldwater Creek		INSPECTOR: G. Neutzhing					SHEET 2 of 2	
USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
		Clayey S/LT, brown trace Sand, low plasticity, moist -ML	63	-	-	SVP177354	-	
			6301	-	-	0917	-	
			66	-	-	Iso Th		
			6305	-	-	gamma		
			54	-	-	Spec		
			6576	-	-	SVP177355	-	
				-	-	0918	-	
				-	-	Iso Th		
				-	-	gamma		
				-	-	Spec		
				-	-	SVP177356	-	
				-	-	0919	-	
				-	-	Iso Th		
				-	-	gamma		
				-	-	Spec		
	3.6	Borehole terminated						
	4							
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By L. Neutzling Date 11/11/14 QA By MSteines Date 11-19-14

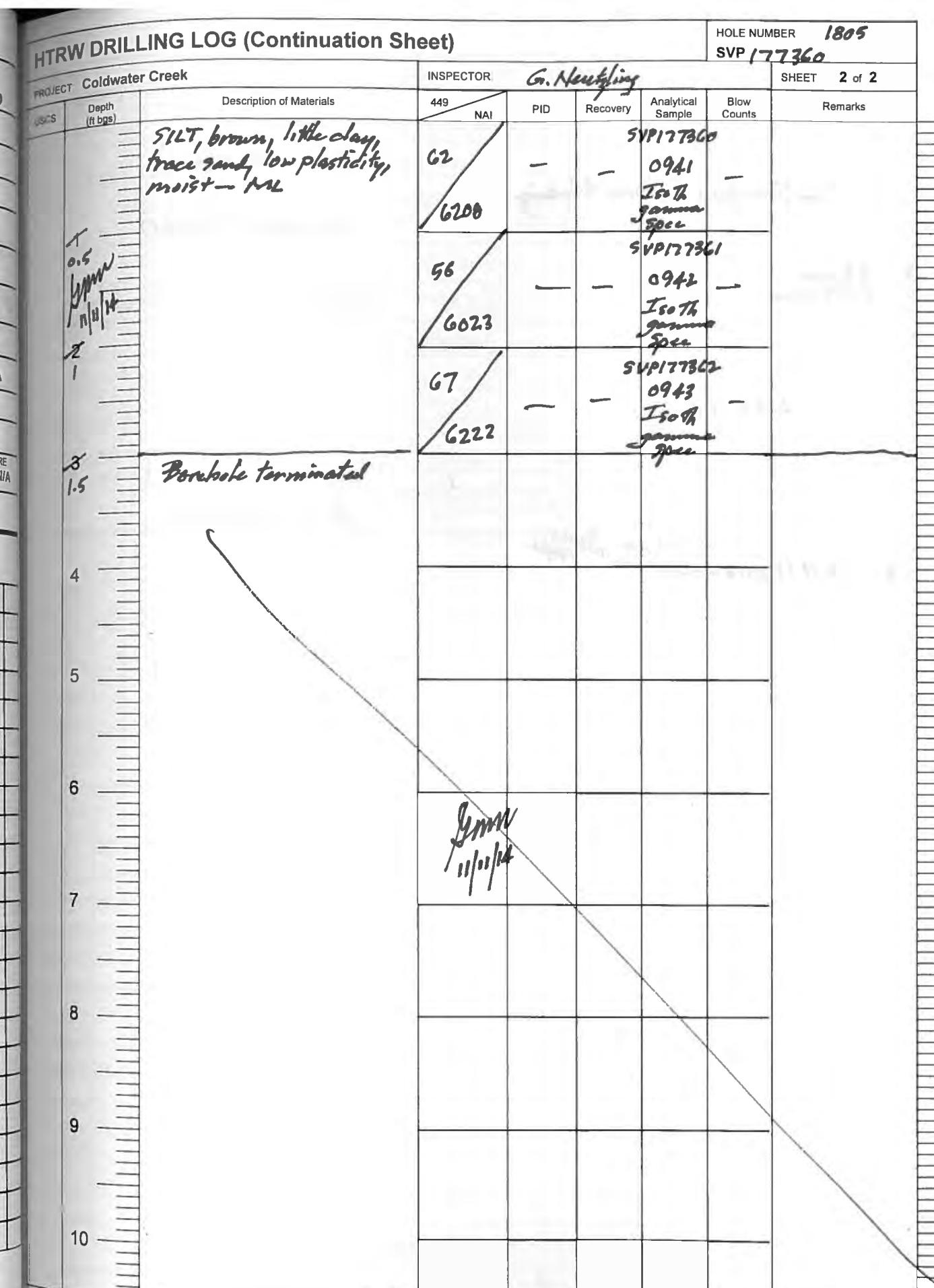
Recorded By G. Neutzling Date 11/11/14 QA By M. Leines Date 11-29-14

73

HTRW DRILLING LOG		DISTRICT St. Louis USACE	HOLE NUMBER SVP177360
1. COMPANY NAME: Leidos		2. DRILL SUBCONTRACTOR Leidos	
3. PROJECT Coldwater Creek - Reach A		4. LOCATION # 1805	
5. NAME OF DRILLER Tom Schnitzlein / Antonio Martinez		6. MANUFACTURERS DESIGNATION OF DRILL N/A	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8. HOLE COORDINATES E 864904 N 1073597	
Stainless Steel (ss) bowel, ss trowel with ss hand auger 3in ID.		9. SURFACE ELEVATION N/A	
Meter - Background		10. DATE STARTED: 11/11/14 11. DATE COMPLETED 11/11/14	
44-9 E - 38 cpm		12. OVERBURDEN THICKNESS N/A	
44-10 L - 5497 cpm		13. DEPTH DRILLED INTO ROCK N/A	
14. TOTAL DEPTH OF HOLE 1.5 ft bgs		15. DEPTH GROUNDWATER ENCOUNTERED N/A	
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS
N/A		N/A	N/A
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL
Backfill using bentonite		w/bentonite	N/A
LOCATION SKETCH/COMMENTS		11/11/14	
COC #: LE1112014-04H		SCALE: None	



Recorded By G. Neutzel Date 11/11/14 QA By MSSteiner Date 11-19-14

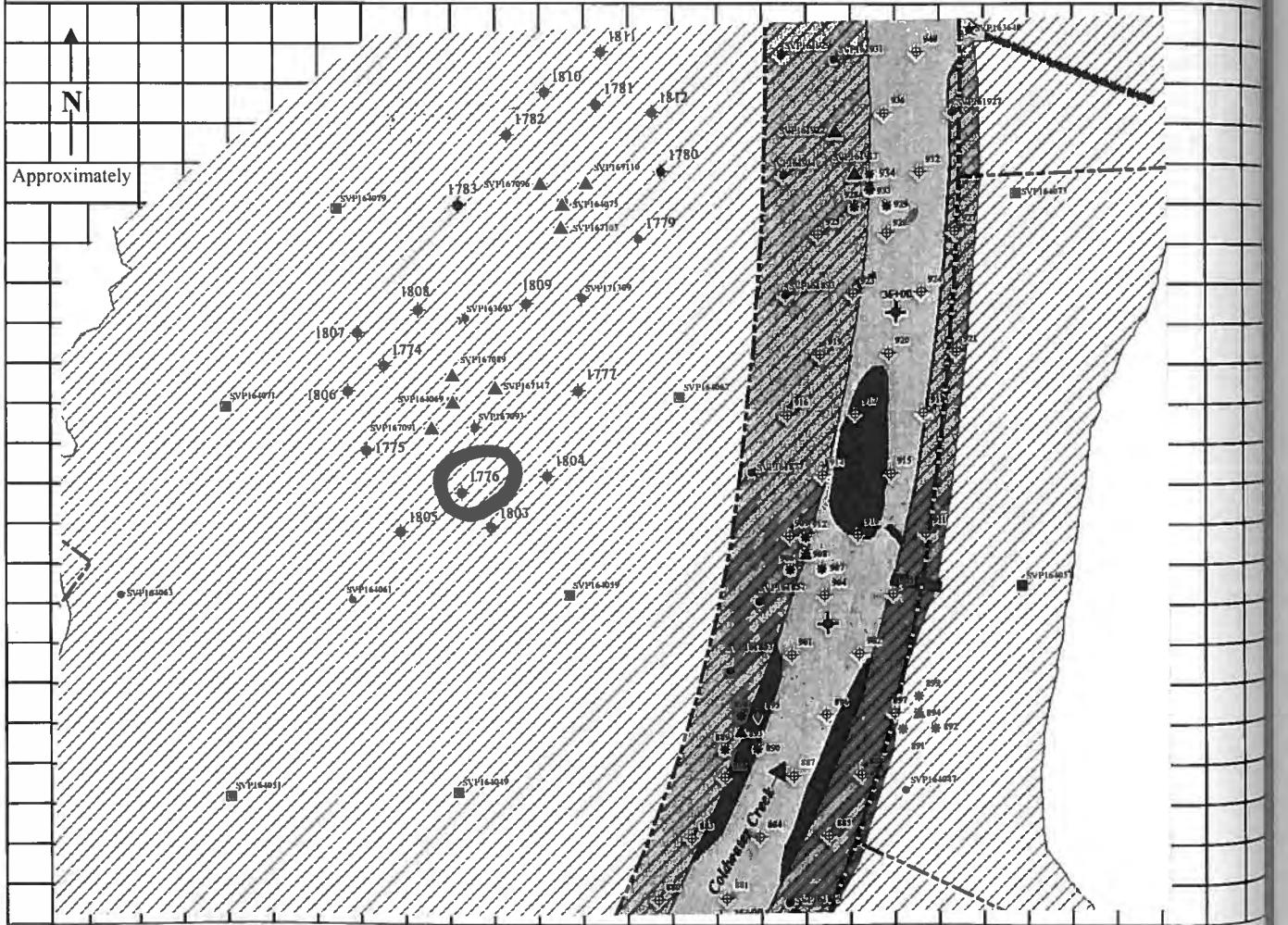


Recorded By G. Neutzel Date 11/11/14 QA By MSSteiner Date 11-19-14

74

25

HTRW DRILLING LOG		DISTRICT St. Louis USACE	HOLE NUMBER 1776 SVP 171305
1 COMPANY NAME: Leidos		2 DRILL SUBCONTRACTOR: Leidos	
SHEET 1 OF 2			
3. PROJECT: Coldwater Creek - Reach A		4. LOCATION: # 1776 (bound vertically)	
5. NAME OF DRILLER: Tom Schmitzus / Andrew Martinez		6. MANUFACTURERS DESIGNATION OF DRILL N/A	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8. HOLE COORDINATES: E 864936 N 073617	
Stainless Steel (ss) bowel, ss trowel with ss hand auger 3in ID.			
Meter - Background		9. SURFACE ELEVATION: N/A	
44-9 E - 38 cpm		10. DATE STARTED: 11/11/14	
44-10 L - 5497 cpm		11. DATE COMPLETED: 11/11/14	
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED. N/A	
13. DEPTH DRILLED INTO ROCK N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A	
14. TOTAL DEPTH OF HOLE 2.0 ft bgs		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A
20. SAMPLES FOR CHEMICAL ANALYSIS N/A	VOC N/A	METALS N/A	RAD SAMPLES 1
21. TOTAL CORE RECOVERY: N/A	QA/QC SAMPLES 9	ARCHIVE SAMPLE 1	
22. DISPOSITION OF HOLE Backfill using bentonite	BACKFILLED w/bentonite	MONITORING WELL N/A	OTHER (SPECIFY) N/A
23. SIGNATURE OF INSPECTOR: Gary Neutzling			
LOCATION SKETCH/COMMENTS Loc # LE 1112014-04H w/ soil plug 11/11/14		SCALE: None	

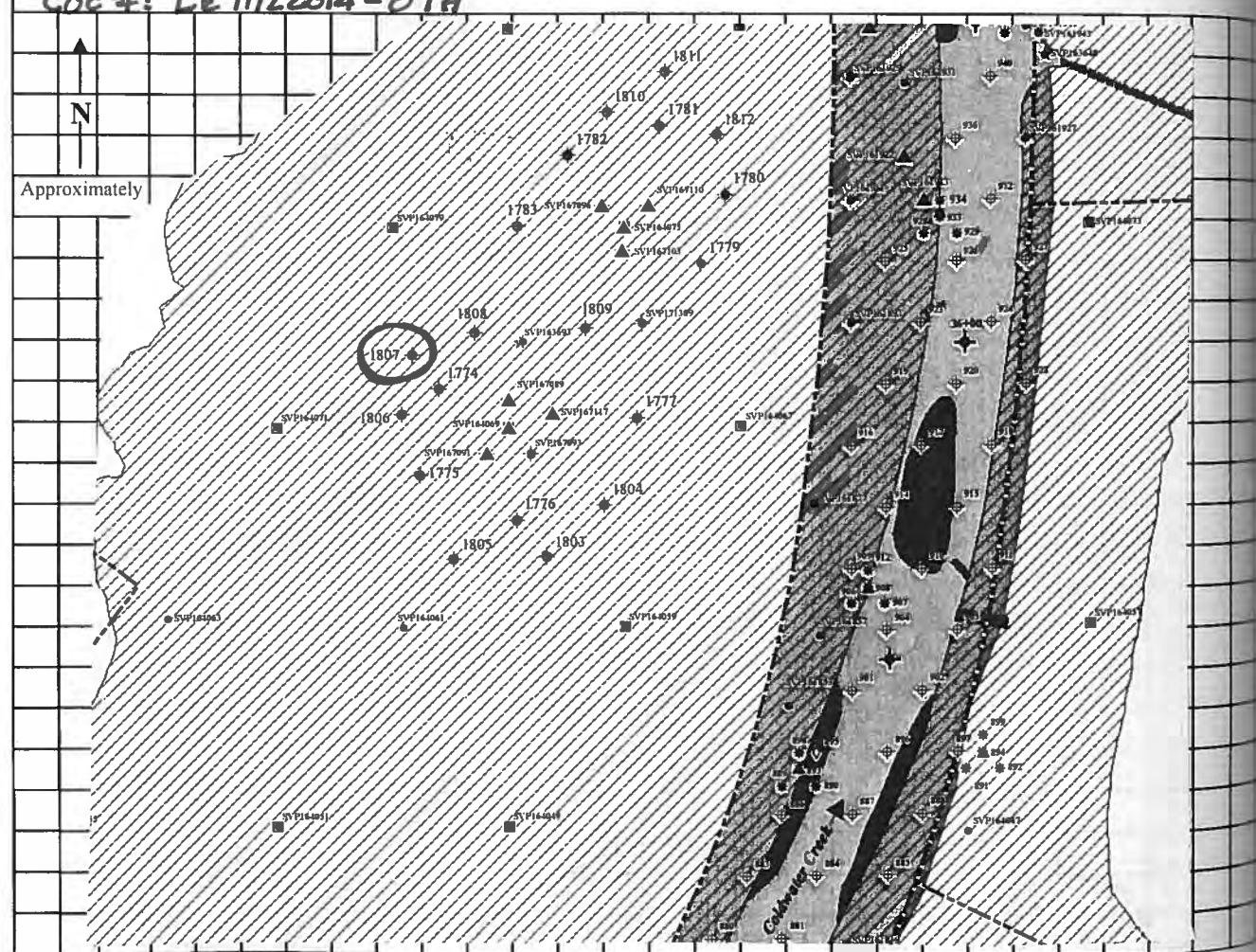


JF

HTRW DRILLING LOG		DISTRICT St. Louis USACE	HOLE NUMBER SVP 177363			
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2				
3. PROJECT Coldwater Creek - Reach A		4. LOCATION # 1806				
5. NAME OF DRILLER Megan Sherman / Antonio Martinez		6. MANUFACTURERS DESIGNATION OF DRILL N/A				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT Stainless Steel (ss) bowel, ss trowel with ss hand auger 3in ID.		8. HOLE COORDINATES E 864978 N 1073670				
Meter - Background 44-9 E - 30 cpm 44-10 L - 5232 cpm		9. SURFACE ELEVATION N/A				
		10. DATE STARTED: 11/11/14	11. DATE COMPLETED: 11/11/14			
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED. N/A				
13. DEPTH DRILLED INTO ROCK N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A				
14. TOTAL DEPTH OF HOLE 1.0 ft bgs		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A				
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS N/A	VOC N/A	METALS N/A	RAD SAMPLES 2	QA/QC SAMPLES 0	ARCHIVE SAMPLE 0	21. TOTAL CORE RECOVERY: N/A
22. DISPOSITION OF HOLE Backfill using bentonite	BACKFILLED w/bentonite	MONITORING WELL N/A	OTHER (SPECIFY) N/A	23. SIGNATURE OF INSPECTOR Harry Newitzling		
LOCATION SKETCH/COMMENTS COC #: LE11122014-01H		SCALE: None				
<img alt="A map showing the location of the drilling site. The site is marked with a circle containing the number 1806. Numerous other numbers (e.g., 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 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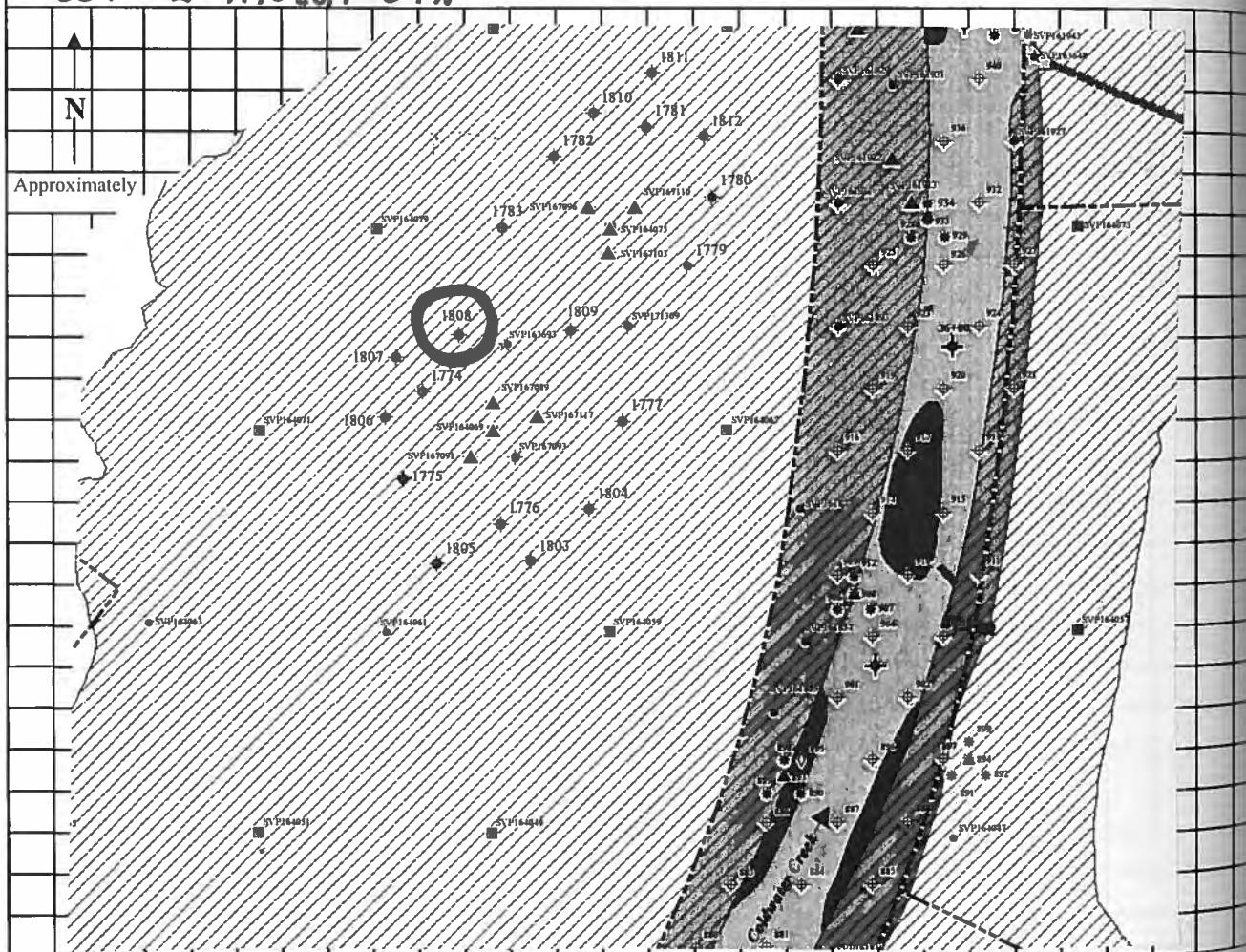
29

HTRW DRILLING LOG		DISTRICT St. Louis USACE	HOLE NUMBER SVP177365
1. COMPANY NAME: Leidos		2 DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek - Reach A		4 LOCATION # 1807	
5. NAME OF DRILLER: Megan Sherman / Antonio Martinez		6 MANUFACTURERS DESIGNATION OF DRILL N/A	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8 HOLE COORDINATES E864883 N1073701	
Stainless Steel (ss) bowel, ss trowel with ss hand auger 3in ID.		9 SURFACE ELEVATION N/A	
Meter - Background		10 DATE STARTED 11/11/14 11 DATE COMPLETED 11/11/14	
44-9 E - 30 cpm		12. OVERBURDEN THICKNESS N/A	
44-10 L - 5272 cpm		13. DEPTH DRILLED INTO ROCK: N/A	
14. TOTAL DEPTH OF HOLE 1.0 ft bgs		15. DEPTH GROUNDWATER ENCOUNTERED: N/A	
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS
N/A		N/A	N/A
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL
Backfill using bentonite		w/bentonite	N/A
LOCATION SKETCH/COMMENTS		SCALE: None	
COG #: LE 11122014-01H		23. SIGNATURE OF INSPECTOR	



31

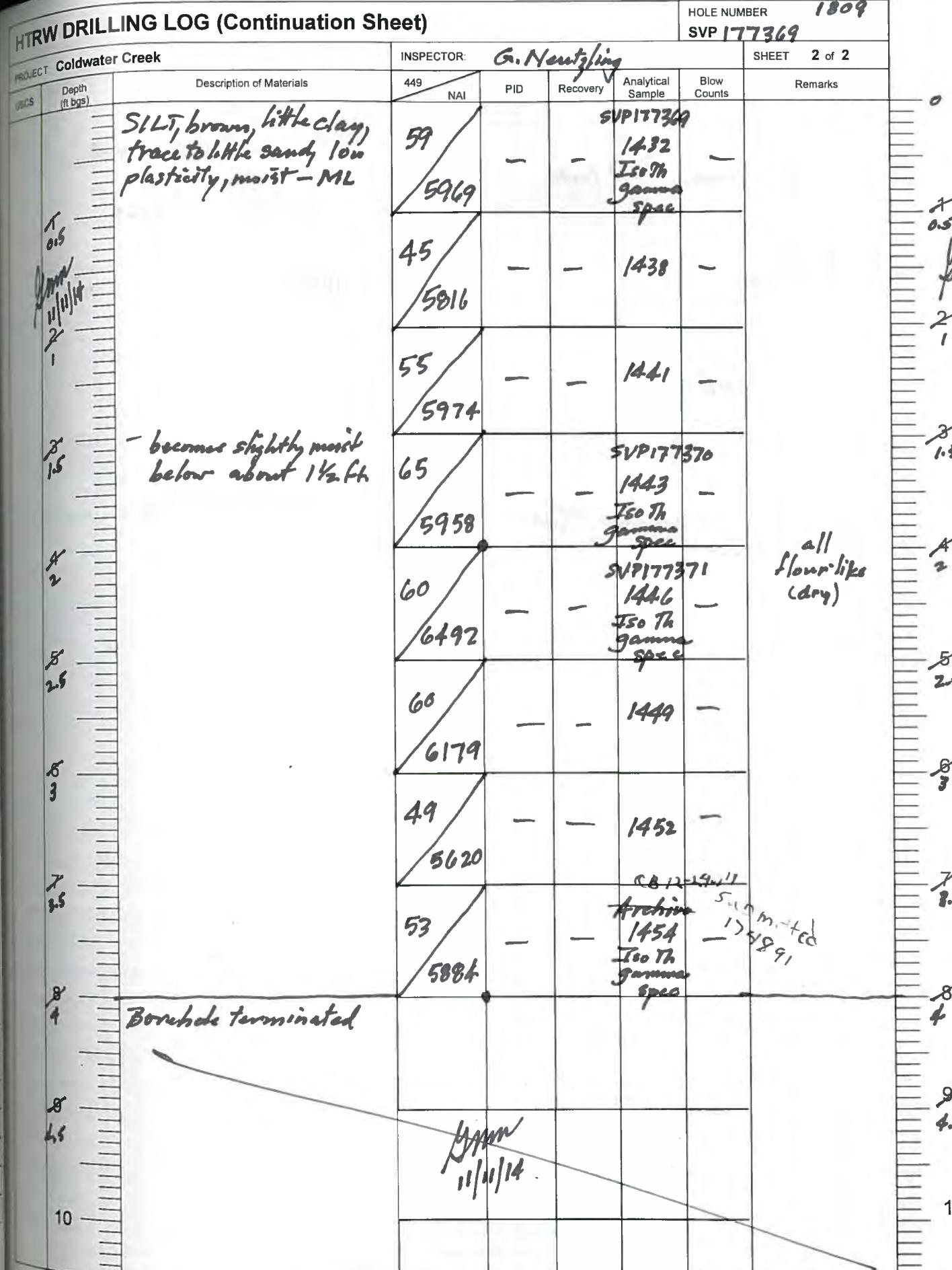
HTRW DRILLING LOG		DISTRICT St. Louis USACE		HOLE NUMBER SVP177367
1. COMPANY NAME: Leidos		2 DRILL SUBCONTRACTOR Leidos		SHEET 1 OF 2
3 PROJECT: Coldwater Creek - Reach A		4 LOCATION #1808		
5 NAME OF DRILLER Megan Sheppard/Antonio Martinez		6 MANUFACTURERS DESIGNATION OF DRILL N/A		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT Stainless Steel (ss) bowel, ss trowel with ss hand auger 3in ID.		8. HOLE COORDINATES E864915 N1073712		
44-9 E - 30 Gpm 44-10 L - 5272 Gpm		9. SURFACE ELEVATION N/A		
10. DATE STARTED 11/11/14		11. DATE COMPLETED 11/11/14		
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED N/A		
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A		
14. TOTAL DEPTH OF HOLE 1.0 ft bgs		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A		
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A	
20. SAMPLES FOR CHEMICAL ANALYSIS N/A	VOC N/A	METALS N/A	RAD SAMPLES 2	QA/QC SAMPLES 1 set of 2
22. DISPOSITION OF HOLE Backfill using bentonite	BACKFILLED w/bentonite	MONITORING WELL N/A	OTHER (SPECIFY) N/A	23. SIGNATURE OF INSPECTOR G. Neutglug
LOCATION SKETCH/COMMENTS <i>at soil plug 11/11/14</i> COC #: LE11122014-01N				
SCALE: None				



33

HTRW DRILLING LOG		DISTRICT: St. Louis USACE	HOLE NUMBER SVP 177369			
1. COMPANY NAME	Leidos	2 DRILL SUBCONTRACTOR	Leidos			
3 PROJECT: Coldwater Creek - Reach A		4 LOCATION # 1809				
5 NAME OF DRILLER	Megan Sherman / Antonio Martinez	6 MANUFACTURERS DESIGNATION OF DRILL N/A				
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	Stainless Steel (ss) bowel, ss trowel with ss hand auger 3in ID.					
Meter - Background		9 SURFACE ELEVATION N/A				
44-9 E - 30 cpm		10 DATE STARTED	11/11/14			
44-10 L - 5282 cpm		11. DATE COMPLETED 11/11/14				
12 OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED N/A				
13. DEPTH DRILLED INTO ROCK: N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A				
14. TOTAL DEPTH OF HOLE 4.0 ft bgs		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A				
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY N/A
N/A	N/A	N/A	3	0	1	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR G. Neutzelring		
Backfill using bentonite	w/bentonite	N/A	N/A			
LOCATION SKETCH/COMMENTS 1809 Soil plug down 11/10/14 COC #: LE 11122014-01H		SCALE: None				

Recorded By G. Neutzelring Date 11/11/14 QA By MSSteiner Date 11/19/14



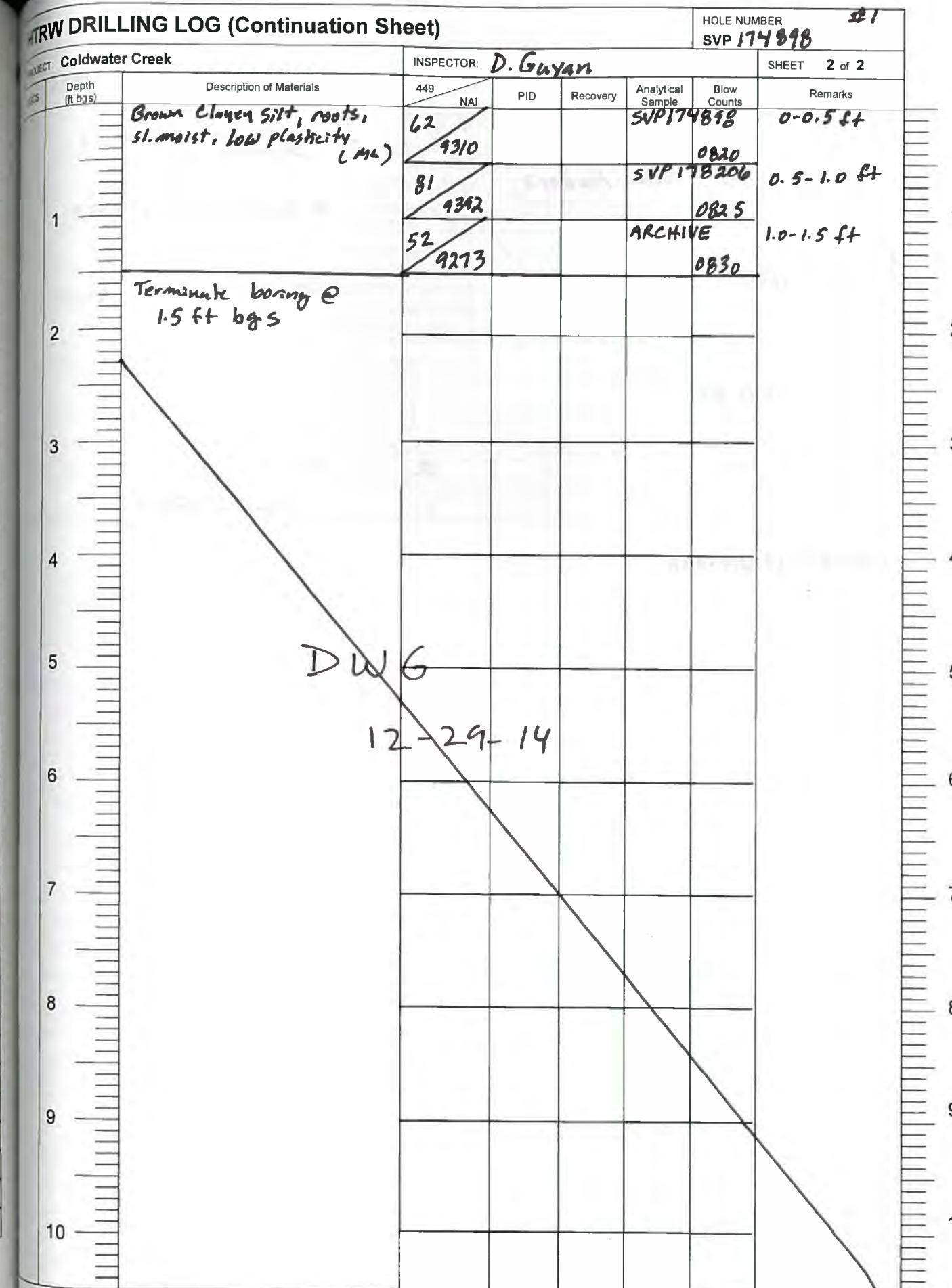
Recorded By G. Neutzelring Date 11/11/14 QA By MSSteiner Date 11/19/14

34

58

HTRW DRILLING LOG		DISTRICT: St. Louis USACE	HOLE NUMBER SVP 174898			
1 COMPANY NAME Leidos	2 DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2				
3 PROJECT Coldwater Creek - Reach A		4 LOCATION # 1 (Bounding at S.Fordland Cemetery)				
5 NAME OF DRILLER Matt Dostal / Antonio Martinez		6 MANUFACTURERS DESIGNATION OF DRILL N/A				
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT with ss hand auger 3in ID.		8 HOLE COORDINATES E: 865244; N: 1074047				
Meter - Background 44-9 A - 40 rpm 44-10 L - 1237 rpm		9 SURFACE ELEVATION N/A				
12. OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED N/A				
13 DEPTH DRILLED INTO ROCK N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A				
14. TOTAL DEPTH OF HOLE 1.5 ft bgs		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A				
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A		
20. SAMPLES FOR CHEMICAL ANALYSIS N/A		VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	21. TOTAL CORE RECOVERY N/A
22. DISPOSITION OF HOLE Backfill using bentonite		BACKFILLED w/bentonite	MONITORING WELL N/A	OTHER (SPECIFY) N/A	23. SIGNATURE OF INSPECTOR D.W. Guyan	
LOCATION SKETCH/COMMENTS COC #: LE12292014-024				SCALE: None		
<p>Approximately</p> <p>N</p> <p>141FPS 142FPS 143FPS 140FPS 137FPS 136FPS 41FPS</p>						

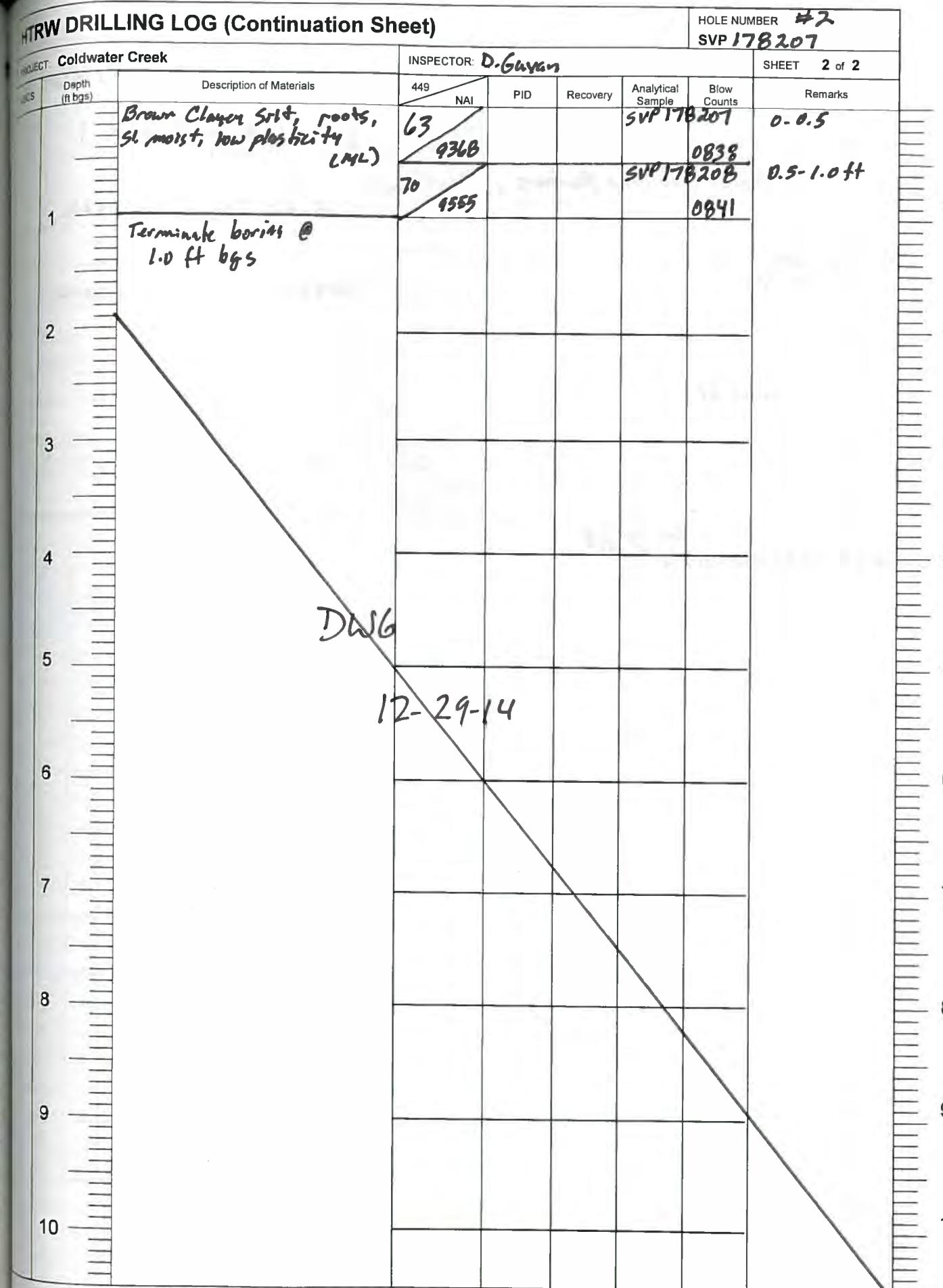
Recorded By D.W. Guyan Date 12-29-14 QA By M Steiner Date 1-6-15



Recorded By D.W. Guyan Date 12-29-14 QA By M Steiner Date 1-6-15

HTRW DRILLING LOG		DISTRICT: St. Louis USACE	HOLE NUMBER SVP 178207
1. COMPANY NAME: Leidos		2 DRILL SUBCONTRACTOR: Leidos	
		SHEET 1 OF 2	
3. PROJECT: Coldwater Creek - Reach A		4 LOCATION # 2 ( <i>St. Ferdinand Cemetery</i> )	
5 NAME OF DRILLER Matt Dostal / Antonio Martinez		6 MANUFACTURERS DESIGNATION OF DRILL: N/A	
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8 HOLE COORDINATES E: 86522.8; N: 1074083	
with ss hand auger 3in ID.		9 SURFACE ELEVATION N/A	
Meter - Background		10. DATE STARTED: 12-29-14 11 DATE COMPLETED: 12-29-14	
44-9 9 - 40 cm 44-10 2 - 92.7 cm			
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED N/A	
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A	
14. TOTAL DEPTH OF HOLE 1.0 ft bgs		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS
N/A		N/A	N/A
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL
Backfill using bentonite		w/bentonite	N/A
LOCATION SKETCH/COMMENTS		SCALE: None	
<i>Cold# L6 12292014-02H</i>			

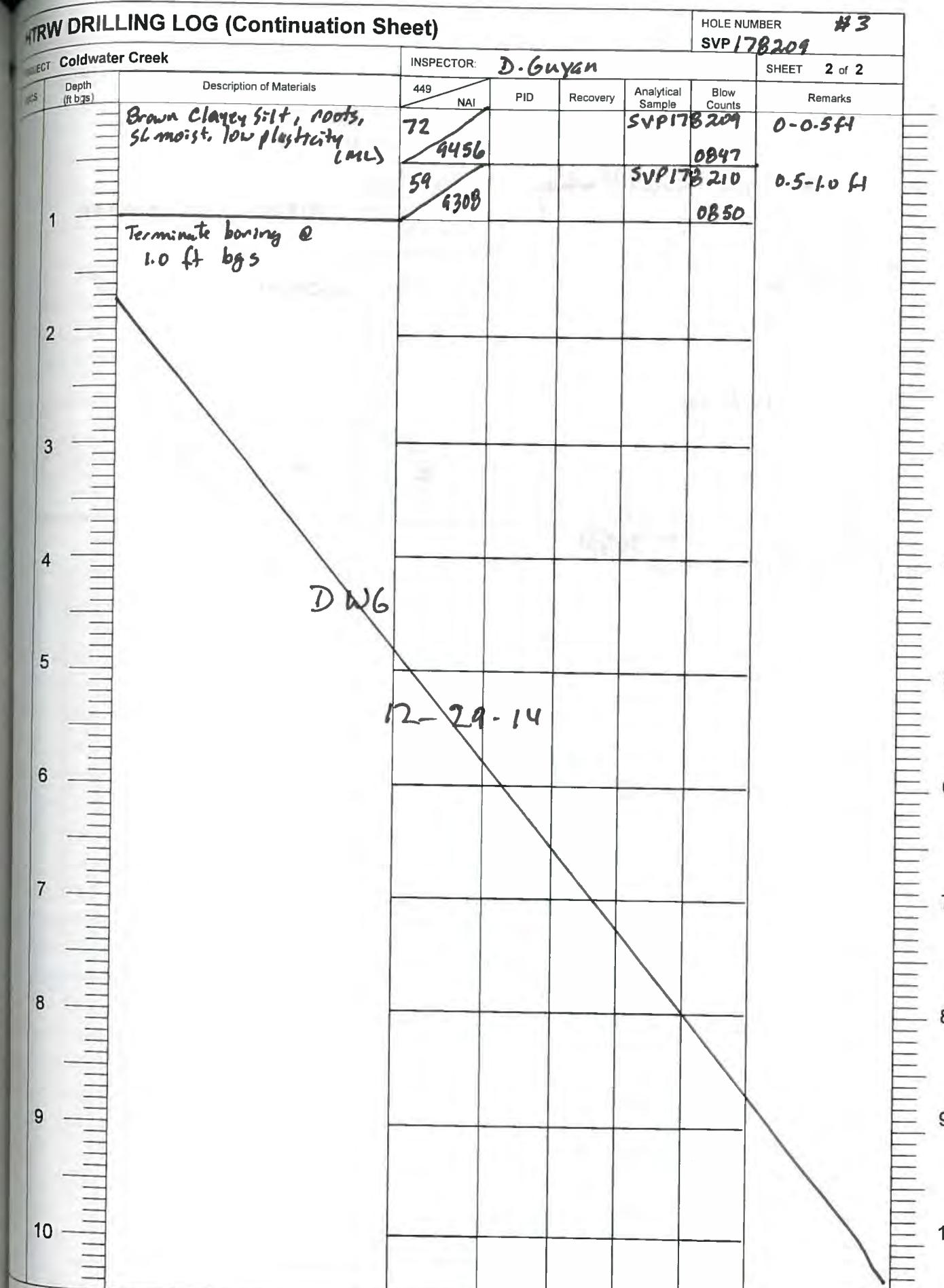
Recorded By David W. Guyan Date 12-29-14 QA By MSteiner Date 1-6-15



Recorded By David W. Guyan Date 12-29-14 QA By MSteiner Date 1-6-15

HTRW DRILLING LOG		DISTRICT St. Louis USACE		HOLE NUMBER SVP 178209			
1 COMPANY NAME Leidos		2 DRILL SUBCONTRACTOR Leidos		SHEET 1 OF 2			
3 PROJECT Coldwater Creek - Reach A		4 LOCATION # 3 (St. Ferdinand Cemetery Boundary)					
5 NAME OF DRILLER Matt Dostal / Antonio Martinez		6 MANUFACTURERS DESIGNATION OF DRILL N/A					
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT with ss hand auger 3in ID.		8 HOLE COORDINATES E: 865158 ; N: 1074362					
Meter - Background 44-9 A - 40 cm 44-10 L - 92.37 cm		9 SURFACE ELEVATION N/A					
		10. DATE STARTED 12-29-14		11. DATE COMPLETED 12-29-14			
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED N/A					
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A					
14. TOTAL DEPTH OF HOLE 1.0 ft bgs		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A					
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS N/A		VOC N/A	METALS N/A	RAD SAMPLES 2	QA/QC SAMPLES 0	ARCHIVE SAMPLE 0	21. TOTAL CORE RECOVERY: N/A
22. DISPOSITION OF HOLE Backfilled using bentonite		BACKFILLED w/bentonite	MONITORING WELL N/A	OTHER (SPECIFY) N/A	23. SIGNATURE OF INSPECTOR D. Guyan		
LOCATION SKETCH/COMMENTS COC H: LE 1229 2014 - 02 H		Soil [unclear] 1/6/15					
		SCALE: None					
<p>Approximately</p> <p>160FPS 1022 1023 159FPS 1021 1020 1019 1016 1017 1018 1013 155FPS 1014 1015 1011 1012 1010 1007 1006 1005 1004 1001 1002 1003 1000 154FPS 151FPS 148FPS 38+00 997 993 99R 99S 99T 99U 99V 99W 99X 99Y 99Z 130FPS 147FPS 140FPS</p> <p>09K630484</p>							

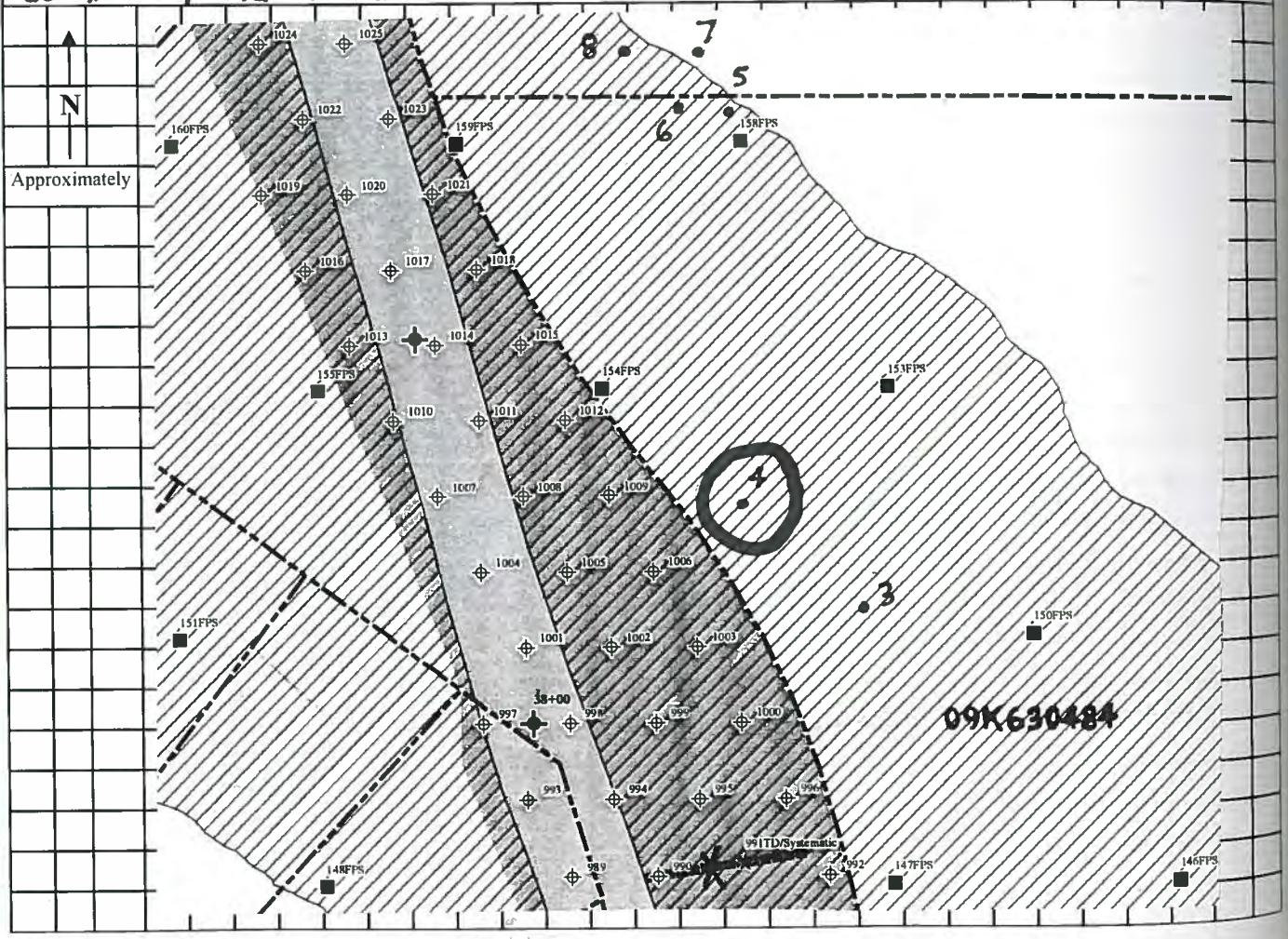
Recorded By Dave W. Guyan Date 12-29-14 QA By MS Steiner Date 1-6-15



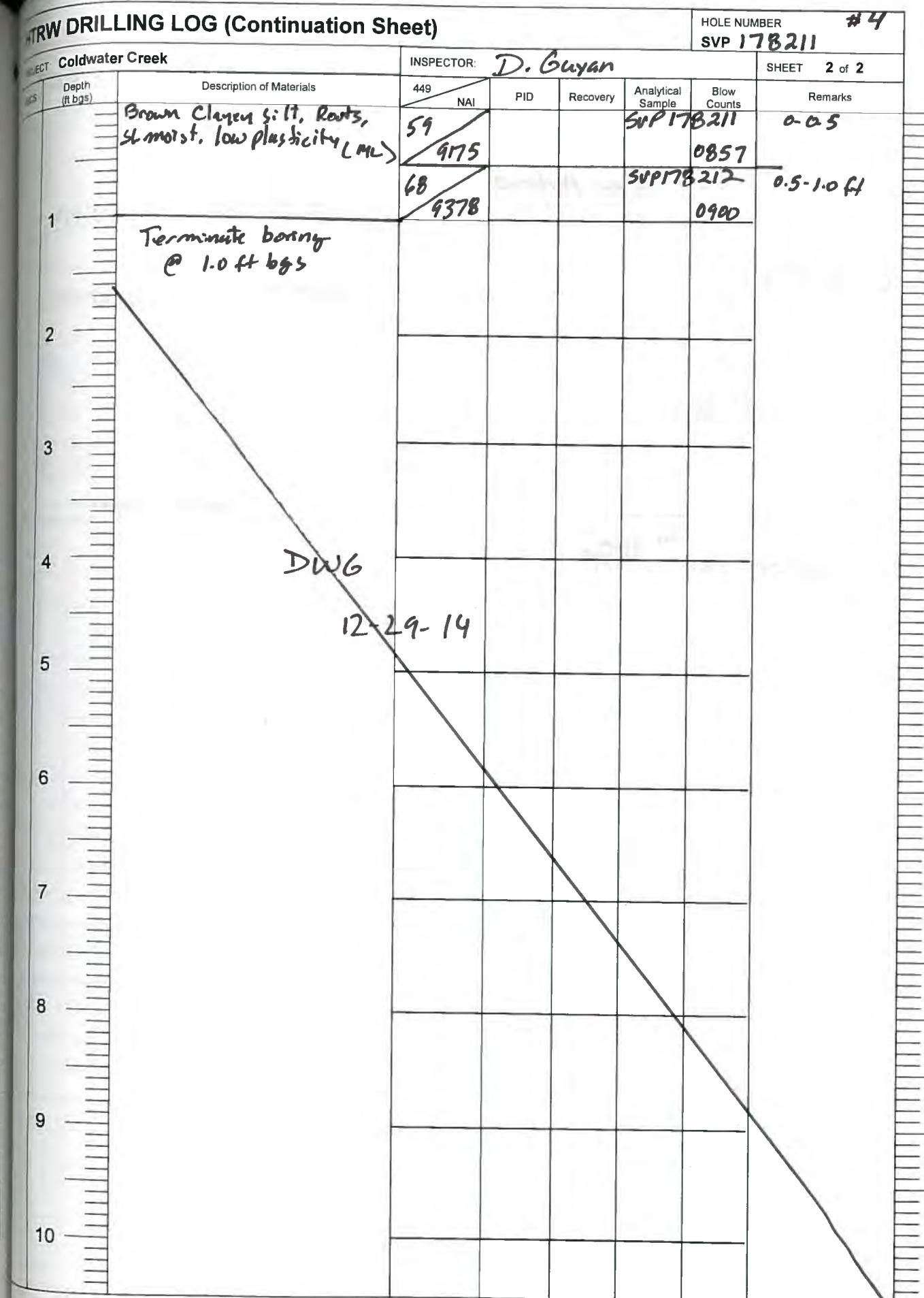
Recorded By Dave W. Guyan Date 12-29-14 QA By MS Steiner Date 1-6-15

HTRW DRILLING LOG		DISTRICT St. Louis USACE	HOLE NUMBER SVP 178211			
1 COMPANY NAME Leidos	2 DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2				
3 PROJECT Coldwater Creek - Reach A		4 LOCATION #4				
5 NAME OF DRILLER Matt Dostal/Antonio Martinez		6 MANUFACTURERS DESIGNATION OF DRILL N/A				
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT AND SAMPLING EQUIPMENT		8 HOLE COORDINATES E: 865131; N: 1074388 Stainless Steel (ss) bowel, ss trowel with ss hand auger 3in ID.				
Meter - Background 44-9 A - 40 cpm 44-10 L - 92.37 cpm		9 SURFACE ELEVATION N/A				
		10. DATE STARTED: 12-29-14	11. DATE COMPLETED			
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED N/A				
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A				
14. TOTAL DEPTH OF HOLE 1.0 ft bgs		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A				
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS N/A	VOC N/A	METALS N/A	RAD SAMPLES 2	QA/QC SAMPLES 0	ARCHIVE SAMPLE 6	21. TOTAL CORE RECOVERY N/A
22. DISPOSITION OF HOLE Backfill using bentonite	BACKFILLED w/bentonite	MONITORING WELL N/A	OTHER (SPECIFY) N/A	23. SIGNATURE OF INSPECTOR		

LOCATION SKETCH/COMMENTS  
LOC #: LE 2292014 - 02H



Recorded By D. Guyan Date 12-29-14 QA By M. Steiner Date 1-6-15

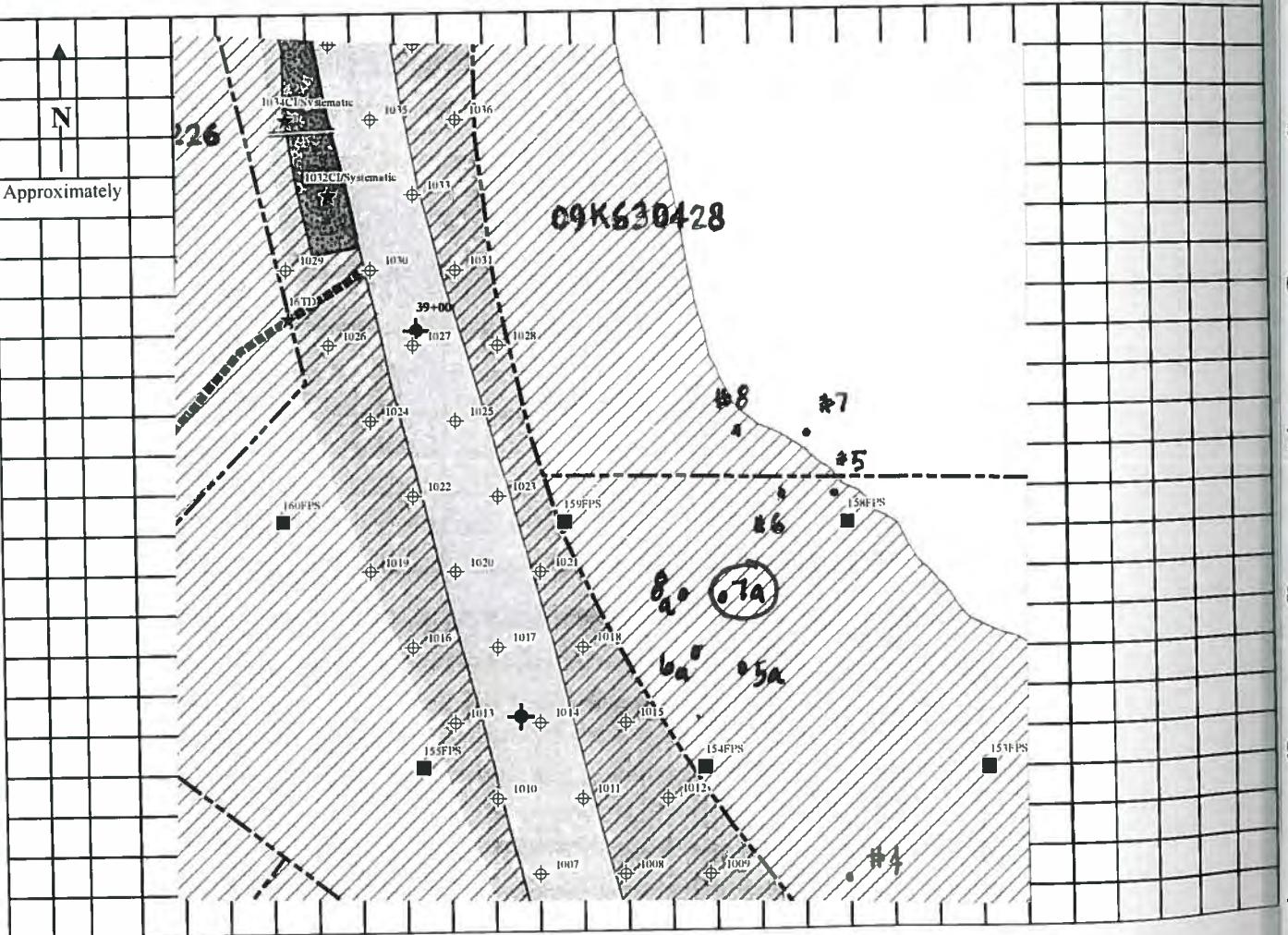


Recorded By D. Guyan Date 12-29-14 QA By M. Steiner Date 1-6-15





HTRW DRILLING LOG		DISTRICT St. Louis USACE	HOLE NUMBER SVP178225			
1. COMPANY NAME Leidos	2 DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2				
3. PROJECT Coldwater Creek - Reach A	4 LOCATION # 7a					
5. NAME OF DRILLER Matt Dostal / Antonio Martinez	6 MANUFACTURERS DESIGNATION OF DRILL N/A					
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8 HOLE COORDINATES E: 865065; N: 1074548					
Meter - Background	9 SURFACE ELEVATION N/A					
44-9 E - 35 cpm	10. DATE STARTED: 1-5-15	11. DATE COMPLETED	15 ft bgs			
44-10 L - 8132 cpm						
12. OVERBURDEN THICKNESS N/A	15 DEPTH GROUNDWATER ENCOUNTERED N/A					
13. DEPTH DRILLED INTO ROCK: N/A	16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A					
14. TOTAL DEPTH OF HOLE 1.0 ft bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A					
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY N/A
N/A	N/A	N/A	2	0	0	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR David W. Gugan		
Backfill using bentonite	w/bentonite	N/A	N/A			
LOCATION SKETCH/COMMENTS	CE 01052014 - 01H					SCALE: None

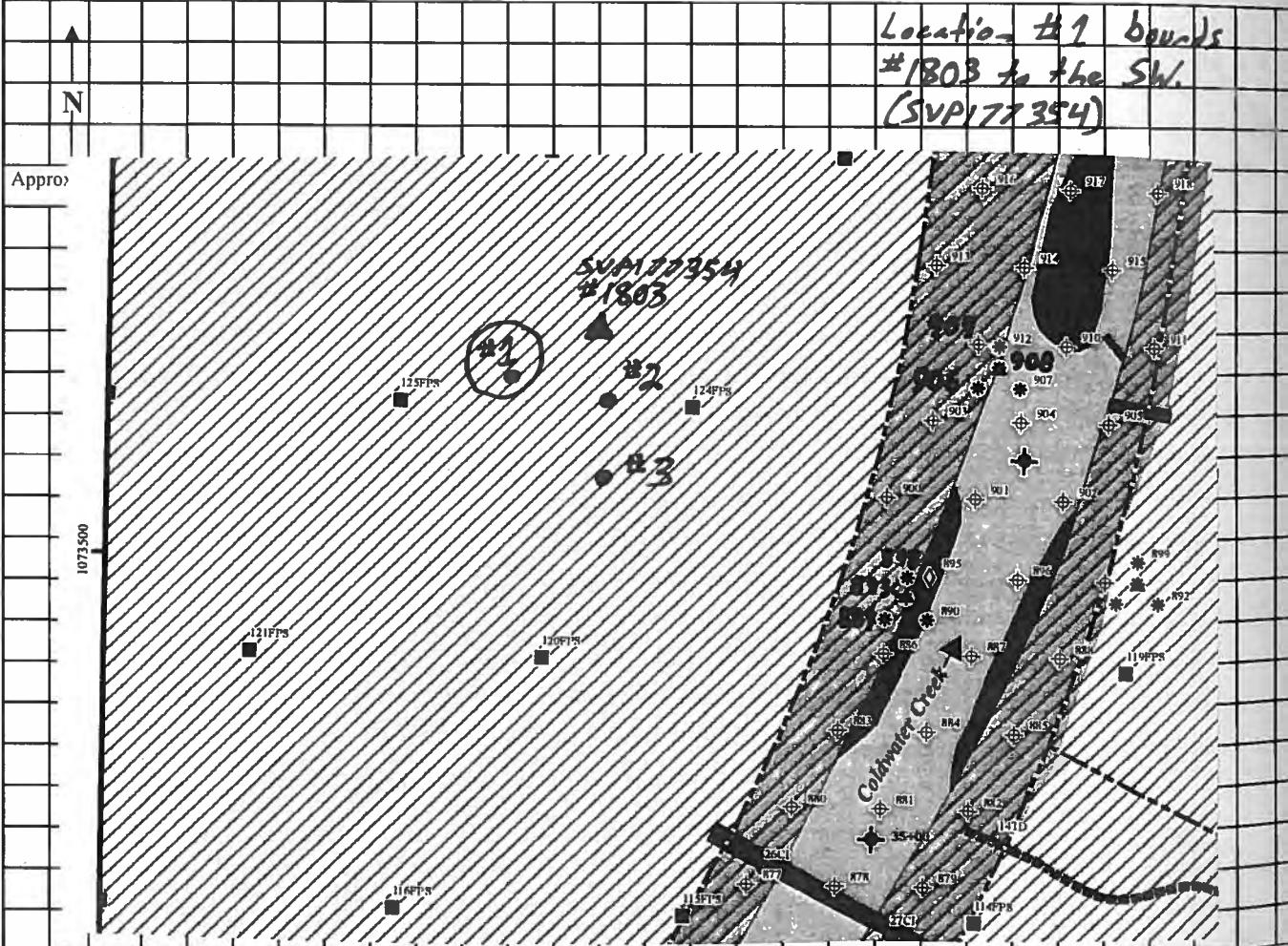




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<b>HTRW DRILLING LOG</b>		DISTRICT: St. Louis USACE		HOLE NUMBER <b>SVP174892</b>
1 COMPANY NAME: Leidos		2 DRILL SUBCONTRACTOR Leidos		SHEET 1 OF 2
3 PROJECT: Coldwater Creek - Reach A		4 LOCATION #1 St. Cln Park Boundary		
5. NAME OF DRILLER: Todd Kector		6 MANUFACTURERS DESIGNATION OF DRILL N/A		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT Meter - Background 44-9 E - 34 44-10 L - 5417		8 HOLE COORDINATES N:1073571.18 E: 264934.93		
		9 SURFACE ELEVATION N/A		
		10 DATE STARTED 12-23-14	11. DATE COMPLETED: 12-23-14	
12 OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED: N/A		
13 DEPTH DRILLED INTO ROCK N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A		
14. TOTAL DEPTH OF HOLE 2.0 ft bgs		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A		
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES: N/A	
20. SAMPLES FOR CHEMICAL ANALYSIS N/A	VOC N/A	METALS N/A	RAD SAMPLES 2	QA/QC SAMPLES Ø
22. DISPOSITION OF HOLE Backfill using bentonite	BACKFILLED w/bentonite	MONITORING WELL N/A	OTHER (SPECIFY) N/A	21. TOTAL CORE RECOVERY: N/A Archive Sample 1
23. SIGNATURE OF INSPECTOR <i>[Signature]</i>				

LOCATION SKETCH/COMMENTS  
COC #: LE12232014-02H



Recorded By *[Signature]* Date 12-23-14 QA By *MSteiner* Date 12-30-14

### RW DRILLING LOG (Continuation Sheet)

Project: Coldwater Creek						INSPECTOR: <i>[Signature]</i>	HOLE NUMBER <b>#1</b> <b>SVP174892</b>	SHEET 2 of 2	
Depth (ft bgs)	Description of Materials					449 NAI	PID	Recovery	Analytical Sample
51	Brown clayey silt Low plasticity; Some V.F. Sand; Moist Little clay content (ML)					51	-	-	SVP174892 1253
57						57	-	-	1255
60						60	-	-	SVP174893 1257
68						68	-	-	Archive 1259
2	Boring Terminated								
3	Location #1 bounds #1803 (SVP177354) to the south west @ St. Cln Park.								
4									
5									
6									
7									
8									
9									
10									

Recorded By *[Signature]* Date 12-23-14 QA By *MSteiner* Date 12-30-14

98

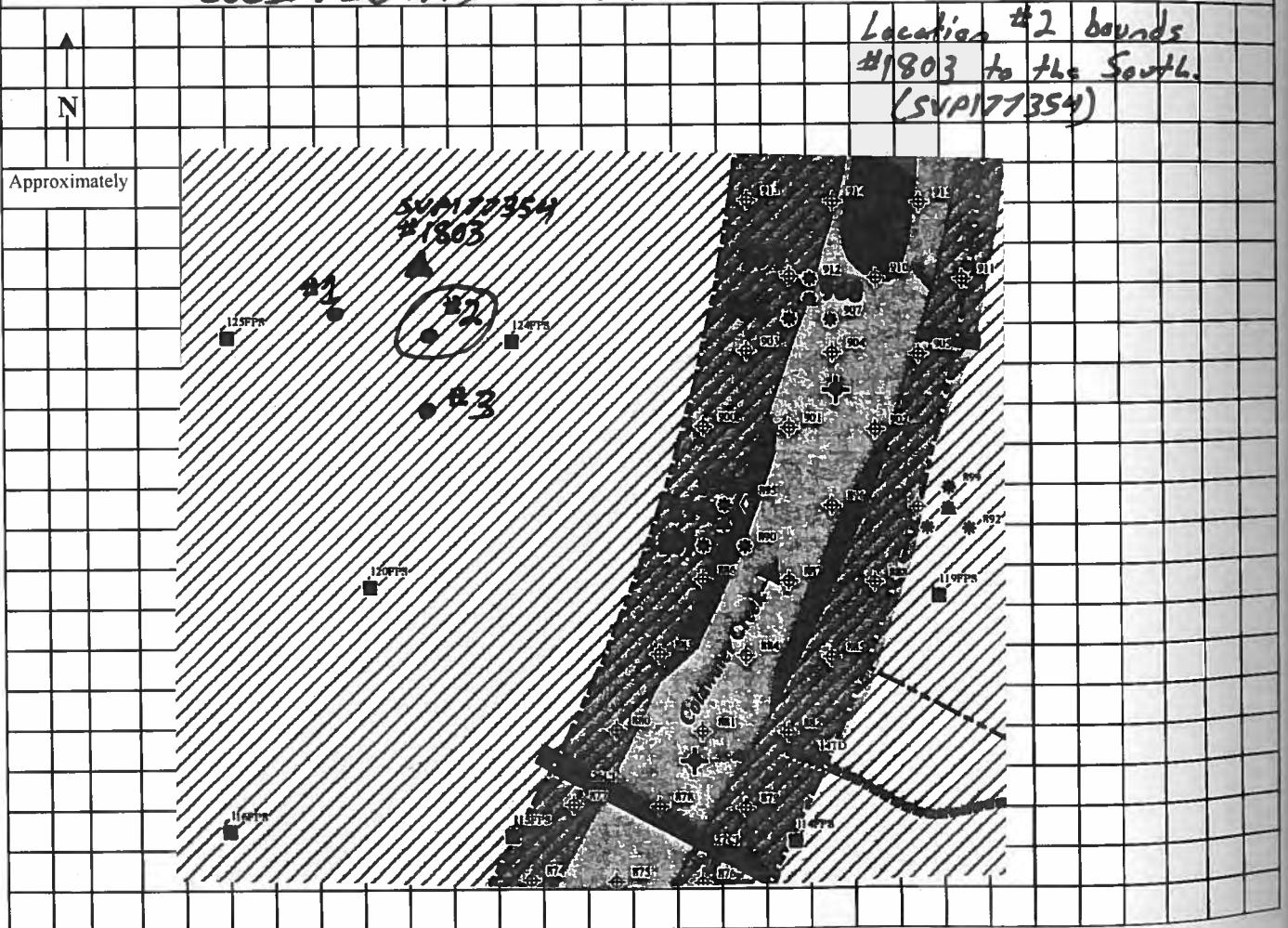
93

HTRW DRILLING LOG		DISTRICT: St. Louis USACE	HOLE NUMBER SVP174894			
1. COMPANY NAME: Leidos		2 DRILL SUBCONTRACTOR Leidos				
		SHEET 1 OF 2				
3. PROJECT: Coldwater Creek - Reach A		4 LOCATION #2 St. Cir Park Bounding				
5. NAME OF DRILLER: Todd Kector		6 MANUFACTURERS DESIGNATION OF DRILL: N/A				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT Meter - Background 44-9 E - 34 44-10 L - 5417		8 HOLE COORDINATES N: 1073560.13 E: 864964.26 with ss hand auger 3in ID.				
9 SURFACE ELEVATION N/A		10 DATE STARTED: 12-23-14 11. DATE COMPLETED: 12-23-14				
12. OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED: N/A				
13. DEPTH DRILLED INTO ROCK N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A				
14. TOTAL DEPTH OF HOLE 2.0 ft bgs		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A				
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS N/A	VOC N/A	METALS N/A	RAD SAMPLES 2	QA/QC SAMPLES 0	ARCHIVE SAMPLE 0	21. TOTAL CORE RECOVERY N/A
22. DISPOSITION OF HOLE Backfill using bentonite	BACKFILLED w/bentonite	MONITORING WELL N/A	OTHER (SPECIFY) N/A	23. SIGNATURE OF INSPECTOR <i>[Signature]</i>		

## LOCATION SKETCH/COMMENTS

Loc #: LE 12232014-024

SCALE: None

Recorded By *[Signature]*

Date 12-23-14

QA By MSteiner

Date 12-30-14

## HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 82  
SVP174894

SHEET 2 of 2

PROJECT: Coldwater Creek		INSPECTOR: <i>[Signature]</i>	Remarks				
Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	
449	Brown clayey silt; Moist low plasticity; Some V.F. sand; Trace roots Little clay content (ML)	449	-	-	SVP174894	1305	0-0.5'
44		6079	-	-			
1	Brown clayey silt w/ light brown and light gray mottling; Low plasticity moist; Some V.F. sand (ML) 18 Roots	6229	-	-	1308		1
55		6143	-	-	1310		
58		6163	-	-	SVP174895	1312	1.5-2.0'
2	Boring Terminated Location #2 bounds #1803 (SVP177354) to the south. @ St. Cir Park.						Soil
3							
4							
5							
6							
7							
8							
9							
10							

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Recorded By *[Signature]*

Date 12-23-14

QA By MSteiner

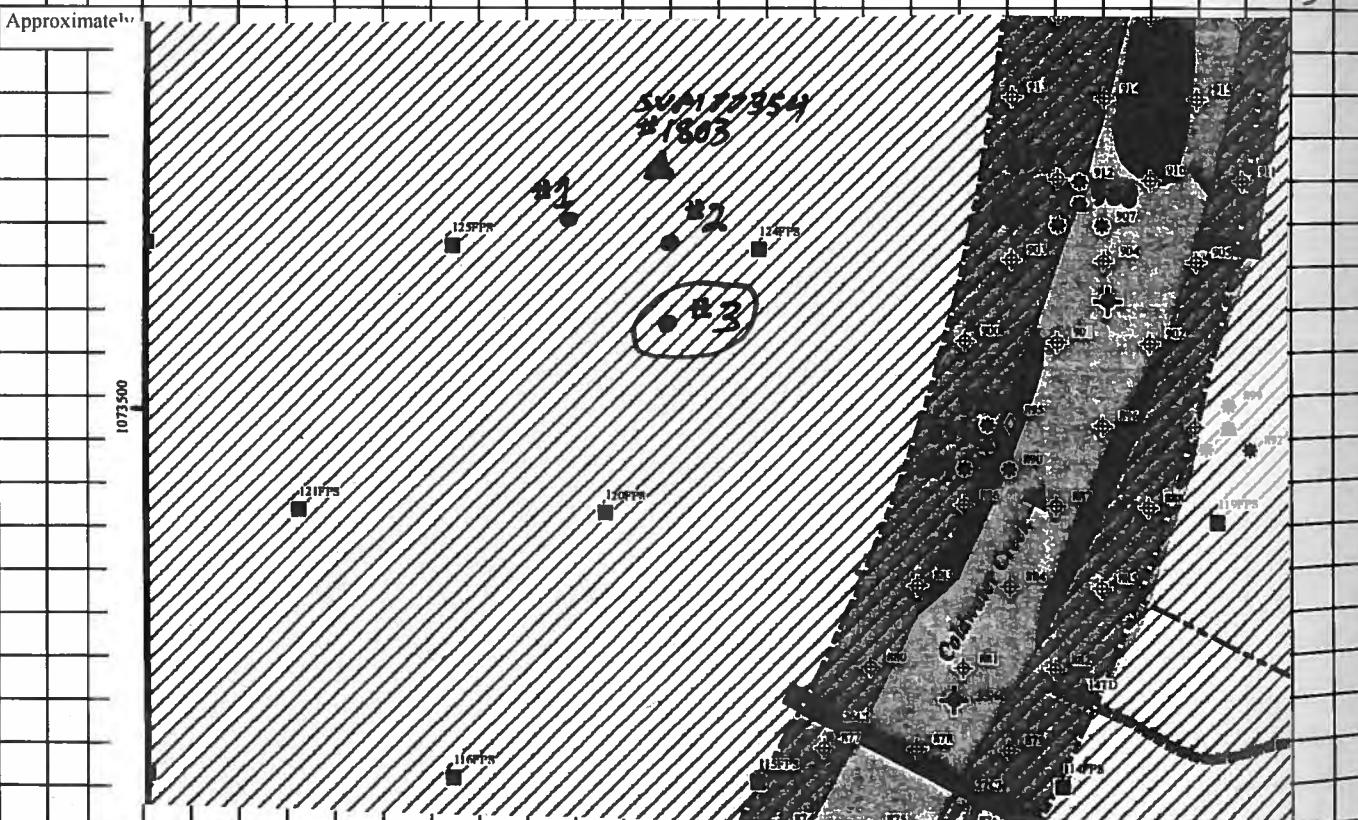
Date 12-30-14

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HTRW DRILLING LOG		DISTRICT St. Louis USACE	HOLE NUMBER SVP174896			
1. COMPANY NAME: Leidos	2 DRILL SUBCONTRACTOR Leidos	SHEET 1 of 2				
3 PROJECT Coldwater Creek - Reach A		4 LOCATION #3 St. Cir Park Boundary				
5. NAME OF DRILLER: Todd Keeton		6 MANUFACTURERS DESIGNATION OF DRILL N/A				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT Stainless Steel (ss) bowel, ss trowel with ss hand auger 3in ID.		8 HOLE COORDINATES N:1073535.42 E:864968.00				
Meter - Background 44-9 E - 34 44-10 L - 5417		9 SURFACE ELEVATION N/A				
		10 DATE STARTED 12-23-14	11 DATE COMPLETED 12-23-14			
12 OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED N/A				
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A				
14. TOTAL DEPTH OF HOLE 2.0 ft bgs		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A				
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS N/A	VOC N/A	METALS N/A	RAD SAMPLES 2	QA/QC SAMPLES 0	ARCHIVE SAMPLE 1	21. TOTAL CORE RECOVERY: N/A
22. DISPOSITION OF HOLE Backfill using bentonite	BACKFILLED w/bentonite	MONITORING WELL N/A	OTHER (SPECIFY) N/A	23. SIGNATURE OF INSPECTOR <i>[Signature]</i>		

## LOCATION SKETCH/COMMENTS

COC #: LE 12232014-024

Recorded By *[Signature]* Date 12-23-14 QA By *M Steiner* Date 12-30-14

HTRW DRILLING LOG (Continuation Sheet)		HOLE NUMBER SVP174896					
COLDWATER CREEK		INSPECTOR: <i>[Signature]</i>	SHEET 2 of 2				
Depth (ft bgs)	Description of Materials	449 NAI 48 6104	PID —	Recovery —	Analytical Sample SVP174896	Blow Counts 1320	Remarks 0-0.5'
1	Brown clayey silt; Moist Some V.F. sand; Low plasticity Trace roots (ML)	58 6189	—	—	SVP174897	1322	0.5-1.0'
	Brown clayey Silt; Moist Light gray, mottling; Low plasticity; Some V.F. sand (ML)	56 6024	—	—	1324		
2	Brown clayey Silt; Moist Low plasticity; Some V.F. Sand; Trace roots (ML)	52 6292	—	—	1326		Archive
	<i>Boring Terminated</i>						Soil
3	Location #3 bounds the bounding location #2 to the South along w/ #1803 (SVP177354)						
4							
5							
6							
7							
8							
9							
10							

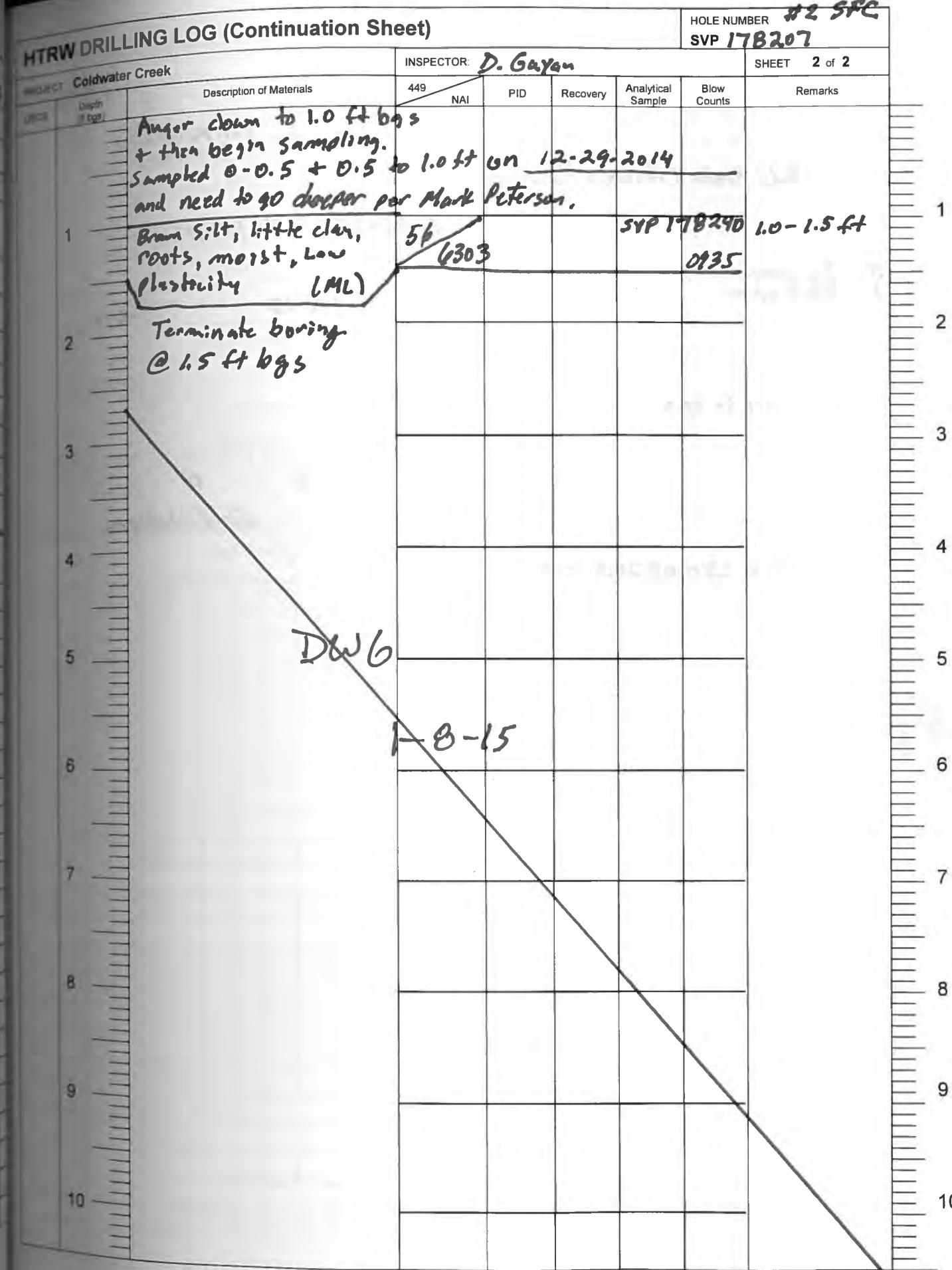
Recorded By *[Signature]* Date 12-23-14 QA By *M Steiner* Date 12-30-14

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HTRW DRILLING LOG		DISTRICT St. Louis USACE		HOLE NUMBER SVP 178207			
1. COMPANY NAME Leidos		2 DRILL SUBCONTRACTOR: Leidos		SHEET 1 OF 2			
3. PROJECT: Coldwater Creek		4. LOCATION: # 2 (St. Ferdinand Cemetery)					
5. NAME OF DRILLER: Matt Dostal / Todd Keeton		6 MANUFACTURERS DESIGNATION OF DRILL: N/A					
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8 HOLE COORDINATES E: 865228; N: 1074083					
Meter - Background 44-9 E - 36 cm 44-10 L - 5407 cm		9 SURFACE ELEVATION: N/A					
12. OVERBURDEN THICKNESS: N/A		10. DATE STARTED: 1-8-15		11. DATE COMPLETED: 1-8-15			
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A					
14. TOTAL DEPTH OF HOLE: 1.5 ft bgs		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A					
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL RECOVERY
N/A		N/A	N/A	6	0	0	N/A
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR: <i>D.W. Gaynor</i>		
Backfill using bentonite		w/bentonite	N/A	N/A			
LOCATION SKETCH/COMMENTS COC# LE01082015-01H							
SCALE: None							

Recorded By *D.W. Gaynor* Date 1-8-15 QA By *M. Steiner* Date 1-15-15

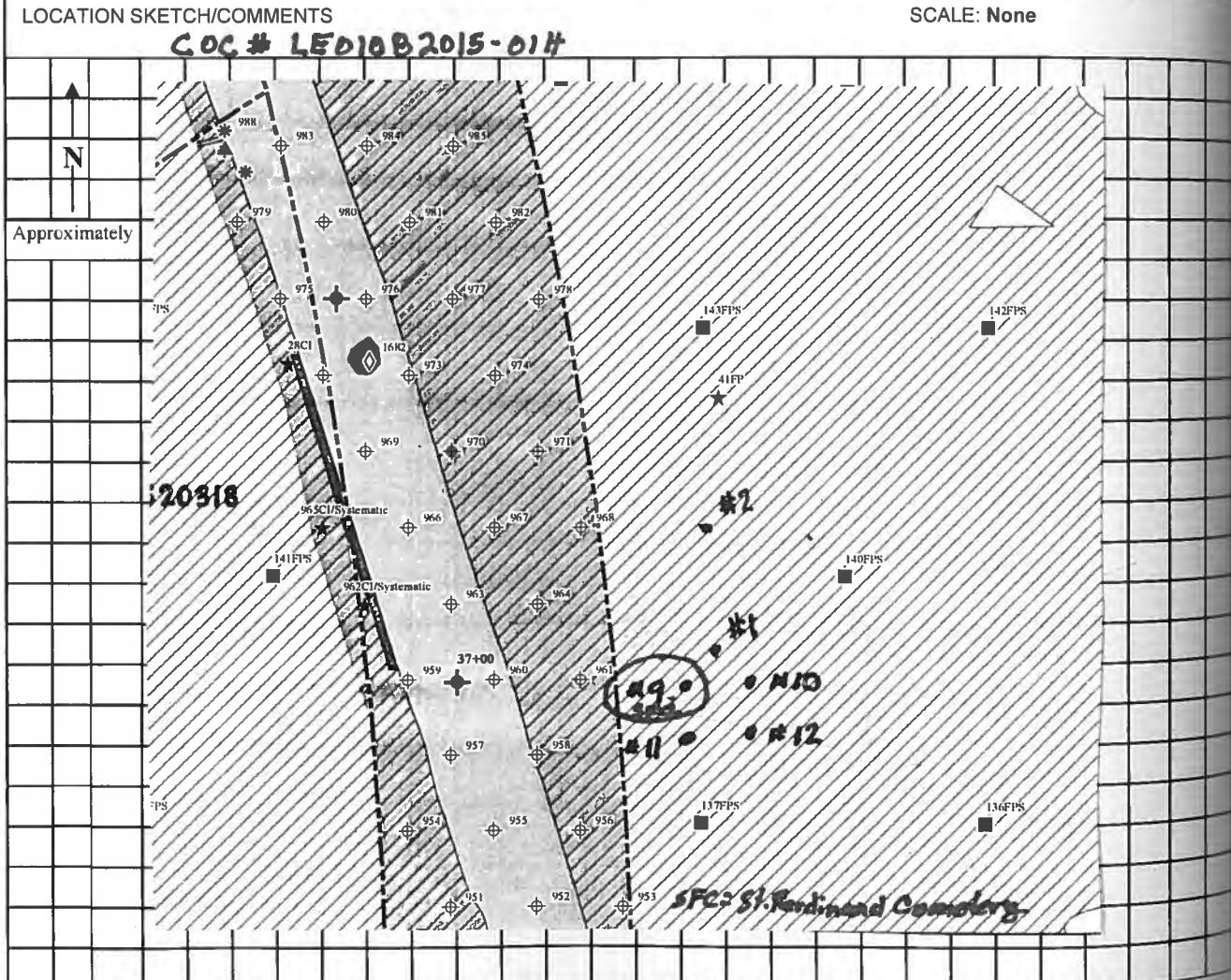


Recorded By *D.W. Gaynor* Date 1-8-15 QA By *M. Steiner* Date 1-15-15

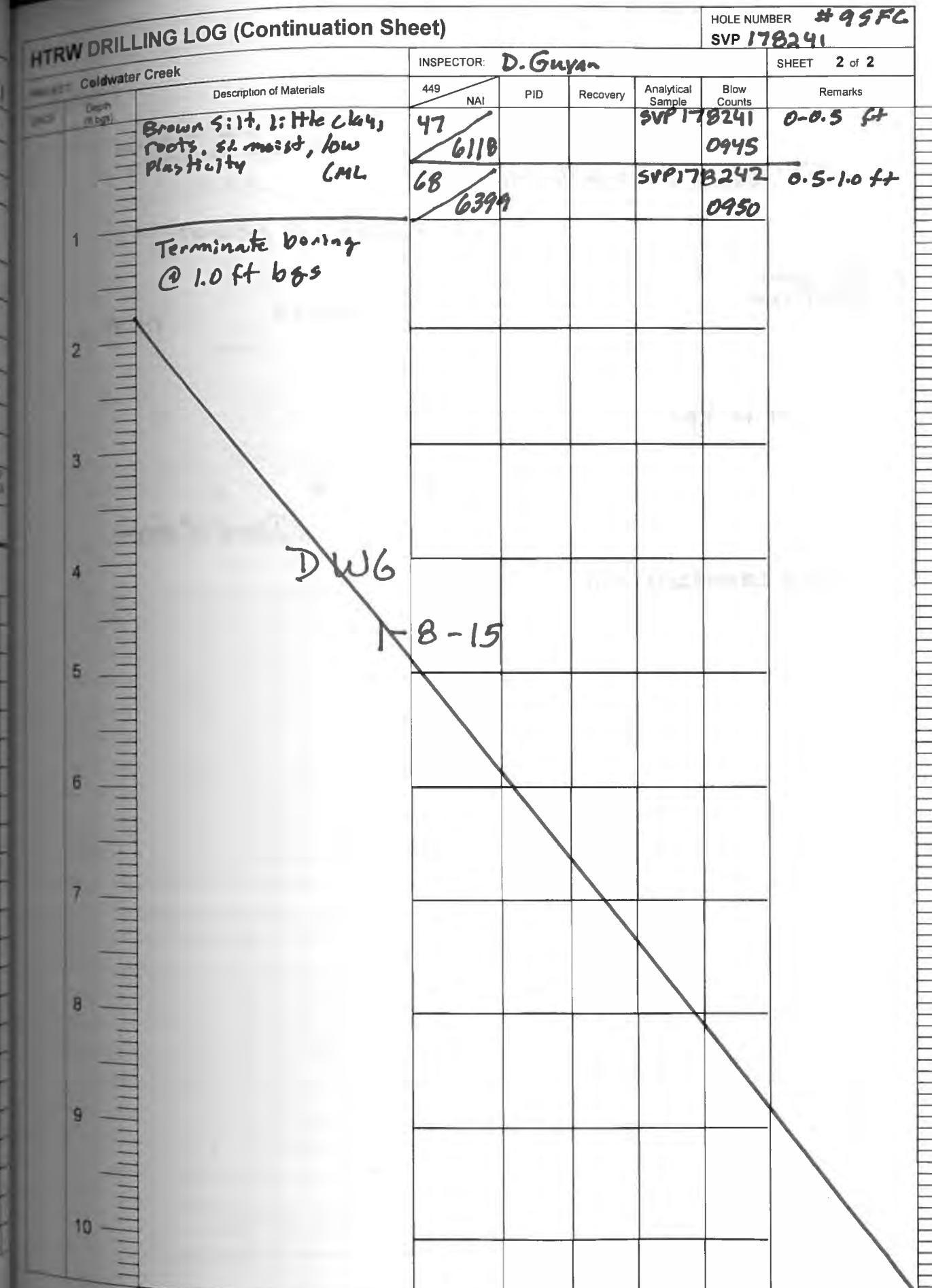
26

27

HTRW DRILLING LOG		DISTRICT St. Louis USACE		HOLE NUMBER SVP 178241
1. COMPANY NAME: Leidos		2 DRILL SUBCONTRACTOR Leidos		SHEET 1 OF 2
3 PROJECT Coldwater Creek		4 LOCATION # 9 SFC (St. Ferdinand Cemetery)		
5 NAME OF DRILLER Todd Keeler / Antonio Martinez		6 MANUFACTURERS DESIGNATION OF DRILL N/A		
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8 HOLE COORDINATES E: 865232 ; N: 1074036		
Meter - Background 44-9 E - 36 cpm 44-10 L - 2407 cpm		9 SURFACE ELEVATION N/A		
12. OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED N/A		
13. DEPTH DRILLED INTO ROCK N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A		
14. TOTAL DEPTH OF HOLE 1.0 ft bgs		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A		
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	RAD SAMPLES QA/QC SAMPLES ARCHIVE SAMPLE 21. TOTAL RECOVERY N/A
N/A		N/A	N/A	2 0 0
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY) Backfill using bentonite
Backfill using bentonite		w/bentonite	N/A	N/A



Recorded By Daniel Guyan Date 1-8-15 QA By MSSteiner Date 1-12-15



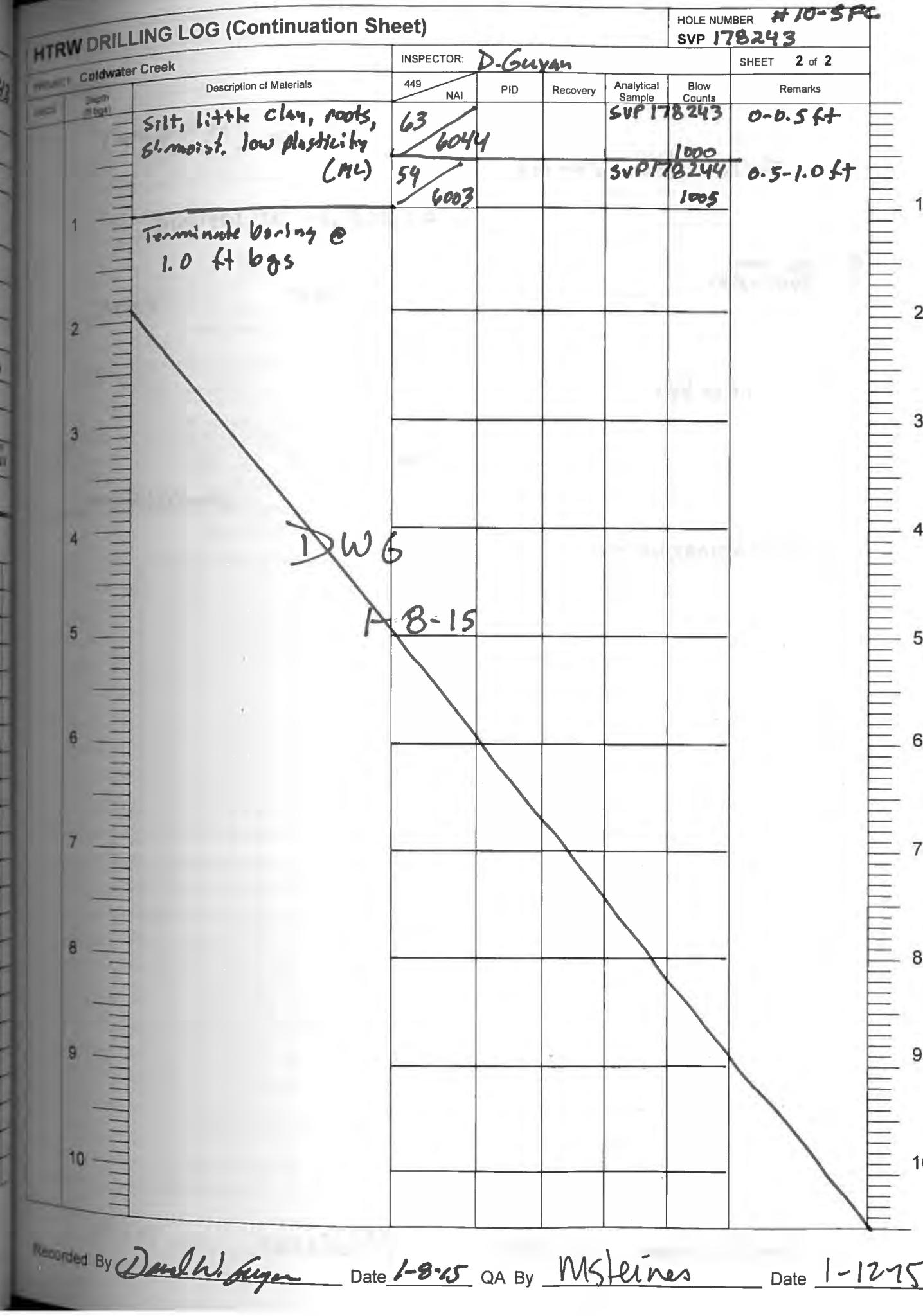
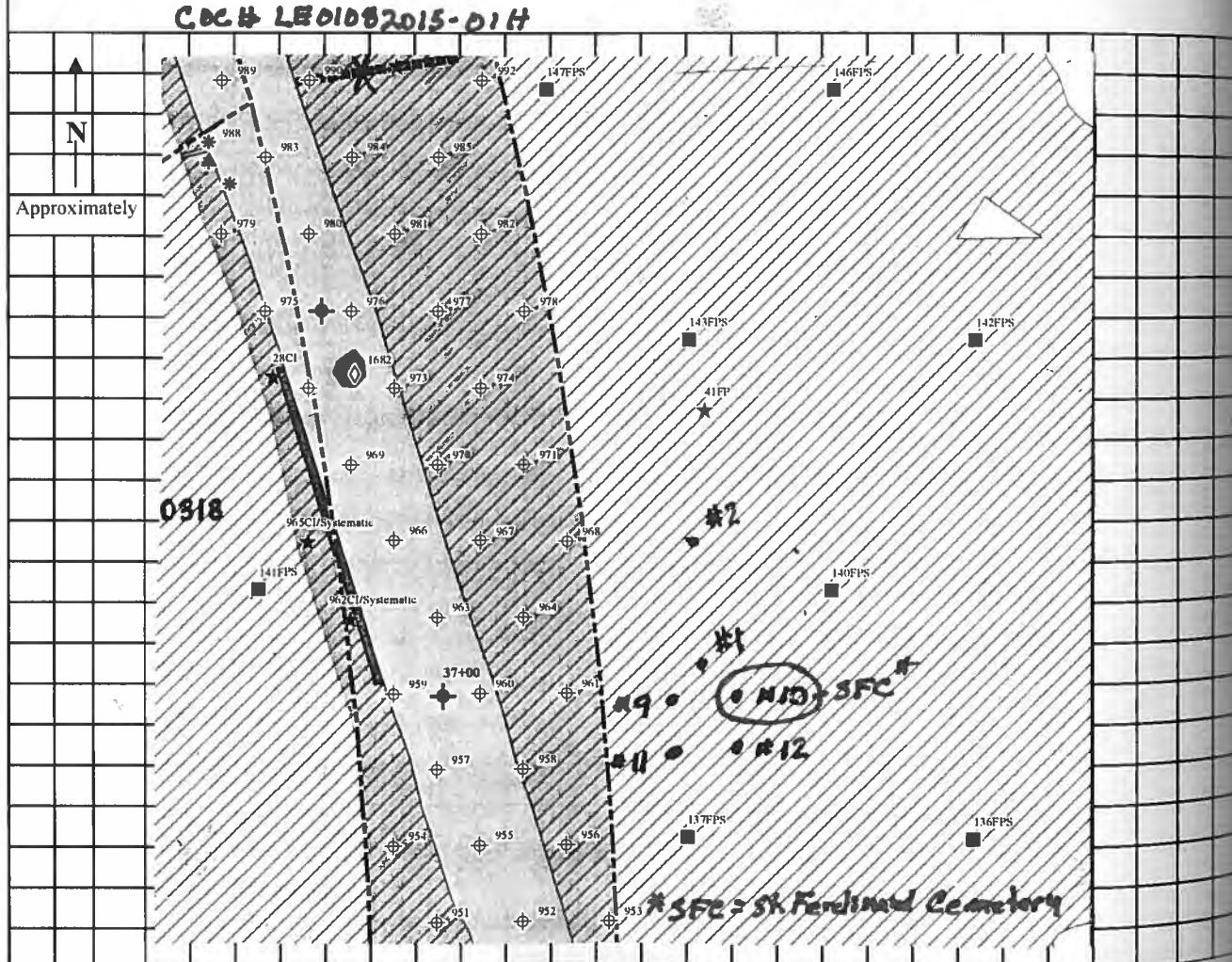
Recorded By Daniel Guyan Date 1-8-15 QA By MSSteiner Date 1-12-15

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d9

HTRW DRILLING LOG		DISTRICT St. Louis USACE				
1 COMPANY NAME: Leidos		2 DRILL SUBCONTRACTOR Leidos				
3 PROJECT Coldwater Creek		4 LOCATION # 10-SFC (5th Ferdinand Cemetery)				
5 NAME OF DRILLER: Todd Kerton / Antonio Martinez		6 MANUFACTURERS DESIGNATION OF DRILL N/A				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve					
Meter - Background						
44-9 5 - 36 cpm	9 SURFACE ELEVATION N/A					
44-10 6 - 5407 cpm	10. DATE STARTED: 1-8-15 11. DATE COMPLETED: 1-8-15					
12 OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED N/A				
13 DEPTH DRILLED INTO ROCK N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A				
14 TOTAL DEPTH OF HOLE 1.0 ft bgs		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A				
18 GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES N/A			
20 SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY N/A
N/A	N/A	N/A	2	0	0	
22 DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR <i>Dan W. Guyan</i>		
Backfill using bentonite	w/bentonite	N/A	N/A			

## LOCATION SKETCH/COMMENTS



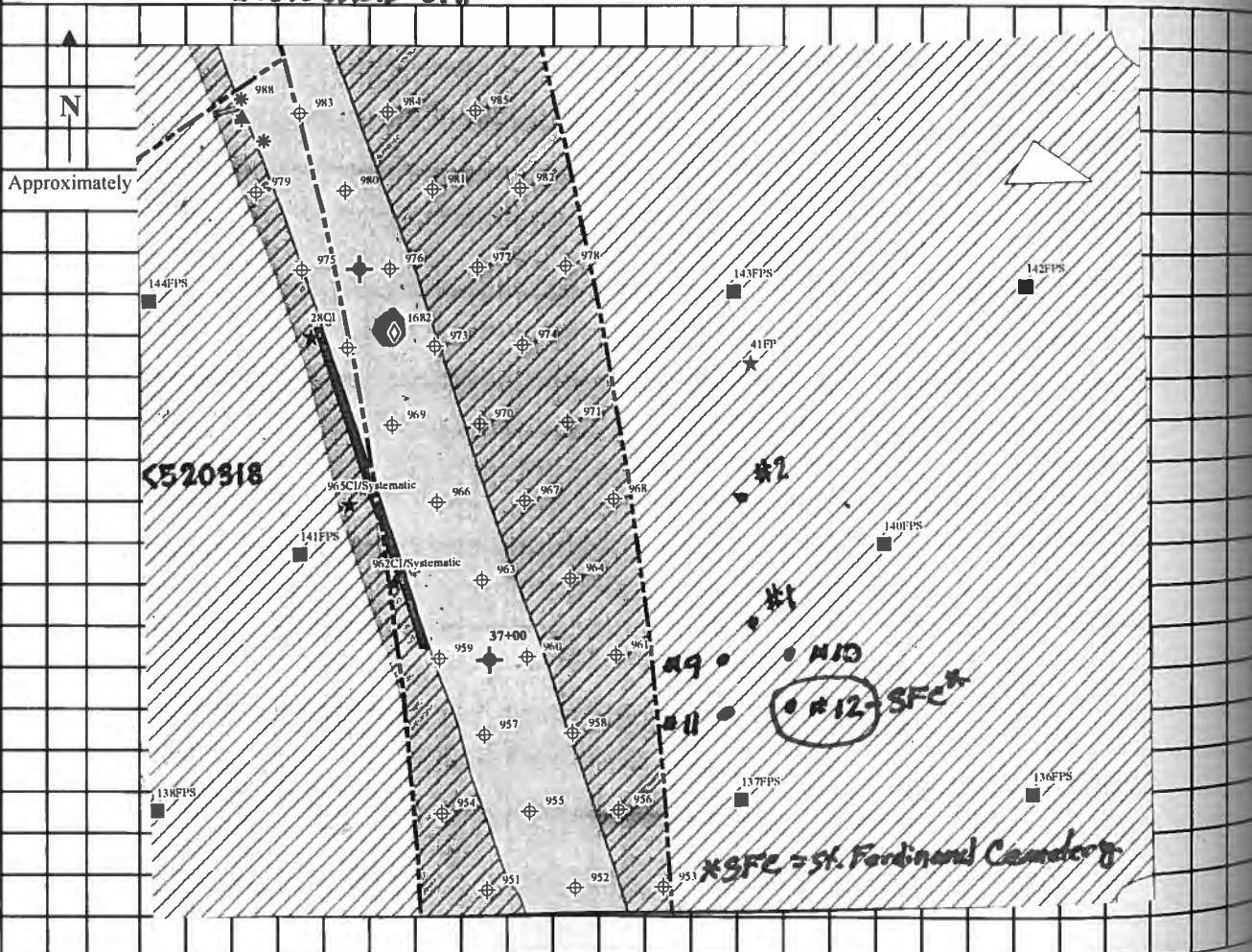
31

HTRW DRILLING LOG		DISTRICT St. Louis USACE		HOLE NUMBER SVP 178245
1 COMPANY NAME: Leidos		2. DRILL SUBCONTRACTOR Leidos		SHEET 1 OF 2
3 PROJECT Coldwater Creek		4 LOCATION # 12-SFC (St. Ferdinand Cemetery)		
5. NAME OF DRILLER: Todd Keeton / Antonio Martinez		6 MANUFACTURERS DESIGNATION OF DRILL N/A		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8 HOLE COORDINATES E: 865264 ; N: 1074015		
Meter - Background 44-9 E - 36 cm 44-10 L - 5407 cm		9 SURFACE ELEVATION N/A		
12. OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED N/A		
13. DEPTH DRILLED INTO ROCK N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A		
14. TOTAL DEPTH OF HOLE 1.0 ft bgs		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A		
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES N/A	
20. SAMPLES FOR CHEMICAL ANALYSIS N/A	VOC N/A	METALS N/A	RAD SAMPLES 2	QA/QC SAMPLES 0
22. DISPOSITION OF HOLE Backfill using bentonite	BACKFILLED w/bentonite	MONITORING N/A	OTHER (SPECIFY) N/A	21. TOTAL CORE RECOVERY % 0
23. SIGNATURE OF INSPECTOR David W. Guyan				

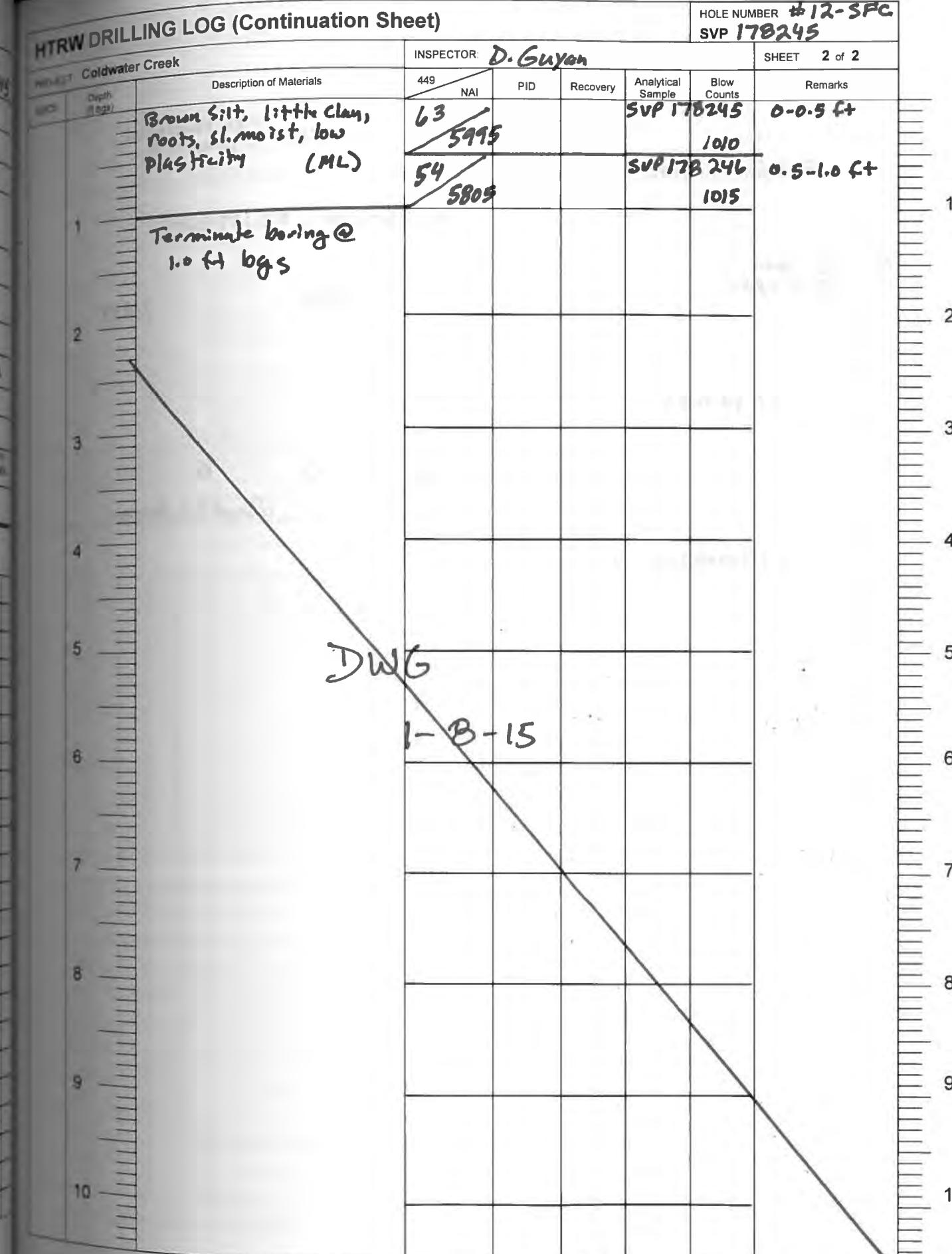
## LOCATION SKETCH/COMMENTS

Loc # LE01082015-014

SCALE: None



Recorded By David W. Guyan Date 1-8-15 QA By MS Steiner Date 1-12-15



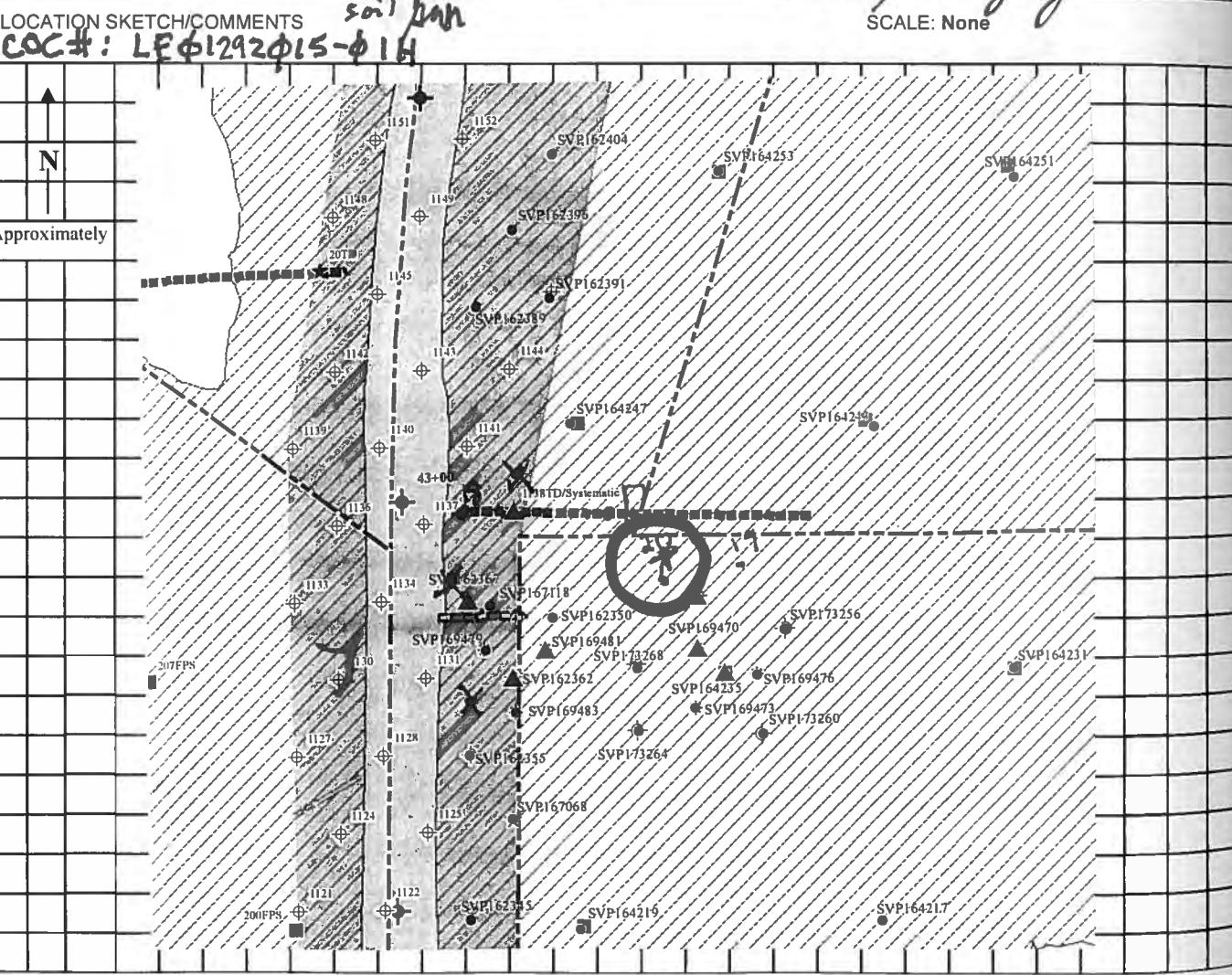
Recorded By David W. Guyan Date 1-8-15 QA By MS Steiner Date 1-12-15





**HTRW DRILLING LOG**

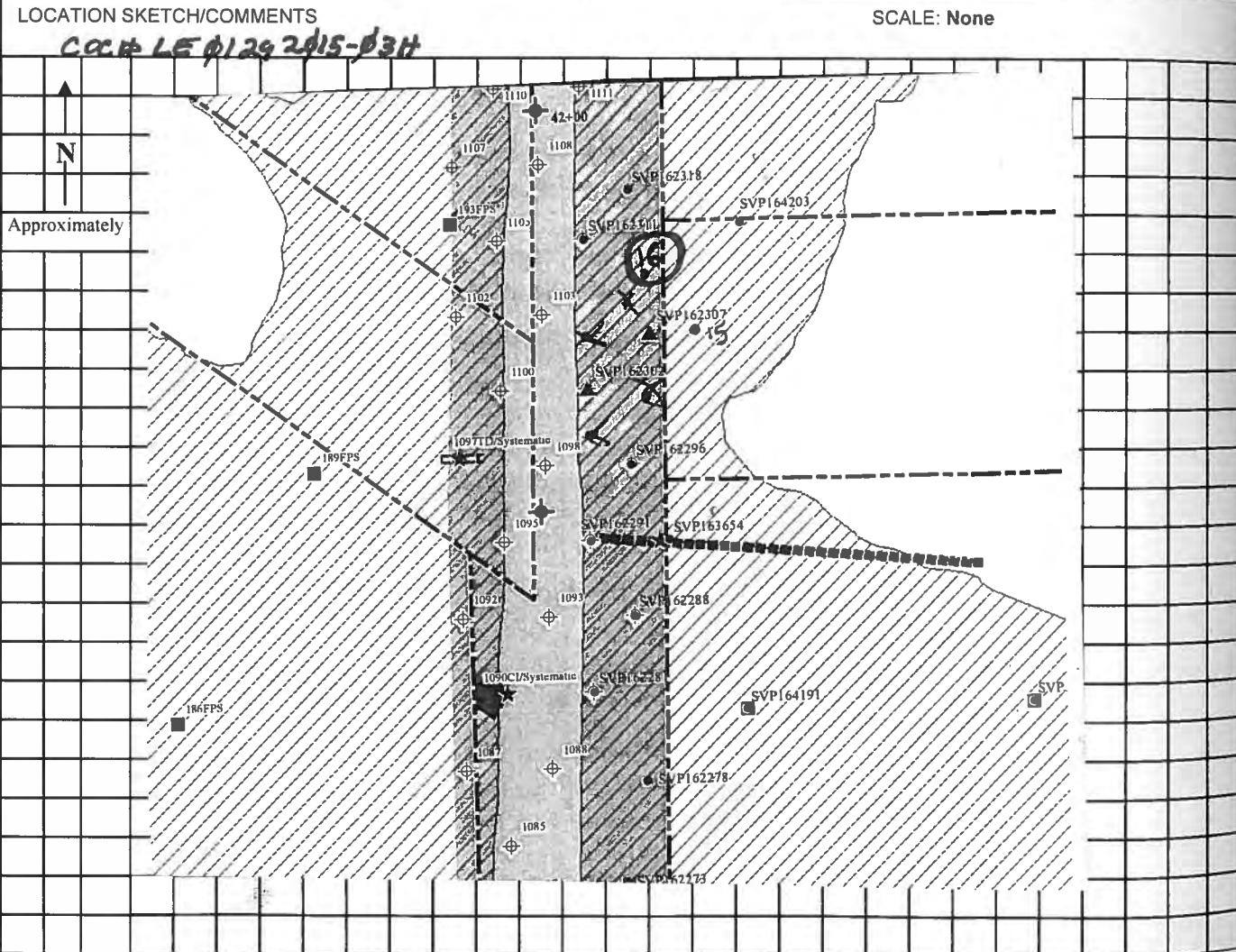
1 COMPANY NAME <b>Leidos</b>		2 DISTRICT: St. Louis USACE		HOLE NUMBER <b>SVP 178256</b>			
3 PROJECT <b>Coldwater Creek</b>		4 LOCATION # <b>2φ</b> bounding sample		SHEET 1 OF 2			
5 NAME OF DRILLER <b>Dave Guyer / Juan Alvarado</b>		6 MANUFACTURERS DESIGNATION OF DRILL <b>N/A</b>					
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8. HOLE COORDINATES <b>E 865018 N 4075933</b>					
Meter - Background 44-9 E - 39 cpm 44-10 N - 7472 cpm		9. SURFACE ELEVATION N/A					
		10. DATE STARTED <b>1/28/15</b>		11. DATE COMPLETED <b>1/28/15</b>			
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED: N/A					
13. DEPTH DRILLED INTO ROCK N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A					
14. TOTAL DEPTH OF HOLE <b>2.0 ft 6.5</b>		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A					
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A		N/A	N/A	2	6	1	N/A
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR <b>Gerry Neutzelring</b>		
Backfill using bentonite		w/bentonite	N/A	N/A			





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HTRW DRILLING LOG		DISTRICT St. Louis USACE	HOLE NUMBER SVP 178265			
1. COMPANY NAME Leidos	2. DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2				
3 PROJECT Coldwater Creek		4 LOCATION # 16 Bounding				
5 NAME OF DRILLER Gurubim Borges / Juan Alvarado		6 MANUFACTURERS DESIGNATION OF DRILL N/A				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve					
Meter - Background		8 HOLE COORDINATES E: 864958; N: 1075559				
44-9 F - 43 cm Cal. Due 11-26-15		9 SURFACE ELEVATION N/A				
44-10 L - 7628 cm Cal. Due 7-29-15		10 DATE STARTED 1-29-15	11 DATE COMPLETED 1-29-15			
12 OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED N/A				
13 DEPTH DRILLED INTO ROCK N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A				
14 TOTAL DEPTH OF HOLE 25 ft bgs		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A				
18 GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES N/A			
20 SAMPLES FOR CHEMICAL ANALYSIS	VOC N/A	METALS N/A	RAD SAMPLES 3	QA/QC SAMPLES 0	ARCHIVE SAMPLE 0	21. TOTAL CORE RECOVERY: N/A
22. DISPOSITION OF HOLE	BACKFILLED Backfill using bentonite	MONITORING N/A	OTHER (SPECIFY) N/A	23 SIGNATURE OF INSPECTOR David W. Guyan		



Recorded By David W. Guyan Date 1-29-15 QA By M Steiner Date 2-5-15

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**HTRW DRILLING LOG (Continuation Sheet)**

HOLE NUMBER #16  
SVP 178265

PROJECT Coldwater Creek

INSPECTOR: D. Guyan

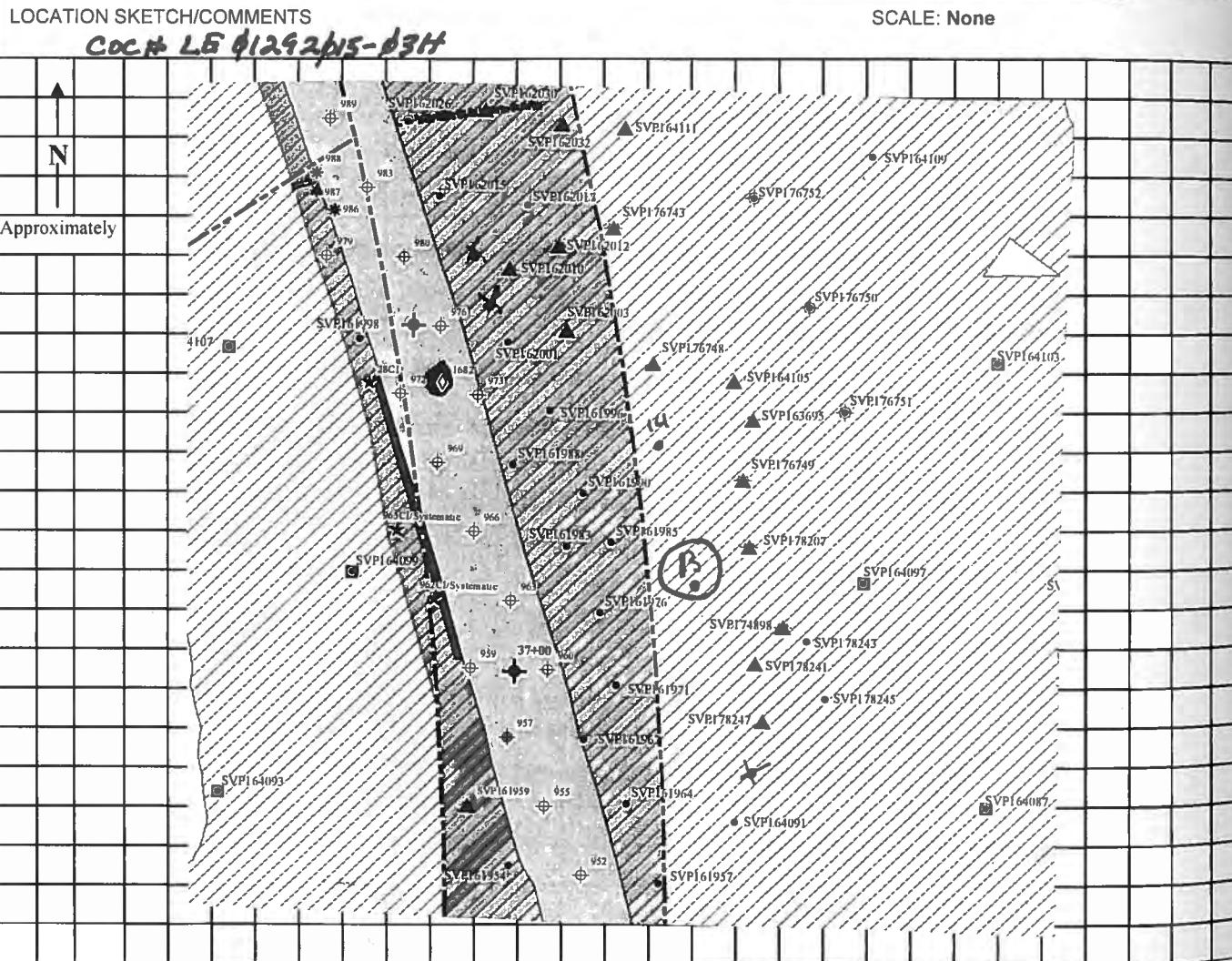
SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449	NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
			42	7755			SVP 178265	0925	
1	449	Mod. Brown Silt, little clay, to fine sand, roots, sl.-moist, low plasticity (ML)	42	7755					
	65	Mod Brown Clayey silt, sl. moist low plasticity (ML)	65	8221					
	49		49	8075					
	76	= large gravel	76	7752			SVP 178266	0935	1.5-2.0 ft
2	62	Brown Silt, little clay, dry to sl. moist, low plasticity (ML)	62	8114			SVP 178267	0940	2.0-2.5 ft
3		Terminate boring @ 2.5 ft bgs							
4									
5									
6									
7									
8									
9									
10									

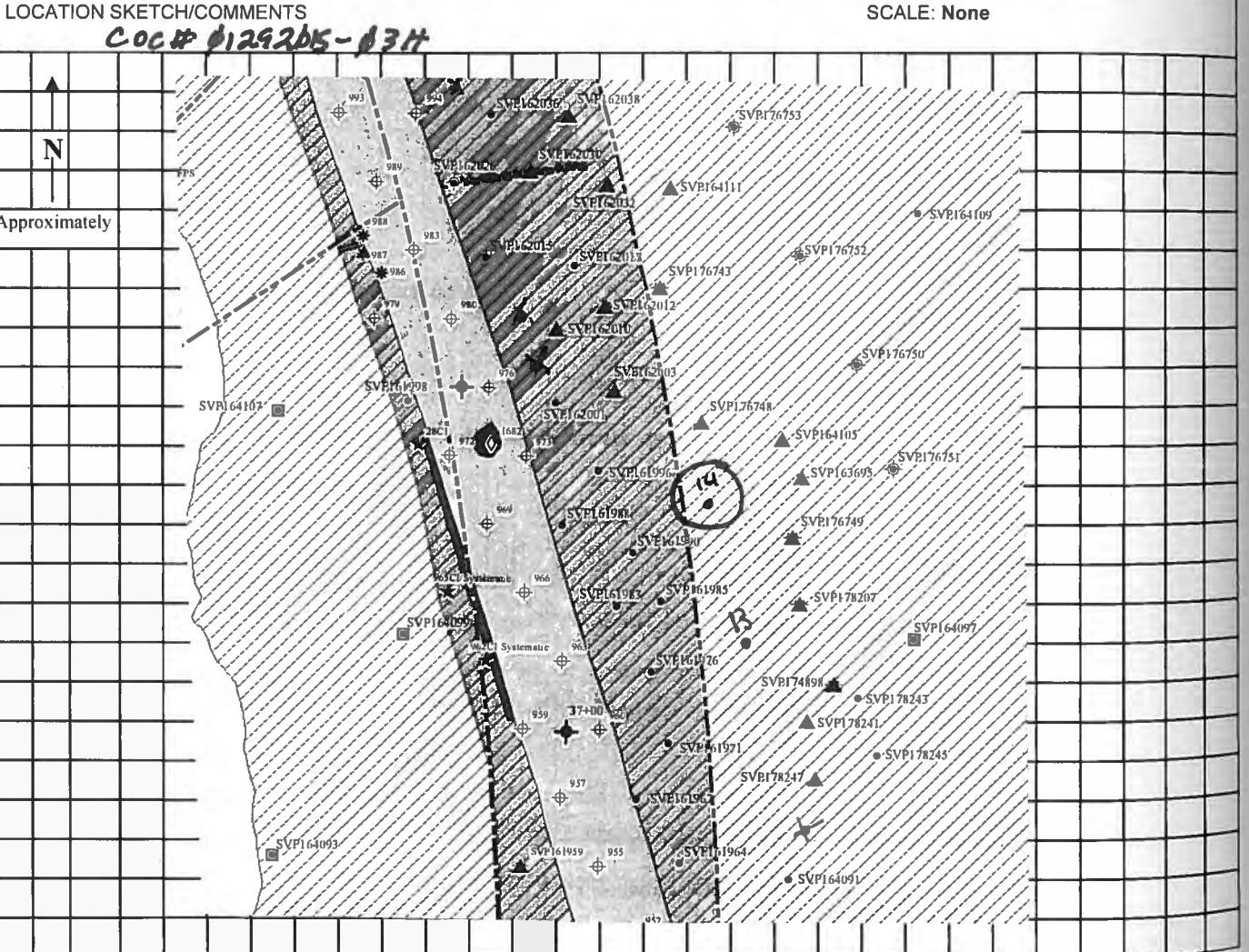
DWG  
1-29-15

Recorded By David W. Guyan Date 1-29-15 QA By M Steiner Date 2-5-15

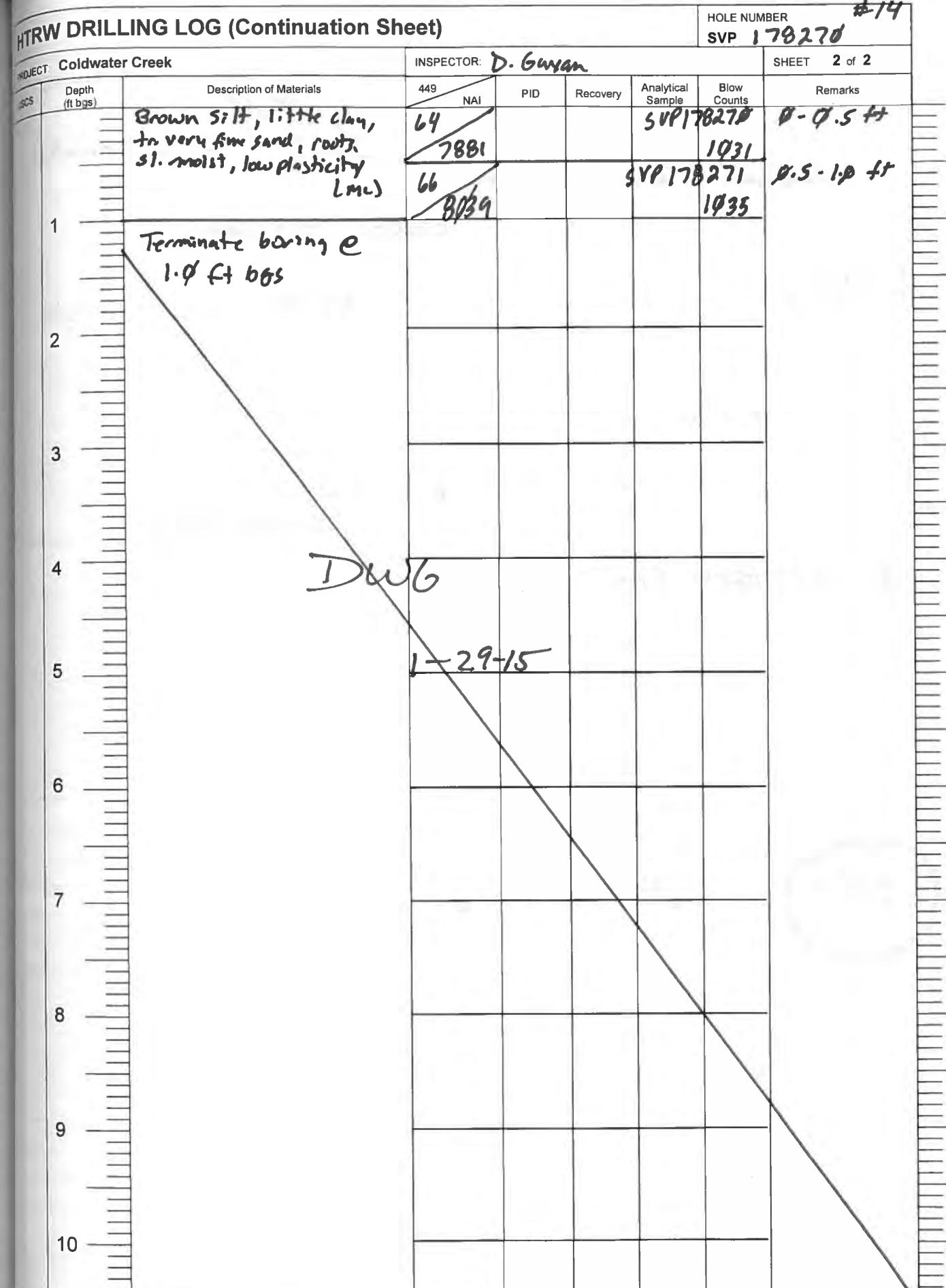
HTRW DRILLING LOG		DISTRICT St. Louis USACE	HOLE NUMBER SVP 178268				
1 COMPANY NAME Leidos		2. DRILL SUBCONTRACTOR: Leidos					
3. PROJECT: Coldwater Creek		4 LOCATION # 13 Bounding					
5 NAME OF DRILLER Quantina Borgne / Juan Alvarado		6 MANUFACTURERS DESIGNATION OF DRILL N/A					
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve					
Meter - Background		9 SURFACE ELEVATION N/A					
44-9 F - 43 cm Cal. Due 11-26-15		10. DATE STARTED: 1-29-15					
44-10 L - 7628 cm Cal Due 7-29-15		11. DATE COMPLETED: 1-29-15					
12 OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED N/A					
13. DEPTH DRILLED INTO ROCK: N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A					
14. TOTAL DEPTH OF HOLE 1.0 ft bgs		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A					
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED				
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A		N/A	N/A	2	0	0	N/A
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR: <i>Daniel W. Guyan</i>		
Backfill using bentonite		w/bentonite	N/A	N/A			



HTRW DRILLING LOG		DISTRICT: St. Louis USACE	HOLE NUMBER SVP178270			
1. COMPANY NAME: Leidos		2 DRILL SUBCONTRACTOR Leidos				
3. PROJECT: Coldwater Creek		4 LOCATION # 14 Bounding Sandy				
5. NAME OF DRILLER: Quentin Bergie / Juan Alvarado		6 MANUFACTURERS DESIGNATION OF DRILL N/A				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve					
Meter - Background		8 HOLE COORDINATES E: 865181; N: 1674113				
44-9 F - 43 cpm Cal. Due 11-26-15		9 SURFACE ELEVATION N/A				
44-10 L - 7628 cpm Cal. Due 7-29-15		10. DATE STARTED: 1-29-15 11. DATE COMPLETED: 1-29-15				
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED N/A				
13. DEPTH DRILLED INTO ROCK N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A				
14. TOTAL DEPTH OF HOLE 1.0 ft bgs		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A				
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY N/A
N/A	N/A	N/A	2	0	0	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR <i>David W. Guyan</i>		
Backfill using bentonite	w/bentonite	N/A	N/A			



Recorded By David W. Guyan Date 1-29-15 QA By M Steiner Date 2-5-15



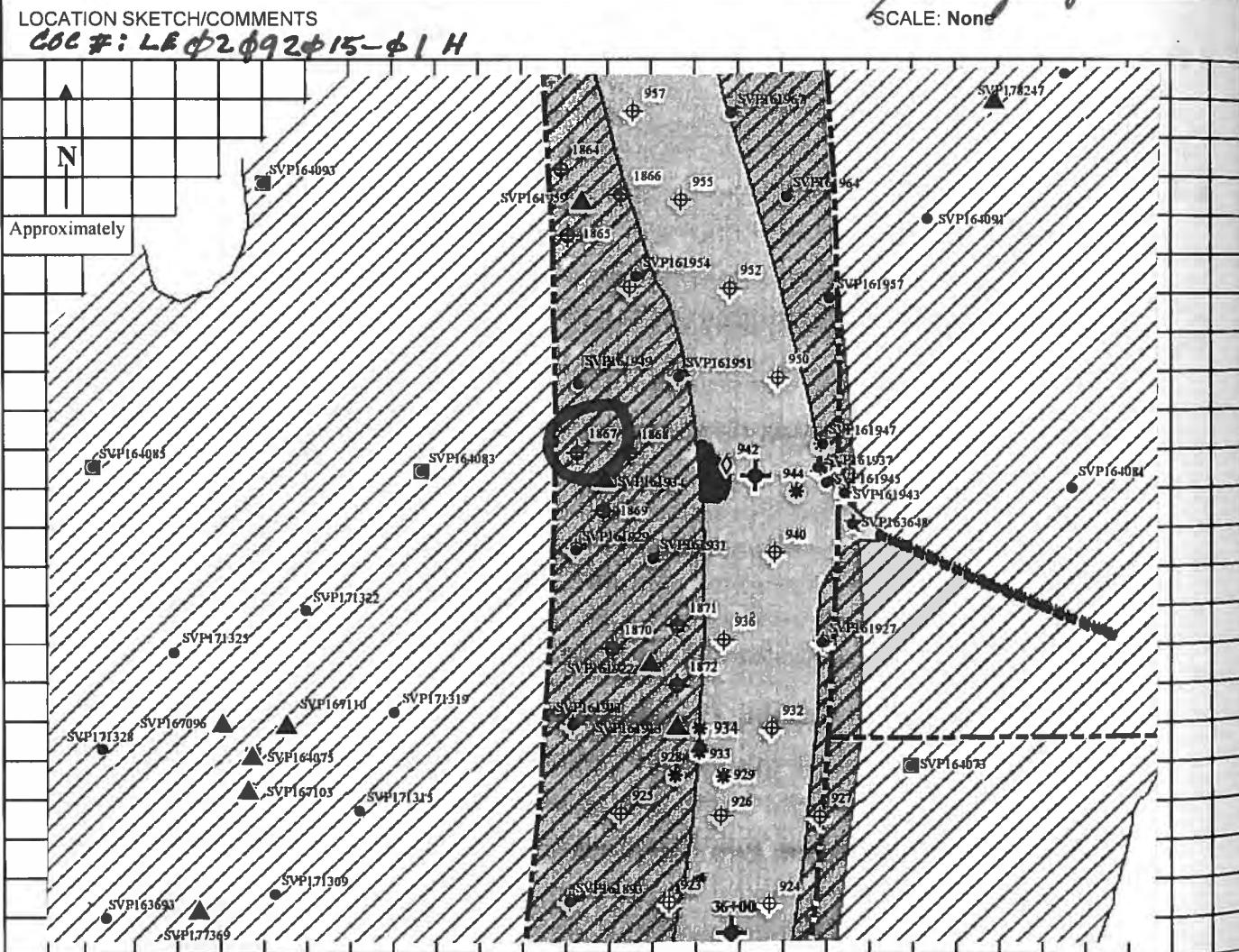
Recorded By David W. Guyan Date 1-29-15 QA By M Steiner Date 2-5-15

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HTRW DRILLING LOG		DISTRICT St. Louis USACE		HOLE NUMBER SVP 179167
1 COMPANY NAME Leidos		2 DRILL SUBCONTRACTOR Leidos		SHEET 1 OF 2
3 PROJECT Coldwater Creek		4 LOCATION # 1869 (Bounding loc 941.SVP161934)		
5 NAME OF DRILLER Dave Guyer/Jean Alvarado		6 MANUFACTURERS DESIGNATION OF DRILL N/A		
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8 HOLE COORDINATES E 865113 N 473856		
Meter - Background		9 SURFACE ELEVATION N/A		
44-9 F - 39 gpm		10 DATE STARTED: 2/5/15		11. DATE COMPLETED 2/5/15
44-10 L - 618g gpm				
12 OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED N/A		
13 DEPTH DRILLED INTO ROCK N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A		
14 TOTAL DEPTH OF HOLE 3.0 ft bgs		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A		
18 GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES N/A
20 SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	RAD SAMPLES QA/QC SAMPLES ARCHIVE SAMPLE 21. TOTAL CORE RECOVERY N/A
N/A		N/A	N/A	5 1 1451 Iso Th Gamma Spec
22 DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY) 23. SIGNATURE OF INSPECTOR Gary Neutzhing
Backfill using bentonite		w/bentonite	N/A	N/A
LOCATION SKETCH/COMMENTS COC # 1 LEΦ2192015-Φ1H & LEΦ2192015-Φ3H (for SVP178289 - 2.5-3 ft)				
<img alt="A hand-drawn sketch map showing the locations of various monitoring wells and boreholes. The map includes a north arrow and a scale bar indicating 'Approximately'. Numerous points are labeled with codes such as SVP164093, SVP164094, SVP164095, SVP164096, SVP164097, SVP164098, SVP164099, SVP164100, SVP164101, SVP164102, SVP164103, SVP164104, SVP164105, SVP164106, SVP164107, SVP164108, SVP164109, SVP164110, SVP164111, SVP164112, SVP164113, SVP164114, SVP164115, SVP164116, SVP164117, SVP164118, SVP164119, SVP164120, SVP164121, SVP164122, SVP164123, SVP164124, SVP164125, SVP164126, SVP164127, SVP164128, SVP164129, SVP164130, SVP164131, SVP164132, SVP164133, SVP164134, SVP164135, SVP164136, SVP164137, SVP164138, SVP164139, SVP164140, SVP164141, SVP164142, SVP164143, SVP164144, SVP164145, SVP164146, SVP164147, SVP164148, SVP164149, SVP164150, SVP164151, SVP164152, SVP164153, SVP164154, SVP164155, SVP164156, SVP164157, SVP164158, SVP164159, SVP164160, SVP164161, SVP164162, SVP164163, SVP164164, SVP164165, SVP164166, SVP164167, SVP164168, SVP164169, SVP164170, SVP164171, SVP164172, SVP164173, SVP164174, SVP164175, SVP164176, SVP164177, SVP164178, 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HTRW DRILLING LOG		DISTRICT St. Louis USACE	HOLE NUMBER SVP 179157
1. COMPANY NAME: Leidos		2 DRILL SUBCONTRACTOR Leidos	
3. PROJECT Coldwater Creek		4 LOCATION # 1867 (Bounding box 941 (SVP 161934)	
5. NAME OF DRILLER: Dave Guyen/Juan Alvarado		6 MANUFACTURERS DESIGNATION OF DRILL N/A	
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8 HOLE COORDINATES E 865 105 N 47 3871	
Meter - Background			
44-9 F - 39 cpm		9 SURFACE ELEVATION N/A	
44-10 L - 6184 cpm		10 DATE STARTED: 2/5/15 11. DATE COMPLETED 2/5/15	
12 OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED: N/A	
13. DEPTH DRILLED INTO ROCK: N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A	
14 TOTAL DEPTH OF HOLE 2.5 ft bgs		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	
18. GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS
N/A		N/A	N/A
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING
Backfill using bentonite		w/bentonite	N/A
LOCATION SKETCH/COMMENTS Loc #: LE 02 092 015-#1 H			
SCALE: None			



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HTRW DRILLING LOG		DISTRICT St. Louis USACE	HOLE NUMBER SVP161934
1 COMPANY NAME: Leidos		2. DRILL SUBCONTRACTOR Leidos	
3 PROJECT Coldwater Creek		4 LOCATION # 941 rev (vertical bounding)	
5 NAME OF DRILLER: Quantin Pongis / Juan Alvarado		6 MANUFACTURERS DESIGNATION OF DRILL N/A	
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8 HOLE COORDINATES E 865113 N 1073865	
Meter - Background		9 SURFACE ELEVATION N/A	
44-9 F - 42 cpm		10 DATE STARTED: 2/9/15	
44-10 L - 6439 cpm		11. DATE COMPLETED: 2/9/15	
12 OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED: N/A	
13 DEPTH DRILLED INTO ROCK N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A	
14 TOTAL DEPTH OF HOLE 3.0 ft bgs		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	
18 GEOTECHNICAL SAMPLES: N/A		DISTURBED	UNDISTURBED 1/16
20 SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS
N/A		N/A	N/A
22 DISPOSITION OF HOLE		BACKFILLED	MONITORING 1/16
Backfill using bentonite		w/bentonite	N/A
LOCATION SKETCH/COMMENTS COC #: LEΦ2Φ92Φ15-Φ3 H			
SCALE: None			

Recorded By

*G. Neutzel*

Date

3/9/15

QA By

MS Leines

Date

2-18-15

## HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 941 rev.  
SVP 161934

PROJECT Coldwater Creek	INSPECTOR: G. Neutzel	SHEET 2 of 2							
USCS	Depth (ft bgs)	Description of Materials		449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
1									Blind auger to 2 ft. (See FP- for previous info)
2		Silky CLAY, brown, trace Sandy, low plasticity, moist		73 686f	-	-	SVP 179194 0759	-	
2.5				63 6574	-	-	ISOTB 1 gamma spec archive 0892	-	
3.0							ISOTB 1 gamma spec		Borehole terminated
4									
5									
6									
7									
8									
9									
10									

Recorded By

*G. Neutzel*

Date

2/9/15

QA By

MS Leines

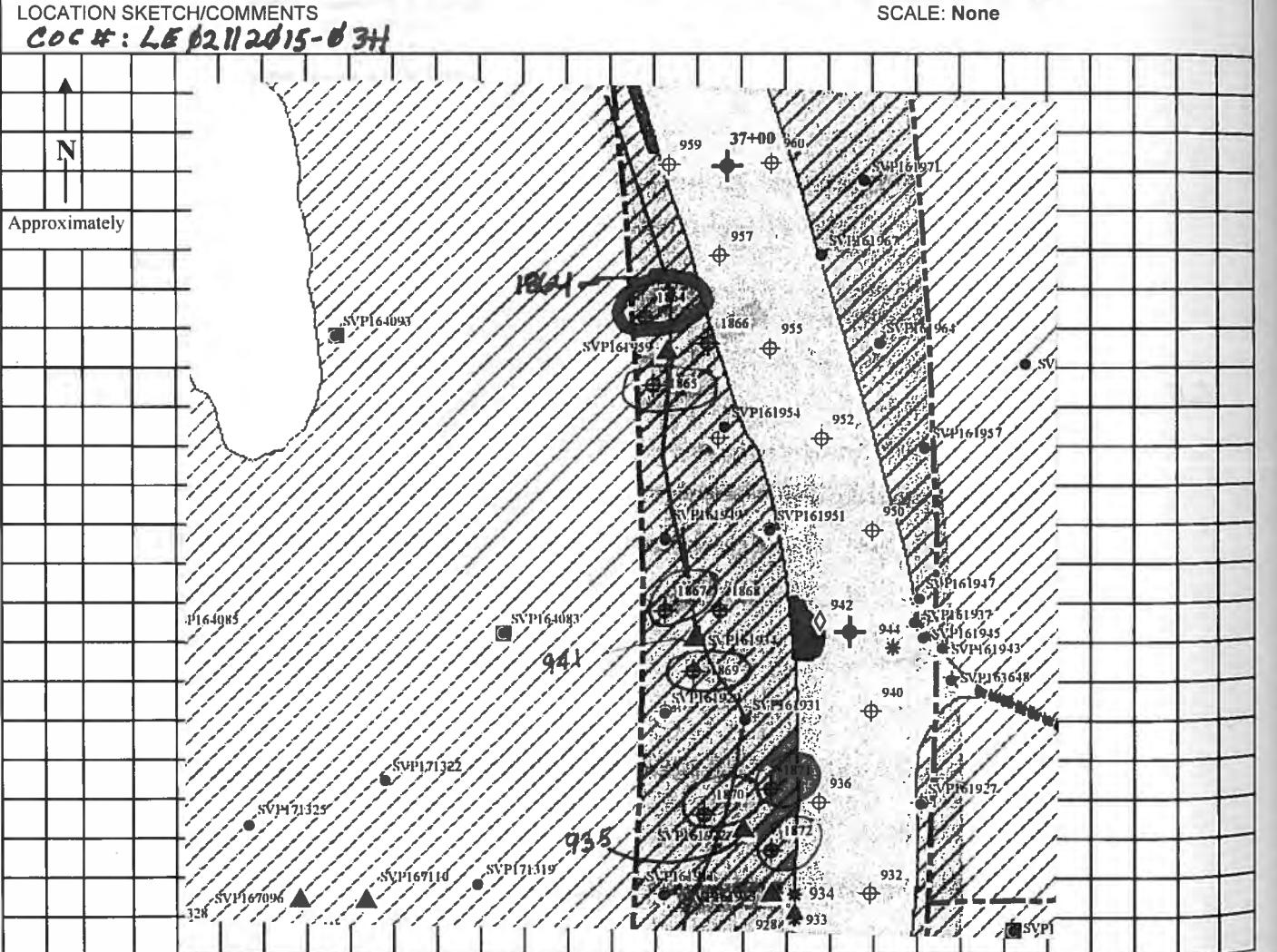
Date

2-18-15

Soil

**HTRW DRILLING LOG**

DISTRICT St. Louis USACE		HOLE NUMBER <b>SVP 179151</b>				
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2				
3 PROJECT Coldwater Creek		4 LOCATION # 1864 (Bound SVP 161459)				
5 NAME OF DRILLER Adam Queen, Juan Alvarado		6 MANUFACTURERS DESIGNATION OF DRILL N/A				
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve					
Meter - Background						
44-9 5 - 33 cpm	9 SURFACE ELEVATION N/A					
44-10 L - 6417 cpm	10. DATE STARTED 2-11-15	11. DATE COMPLETED 2-11-15				
12 OVERBURDEN THICKNESS N/A		15 DEPTH GROUNDWATER ENCOUNTERED: N/A				
13 DEPTH DRILLED INTO ROCK N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A				
14 TOTAL DEPTH OF HOLE 1.0 ft bgs		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A				
18 GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A			
20 SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY N/A
N/A	N/A	N/A	2			
22 DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR <i>David W. Guyer</i>		
Backfill using bentonite	w/bentonite	N/A	N/A			

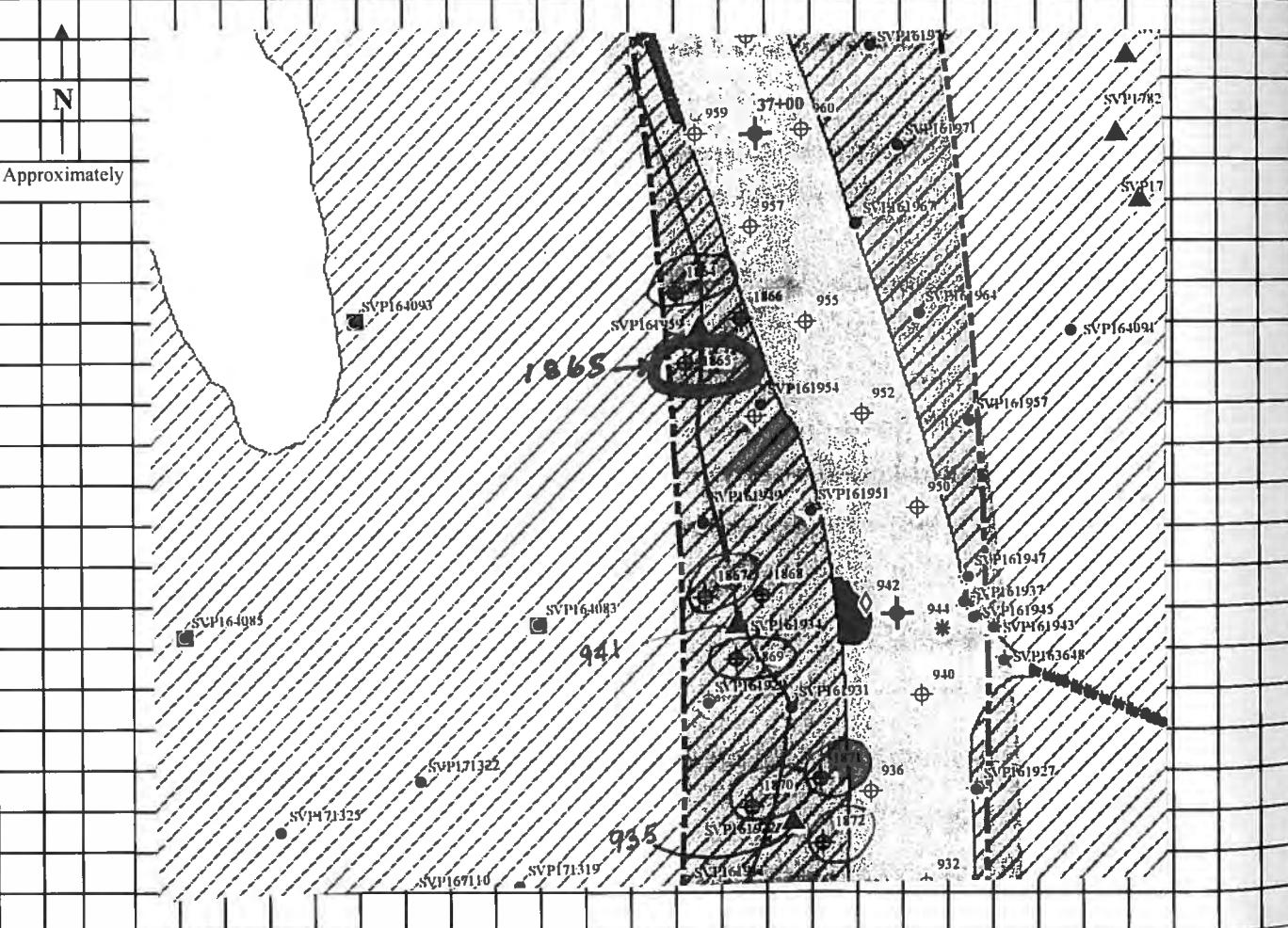


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HTRW DRILLING LOG		DISTRICT St. Louis USACE	HOLE NUMBER SVP179153			
1 COMPANY NAME: Leidos		2 DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2			
3. PROJECT: Coldwater Creek		4 LOCATION # 1865				
5 NAME OF DRILLER: Adam Queen / Juan Alvarado		6 MANUFACTURERS DESIGNATION OF DRILL N/A				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve					
Meter - Background		8 HOLE COORDINATES E: 865098 ; N: 1073957 46 <sup>08</sup> 3-18-15				
44-9 E - 33 cm	9 SURFACE ELEVATION N/A					
44-10 L - 6417 cm	10. DATE STARTED: 2-11-15		11 DATE COMPLETED: 2-11-15			
12. OVERBURDEN THICKNESS N/A		15. DEPTH GROUNDWATER ENCOUNTERED N/A				
13. DEPTH DRILLED INTO ROCK: N/A		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A				
14. TOTAL DEPTH OF HOLE 1.0 ft bgs		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A				
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A	N/A	N/A	2	0	0	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR <i>Daniel Guyan</i>		
Backfill using bentonite	w/bentonite	N/A	N/A			

## LOCATION SKETCH/COMMENTS

COC #: LE02112015-834



COC No.: LE φ1272φ15 - φ5H

Task Team Members: Dave Gugan, Troy Hart, Gary Neutzing (Team GHN)

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Sample ID:	<u>HTZ176877</u>	Station ID:	<u>HTZ176877</u>
Collection Date:	<u>1/27/15</u>	Collection Time:	<u>0921</u>
Property Name:	<u>St. Cia Park</u>	Sample Location:	<u>Former Double Area Inlet - No 1 (one lid)</u>
Northing (units):	<u>1073784</u>	Easting (units):	<u>864914</u>
Cover Depth (ft):	<u>NA</u>	Sample Type:	<u>homo grab</u>
Sample Collection Method:	<u>Steel bar SS bowl &amp; trowel</u>	Sample Depth:	<u>surface φ-φ.1 ft</u>
Soil Type:	<u>SILT, med brown, some leaves/sticks, little v fine sand, trace clay, low plasticity, wet - ML</u>	Rad Screen Instrument:	<u>44-9 F 44-10 N</u>
Rad Screen Bkg. (cpm):	<u>41/7874</u>	Rad Screen (cpm):	<u>37/7778</u>

Comments: ~18 in opening between chambers  
~14 in pipe that appears to go to Inlet #2  
~14 in pipe that appears to be going southerly possibly to Inlet #3  
Top of slab to flue line - approx 5-3"

Recorded by: G. Neutzing 1/27/15 QA by: M Steiner Date: 2-4-15

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COC No.: LE φ1272φ15 - φ5H

Task Team Members: Team GHN

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Sample ID:	<u>HTZ176878</u>	Station ID:	<u>HTZ176878</u>
Collection Date:	<u>1/27/15</u>	Collection Time:	<u>0951</u>
Property Name:	<u>St. Cia Park</u>	Sample Location:	<u>Double Area Inlet - No 2 (one lid)</u>
Northing (units):	<u>1073752</u>	Easting (units):	<u>864851</u>
Cover Depth (ft):	<u>NA</u>	Sample Type:	<u>homo grab</u>
Sample Collection Method:	<u>Steel bar SS bowl &amp; trowel</u>	Sample Depth:	<u>φ-2.0 ft ~ φ.01 ft</u>
Soil Type:	<u>SILT, med brown, little v. fine sand trace fine gravel, trace clay, low plasticity, moist - ML</u>	Rad Screen Instrument:	<u>44-9 F 44-10 N</u>
Rad Screen Bkg. (cpm):	<u>41/7874</u>	Rad Screen (cpm):	<u>49/7958</u>

Comments: Not much sediment in the inlet.  
~14 in pipe that appears to be going to Inlet No 1

Recorded by: G. Neutzing 1/27/15 QA by: M Steiner Date: 2-4-15

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## **APPENDIX B**

### **ST. CIN PARK, THE ARCHDIOCESE OF ST. LOUIS PROPERTY, AND DUCHESNE PARK RADIOLOGICAL SOIL SAMPLE ANALYTICAL RESULTS**

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**Table B-1. St. Cin Park Radiological Soil Sample Analytical Results**

Station Name	Sample Name	Easting	Northing	Elevation	Collect Date	Start Depth	End Depth	Criteria	Ac-227				Pa-231				Ra-226				Ra-228				Th-228				Th-230				Th-232				U-235				U-238				SOR <sub>N</sub>
									Result	Error	MDC	VQ	Result	Error	MDC	VQ	Result	Error	MDC	VQ	Result	Error	MDC	VQ	Result	Error	MDC	VQ	Result	Error	MDC	VQ	Result	Error	MDC	VQ	Result	Error	MDC	VQ					
HTZ176877	HTZ176877	864851	1073752	*	1/27/2015	0.0	0.5	ss	0.21	0.16	0.28	UJ	-0.68	0.52	0.76	UJ	0.95	0.27	0.07	=	0.58	0.08	0.10	=	1.17	0.55	0.12	=	4.60	1.48	0.12	=	1.04	0.51	0.12	=	-0.05	0.18	0.30	UJ	1.00	0.50	0.51	J	0.22
HTZ176878	HTZ176878	864890	1073685	*	1/27/2015	0.0	0.5	ss	-0.03	0.75	1.21	UJ	-1.31	2.40	3.59	UJ	1.16	0.74	0.70	UJ	1.27	0.31	0.46	=	1.47	0.64	0.24	=	3.57	1.22	0.12	=	1.22	0.56	0.12	=	-0.14	0.89	1.44	UJ	-0.09	1.50	2.63	UJ	0.19
SVP161799	SVP161799	864979	1073311	508.63	9/16/2014	0.0	0.5	ss	-0.17	0.19	0.29	UJ	-0.12	0.67	0.93	UJ	1.66	0.44	0.08	=	0.92	0.09	0.13	=	1.23	0.50	0.09	=	1.38	0.51	0.15	J	1.01	0.41	0.15	=	0.21	0.24	0.40	UJ	1.22	0.60	0.59	=	0.30
	SVP161800	864979	1073311	508.63	9/16/2014	1.0	1.5	sb	0.06	0.17	0.28	UJ	0.01	0.54	0.76	UJ	1.48	0.38	0.07	=	0.97	0.08	0.10	=	1.35	0.50	0.15	=	1.38	0.51	0.15	J	1.01	0.41	0.15	=	0.21	0.24	0.40	UJ	1.22	0.60	0.59	=	0.30
SVP161809	SVP161809	865013	1073375	508.01	9/16/2014	0.0	0.5	ss	0.09	0.17	0.26	UJ	0.19	0.51	0.75	UJ	1.42	0.37	0.07	=	0.69	0.07	0.09	=	0.73	0.38	0.24	J	2.67	0.91	0.28	=	0.49	0.30	0.10	J	0.26	0.19	0.33	UJ	0.60	0.48	0.47	J	0.18
	SVP161810	865013	1073375	508.01	9/16/2014	1.5	2.0	sb	0.03	0.12	0.19	UJ	0.11	0.34	0.49	UJ	1.46	0.36	0.04	=	0.17	0.04	0.06	J	0.27	0.23	0.32	U	2.75	0.90	0.34	=	0.23	0.21	0.28	U	0.08	0.14	0.23	UJ	1.06	0.33	0.31	=	0.08
	SVP161811	865013	1073375	508.01	9/16/2014	3.5	4.0	sb	0.03	0.14	0.23	UJ	-0.34	0.45	0.60	UJ	1.55	0.39	0.06	=	0.54	0.06	0.08	=	0.56	0.30	0.20	J	2.03	0.67	0.08	=	0.51	0.28	0.17	J	0.02	0.17	0.28	UJ	1.36	0.56	0.40	=	0.04
	SVP161812	865013	1073375	508.01	9/16/2014	4.0	4.5	sb	0.07	0.11	0.18	UJ	0.06	0.30	0.48	UJ	1.32	0.33	0.04	=	0.13	0.04	0.06	J	0.10	0.15	0.14	UJ	0.90	0.51	0.34	J	0.05	0.11	0.14	UJ	0.05	0.13	0.22	UJ	0.72	0.34	0.29	=	0.01
SVP161853	SVP161853	865071	1073522	506.79	2/24/2014	0.0	0.5	ss	0.27	0.37	0.63	UJ	-1.25	1.27	1.84	UJ	1.14	0.39	0.16	=	0.97	0.17	0.23	=	1.38	0.55	0.22	=	2.99	0.91	0.12	=	0.86	0.42	0.22	=	-0.11	0.45	0.73	UJ	1.15	0.98	1.11	J	0.15
	SVP161854	865071	1073522	506.79	2/24/2014	1.0	1.5	sb	-0.15	0.18	0.28	UJ	0.32	0.60	0.89	UJ	1.39	0.38	0.09	=	1.13	0.10	0.11	=	1.12	0.53	0.26	=	3.44	1.08	0.26	=	1.13	0.53	0.14	=	-0.07	0.24	0.39	UJ	1.17	0.61	0.58	J	0.12
	SVP161859	865071	1073522	506.79	2/24/2014	3.0	3.5	sb	0.06	0.15	0.25	UJ	0.39	0.46	0.77	UJ	1.16	0.31	0.07	=	0.99	0.08	0.10	=	1.39	0.55	0.25	=	1.16	0.49	0.11	=	0.99	0.45	0.21	=	-0.03	0.19	0.31	UJ	0.69	0.5	0.48	J	0.00
	SVP161860	865071	1073522	506.79	2/24/2014	6	6.0	sb	0.10	0.16	0.27	UJ	0.13	0.52	0.75	UJ	1.29	0.34	0.07	=	1.00	0.08	0.11	=	1.25	0.52	0.33	=	3.98	1.11	0.31	=	1.13	0.48	0.11	=	0.07	0.2	0.33	UJ	0.73	0.42	0.48	J	0.15
SVP161877	SVP161877	865084	1073624	510.13	2/20/2014	0.0	0.5	ss	-0.04	0.20	0.32	UJ	0.27	0.61	0.90	UJ	1.55	0.41	0.09	=	0.94	0.10	0.12	=	1.06	0.49	0.23	J	3.87	1.12	0.13	=	0.70	0.38	0.13	J	0.06	0.23	0.38	UJ	1.09	0.64	0.56	J	0.29
SVP161878	SVP161878	865084	1073624	510.13	2/20/2014	1	1.5	sb	0.03	0.16	0.25	UJ	0.07	0.46	0.66	UJ	1.17	0.31	0.07	=	0.90	0.08	0.09	=	1.5	0.61	0.24	J	2.41	0.81	0.13	=	1.26	0.55	0.24	=	0.15	0.19	0.32	UJ	0.73	0.43	0.47	J	0.04
SVP161893	SVP161893	865102	1073715	509.58	2/19/2014	0.0	0.5	ss	0.14	0.13	0.23	UJ	0.12	0.39	0.59	UJ	1.21	0.31	0.05	=	0.86	0.07	0.07	=	1.09	0.54	0.42	J	2.69	0.93	0.39	=	0.74	0.42	0.14	J	0.02	0.17	0.27	UJ	1.22	0.43	0.40	=	0.14
	SVP161894	865102	1073715	509.58	2/19/2014	1.0	1.5	sb	0.17	0.16	0.28	UJ	0.31	0.47</																															

**Table B-1. St. Cin Park Radiological Soil Sample Analytical Results**

Station Name	Sample Name	Easting	Northing	Elevation	Collect Date	Start Depth	End Depth	Criteria	Ac-227				Pa-231				Ra-226				Ra-228				Th-228				Th-230				Th-232				U-235				U-238				SOR <sub>N</sub>
									Result	Error	MDC	VQ																																	
SVP164061	SVP164061	864879	1073563	507.55	2/25/2014	0.0	0.5	ss	0.03	0.17	0.28	UJ	-0.10	0.54	0.76	UJ	1.49	0.39	0.07	=	0.98	0.09	0.11	=	0.98	0.45	0.22	=	3.29	0.97	0.12	=	1.03	0.46	0.22	=	0.07	0.21	0.35	UJ	1.23	0.57	0.52	=	0.24
	SVP164061-1	864879	1073563	507.55	2/25/2014	0.0	0.5	ss	0.02	0.16	0.26	UJ	0.09	0.52	0.74	UJ	1.34	0.35	0.07	=	0.80	0.08	0.10	=	0.91	0.44	0.12	=	3.38	1.01	0.12	=	1.14	0.50	0.12	=	0.20	0.20	0.33	UJ	1.42	0.53	0.46	=	0.22
	SVP164062	864879	1073563	507.55	2/25/2014	0.5	1.0	sb	0.02	0.12	0.20	UJ	-0.35	0.37	0.51	UJ	1.79	0.43	0.05	=	0.89	0.06	0.06	=	0.98	0.45	0.12	=	6.10	1.54	0.12	=	1.33	0.55	0.12	=	-0.14	0.16	0.26	UJ	0.98	0.51	0.45	J	0.33
SVP164063	SVP164063	864761	1073568	509.77	2/25/2014	0.0	0.5	ss	0.01	0.12	0.20	UJ	0.19	0.34	0.52	UJ	1.38	0.35	0.05	=	0.90	0.06	0.06	=	0.93	0.43	0.11	J	1.42	0.56	0.25	=	1.14	0.48	0.11	=	0.02	0.16	0.27	UJ	0.82	0.46	0.45	J	0.09
	SVP164064	864761	1073568	509.77	2/25/2014	1.5	2.0	sb	-0.04	0.13	0.21	UJ	0.19	0.38	0.58	UJ	1.42	0.36	0.05	=	1.00	0.07	0.07	=	0.79	0.44	0.31	J	1.36	0.59	0.26	=	0.81	0.44	0.14	J	0.06	0.17	0.29	UJ	0.64	0.50	0.49	J	0.02
	SVP164065	864761	1073568	509.77	2/25/2014	3.5	4.0	sb	0.00	0.12	0.20	UJ	-0.16	0.38	0.55	UJ	1.48	0.37	0.05	=	1.01	0.06	0.06	=	0.93	0.44	0.12	J	1.56	0.60	0.12	=	1.11	0.49	0.12	=	0.10	0.16	0.28	UJ	0.94	0.47	0.45	=	0.02
SVP164067	SVP164066	864761	1073568	509.77	2/25/2014	5.5	6.0	sb	-0.05	0.11	0.19	UJ	-0.07	0.36	0.52	UJ	1.52	0.37	0.05	=	1.02	0.06	0.06	=	1.03	0.47	0.29	J	0.88	0.42	0.21	=	1.28	0.52	0.12	=	0.05	0.15	0.26	UJ	0.53	0.30	0.51	UJ	0.02
	SVP164067	865046	1073662	508.64	2/25/2014	0.0	0.5	ss	0.03	0.12	0.20	UJ	0.18	0.33	0.51	UJ	1.43	0.36	0.05	=	0.97	0.06	0.06	=	1.13	0.50	0.27	J	1.85	0.67	0.27	=	1.07	0.48	0.12	=	0.04	0.15	0.26	UJ	0.93	0.49	0.42	J	0.12
	SVP164068	865046	1073662	508.64	2/25/2014	1.5	2.0	sb	0.13	0.12	0.21	UJ	0.27	0.34	0.53	UJ	1.67	0.41	0.05	=	0.92	0.06	0.06	=	1.09	0.52	0.37	J	7.78	1.94	0.25	=	1.33	0.57	0.25	=	0.05	0.16	0.27	UJ	1.14	0.50	0.42	=	0.43
SVP164069	SVP164069	864932	1073665	506.53	2/25/2014	0.0	0.5	ss	0.36	0.19	0.28	UJ	0.04	0.44	0.65	UJ	2.06	0.51	0.06	=	0.91	0.07	0.07	=	1.04	0.48	0.28	=	14.10	3.09	0.23	=	0.74	0.39	0.13	J	0.12	0.19	0.33	UJ	1.41	0.67	0.52	=	1.13
	SVP164069-1	864932	1073665	506.53	2/25/2014	0.0	0.5	ss	0.24	0.23	0.26	UJ	0.26	0.43	0.67	UJ	1.97	0.48	0.05	=	0.90	0.06	0.07	=	0.73	0.38	0.25	J	14.70	3.08	0.25	=	0.67	0.35	0.11	J	-0.11	0.17	0.29	UJ	1.10	0.59	0.51	J	1.15
	SVP164070	864932	1073665	506.53	2/25/2014	1.5	2.0	sb	-0.03	0.13	0.21	UJ	0.02	0.33	0.55	UJ	1.64	0.40	0.05	=	1.05	0.07	0.06	=	0.93	0.43	0.30	=	1.93	0.66	0.20	J	0.67	0.35	0.20	J	0.16	0.17	0.29	UJ	1.32	0.63	0.46	=	0.04
SVP164071	SVP164071	864817	1073665	508.37	2/25/2014	0.0	0.5	ss	0.02	0.11	0.19	UJ	0.39	0.33	0.52	UJ	1.42	0.36	0.04	=	0.85	0.06	0.05	=	0.98	0.47	0.13	=	3.19	0.98	0.13	=	0.60	0.36	0.24	J	0.02	0.15	0.25	UJ	0.82	0.39	0.41	=	0.22
	SVP164071-1	864817	1073665	508.37	2/25/2014	0.0	0.5	ss	-0.08	0.12	0.20	UJ	0.00	0.32	0.54	UJ	1.43	0.35	0.05	=	0.88	0.06	0.05	=	0.73	0.38	0.29	J	2.79	0.85	0.12	=	0.80	0.40	0.11	=	0.06	0.15	0.27	UJ	0.96	0.45	0.43	=	0.19
	SVP164072	864817	1073665	508.37	2/25/2014	1.5	2.0	sb	0.04	0.14	0.23	UJ	-0.48	0.42	0.58	UJ	1.43	0.36	0.06	=	0.95	0.06	0.07	=	1.06	0.49	0.23	=	1.35	0.56	0.13	J	0.74	0.40	0.13	J	-0.10	0.17	0.28	UJ	1.18	0.56	0.48	=	0.02
SVP164075	SVP164075	864985	1073765	509.02	2/26/2014	0.0	0.5	ss	0.02	0.11																																			

Table B-1. St. Cin Park Radiological Soil Sample Analytical Results

Station Name	Sample Name	Easting	Northing	Elevation	Collect Date	Start Depth	End Depth	Criteria	Ac-227				Pa-231				Ra-226				Ra-228				Th-228				Th-230				Th-232				U-235				SOR <sub>N</sub>				
									Result	Error	MDC	VQ																																	
SVP167110	SVP167110	865002	1073776	508.36	3/20/2014	0.0	0.5	ss	-0.17	0.18	0.28	UJ	-0.09	0.53	0.77	UJ	1.43	0.38	0.07	=	0.90	0.09	0.11	=	1.13	0.52	0.13	=	1.63	0.65	0.13	=	0.89	0.45	0.13	J	0.01	0.24	0.40	UJ	1.40	1.18	1.19	J	0.11
	SVP167111	865002	1073776	508.36	3/20/2014	0.5	1.0	sb	0.03	0.17	0.28	UJ	-0.24	0.48	0.68	UJ	1.44	0.39	0.07	=	0.90	0.09	0.10	=	0.84	0.41	0.26	=	1.25	0.52	0.12	=	0.76	0.39	0.22	J	0.10	0.22	0.38	UJ	1.93	1.37	1.11	J	0.03
	SVP167112	865002	1073776	508.36	3/20/2014	1.0	1.5	sb	-0.12	0.16	0.25	UJ	-0.14	0.51	0.73	UJ	1.34	0.35	0.07	=	0.85	0.08	0.10	=	0.87	0.44	0.13	J	1.96	0.72	0.24	=	0.87	0.44	0.13	J	0.05								
	SVP167113	865002	1073776	508.36	3/20/2014	1.5	2.0	sb	0.04	0.16	0.28	UJ	-0.14	0.51	0.74	UJ	1.53	0.40	0.07	=	0.84	0.08	0.09	=	1.02	0.49	0.13	=	1.45	0.60	0.25	=	0.97	0.47	0.13	=	0.01	0.22	0.37	UJ	2.52	1.08	1.04	=	0.05
	SVP167114	865002	1073776	508.36	3/20/2014	2.0	2.5	sb	0.02	0.17	0.29	UJ	0.07	0.47	0.71	UJ	1.48	0.39	0.07	=	0.95	0.08	0.08	=	0.84	0.41	0.25	=	3.32	0.95	0.11	=	0.74	0.37	0.11	J	-0.03	0.22	0.37	UJ	1.04	0.74	1.25	UJ	0.12
	SVP167115	865002	1073776	508.36	3/20/2014	2.5	3.0	sb	0.17	0.20	0.34	UJ	0.10	0.59	0.89	UJ	2.03	0.52	0.07	=	0.89	0.09	0.10	=	1.37	0.64	0.35	=	18.20	4.33	0.29	=	1.27	0.61	0.29	=	0.06	0.24	0.41	UJ	1.11	0.82	1.38	UJ	1.15
	SVP167116	865002	1073776	508.36	3/20/2014	3.0	3.5	sb	0.32	0.23	0.33	UJ	0.20	0.56	0.85	UJ	1.92	0.50	0.07	=	0.96	0.09	0.09	=	1.05	0.56	0.36	J	16.70	4.14	0.16	=	1.07	0.56	0.30	J	0.08	0.24	0.42	UJ	1.28	1.13	1.27	J	1.04
	SVP171338	865002	1073776	508.36	5/6/2014	3.5	4.0	sb	0.19	0.15	0.26	UJ	0.08	0.41	0.62	UJ	1.65	0.42	0.06	=	1.01	0.08	0.08	=	0.83	0.41	0.27	=	2.13	0.75	0.10	=	0.80	0.40	0.23	=	-0.06	0.18	0.31	UJ	0.87	0.61	0.53	J	0.05
SVP167117	SVP167117	864954	1073671	505.72	3/20/2014	0.0	0.5	ss	0.03	0.20	0.34	UJ	0.41	0.62	0.97	UJ	1.93	0.50	0.08	=	0.95	0.09	0.10	=	0.86	0.44	0.28	J	13.20	2.93	0.23	=	0.97	0.46	0.13	=	0.02	0.25	0.43	UJ	0.67	0.88	1.46	UJ	1.03
	SVP171336	864954	1073671	505.72	5/6/2014	0.5	1.0	sb	0.68	0.46	0.62	UJ	0.32	0.94	1.44	UJ	2.15	0.59	0.12	=	0.89	0.13	0.18	=	1.28	0.48	0.08	=	16.00	3.77	0.16	=	1.58	0.56	0.08	=	0.05	0.37	0.64	UJ	1.41	1.10	1.03	J	1.01
SVP171301	SVP171301	864897	1073683	506.01	5/6/2014	0.0	0.5	ss	0.37	0.43	0.57	UJ	0.52	0.80	1.28	UJ	2.13	0.57	0.13	=	0.84	0.12	0.13	=	1.10	0.49	0.10	=	21.00	5.27	0.10	=	1.13	0.50	0.21	=	0.06	0.35	0.60	UJ	1.38	1.05	1.00	J	1.64
	SVP171302	864897	1073683	506.01	5/6/2014	0.5	1.0	sb	0.02	0.15	0.25	UJ	-0.09	0.44	0.65	UJ	1.91	0.47	0.06	=	1.00	0.07	0.07	=	1.42	0.59	0.25	=	6.85	1.94	0.25	=	1.35	0.57	0.21	=	0.10	0.19	0.33	UJ	1.66	0.65	0.51	=	0.39
SVP171303	SVP171303	864888	1073640	506.74	5/6/2014	0.0	0.5	ss	0.03	0.26	0.44	UJ	-0.80	0.77	1.16	UJ	1.57	0.45	0.13	=	0.74	0.12	0.14	=	0.90	0.45	0.32	=	7.45	2.10	0.26	=	1.18	0.52	0.21	=	0.01	0.31	0.53	UJ	1.05	0.65	1.18	UJ	0.55
	SVP171304	864888	1073640	506.74	5/6/2014	0.5	1.0	sb	0.10	0.14	0.25	UJ	0.08	0.43	0.65	UJ	1.58	0.40	0.06	=	0.98	0.07	0.07	=	1.23	0.51	0.38	=	2.21	0.74	0.25	=	0.69	0.35	0.18	=	-0.08	0.18	0.31	UJ	1.31	0.69	0.50	J	0.05
SVP171305	SVP171305	864936	1073617	506.10	5/6/2014	0.0	0.5	ss	0.20	0.17	0.29	UJ	0.21	0.45	0.76	UJ	2.16	0.53	0.06	=	1.07	0.08	0.07	=	1.24	0.52	0.20	=	15.70	3.98	0.10	=	1.11	0.48	0.10	=	0.06	0.20	0.34	UJ	1.28	0.60	0.58	=	1.26
	SVP171306	864936	1073617	506.10	5/6/2014	0.5	1.0	sb	0.68	0.57	0.63	UJ	0.12	1.02	1.53	UJ	2.81	0.73	0.12	=	0.87	0.15	0.16	=	1.00	0.42																			

**Table B-1. St. Cin Park Radiological Soil Sample Analytical Results**

Station Name	Sample Name	Easting	Northing	Elevation	Collect Date	Start Depth	End Depth	Criteria	Ac-227				Pa-231				Ra-226				Ra-228				Th-228				Th-230				Th-232				U-235				U-238				SOR <sub>N</sub>
									Result	Error	MDC	VQ	Result	Error	MDC	VQ	Result	Error	MDC	VQ	Result	Error	MDC	VQ	Result	Error	MDC	VQ	Result	Error	MDC	VQ	Result	Error	MDC	VQ	Result	Error	MDC	VQ					
SVP177365	SVP177365	864886	1073695	505.88	11/11/2014	0.0	0.5	ss	0.23	0.22	0.29	UJ	0.59	0.47	0.79	UJ	1.26	0.34	0.07	=	0.86	0.08	0.10	=	0.99	0.54	0.38	J	14.50	4.28	0.14	=	1.81	0.79	0.26	=	0.01	0.19	0.32	UJ	1.40	0.62	0.51	=	1.00
	SVP177366	864886	1073695	505.88	11/11/2014	0.5	1.0	sb	0.04	0.15	0.24	UJ	0.02	0.47	0.66	UJ	1.09	0.30	0.06	=	0.90	0.07	0.09	=	1.42	0.64	0.28	=	2.66	0.99	0.34	=	0.84	0.45	0.13	J	0.14	0.18	0.30	UJ	1.68	0.63	0.47	=	0.06
SVP177367	SVP177367	864917	1073709	505.66	11/11/2014	0.0	0.5	ss	0.18	0.17	0.28	UJ	0.48	0.45	0.76	UJ	1.19	0.32	0.07	=	0.83	0.09	0.09	=	1.37	0.64	0.25	=	12.40	3.70	0.33	=	0.94	0.50	0.13	J	0.13	0.20	0.33	UJ	1.04	0.61	0.53	J	0.83
	SVP177368	864917	1073709	505.66	11/11/2014	0.5	1.0	sb	0.03	0.14	0.23	UJ	0.16	0.45	0.66	UJ	1.05	0.29	0.06	=	0.88	0.08	0.09	=	1.04	0.55	0.26	J	4.55	1.58	0.26	=	0.89	0.50	0.14	J	0.09	0.18	0.31	UJ	0.77	0.55	0.48	J	0.18
SVP177369	SVP177369	864972	1073710	507.14	11/11/2014	0.0	0.5	ss	-0.08	0.14	0.22	UJ	-0.29	0.44	0.60	UJ	1.10	0.30	0.06	=	0.87	0.07	0.08	=	1.30	0.62	0.33	=	2.26	0.90	0.25	=	1.43	0.65	0.13	=	-0.09	0.17	0.27	UJ	0.91	0.48	0.45	J	0.09
	SVP177370	864972	1073710	507.14	11/11/2014	1.5	2.0	sb	-0.03	0.16	0.26	UJ	0.03	0.48	0.68	UJ	1.34	0.36	0.06	=	0.93	0.08	0.09	=	1.19	0.58	0.14	=	7.66	2.38	0.14	=	1.19	0.58	0.14	=	0.01	0.19	0.32	UJ	1.09	0.59	0.50	J	0.40
	<b>SVP177371</b>	<b>864972</b>	<b>1073710</b>	<b>507.14</b>	<b>11/11/2014</b>	<b>2.0</b>	<b>2.5</b>	<b>sb</b>	<b>0.81</b>	<b>0.15</b>	<b>0.32</b>	<b>=</b>	<b>0.87</b>	<b>0.53</b>	<b>0.90</b>	<b>UJ</b>	<b>2.54</b>	<b>0.64</b>	<b>0.08</b>	<b>=</b>	<b>0.88</b>	<b>0.09</b>	<b>0.10</b>	<b>=</b>	<b>49.90</b>	<b>8.08</b>	<b>6.58</b>	<b>=</b>	<b>0.88</b>	<b>0.09</b>	<b>0.10</b>	<b>=</b>	<b>0.23</b>	<b>0.24</b>	<b>0.41</b>	<b>UJ</b>	<b>2.38</b>	<b>0.72</b>	<b>0.66</b>	<b>=</b>	<b>3.32</b>				
SVP174891	SVP174891	864972	1073710	507.14	11/11/2014	3.5	4.0	sb	-0.06	0.16	0.25	UJ	0.22	0.49	0.72	UJ	1.62	0.42	0.07	=	0.88	0.08	0.09	=	1.38	0.63	0.14	=	2.88	1.05	0.35	=	1.33	0.62	0.14	=	0.03	0.19	0.32	UJ	1.09	0.53	0.50	=	0.10
SVP179151	SVP179151	865097	1073964	507.49	2/11/2015	0.0	0.5	ss	0.05	0.18	0.30	UJ	0.60	0.59	0.91	UJ	1.62	0.43	0.08	=	0.85	0.09	0.11	=	1.07	0.37	0.17	=	9.74	1.98	0.17	=	1.21	0.40	0.06	=	0.22	0.23	0.39	UJ	1.11	0.68	0.59	J	0.72
SVP179152	SVP179152	865097	1073964	507.49	2/11/2015	0.5	1.0	sb	-0.02	0.19	0.31	UJ	0.00	0.54	0.86	UJ	1.76	0.46	0.08	=	0.97	0.10	0.11	=	1.13	0.38	0.13	=	9.37	1.88	0.19	=	0.99	0.35	0.13	=	0.05	0.23	0.37	UJ	1.08	0.76	0.60	J	0.54
SVP179153	SVP179153	865099	1073946	507.11	2/11/2015	0.0	0.5	ss	0.64	0.48	0.38	UJ	0.98	0.67	1.06	UJ	1.82	0.48	0.09	=	0.94	0.10	0.12	=	1.58	0.48	0.14	=	12.20	2.46	0.14	=	0.74	0.30	0.06	=	0.05	0.25	0.41	UJ	1.65	0.69	0.63	J	0.95
	SVP179154	865099	1073946	507.11	2/11/2015	0.5	1.0	sb	0.18	0.22	0.36	UJ	0.54	0.68	1.03	UJ	1.97	0.51	0.09	=	0.93	0.10	0.13	=	1.12	0.40	0.15	=	12.50	2.54	0.15	=	1.25	0.42	0.15	=	-0.04	0.25	0.41	UJ	1.77	0.74	0.64	J	0.78
SVP179157	SVP179157	865105	1073871	507.20	2/5/2015	0.0	0.5	ss	0.16	0.13	0.23	UJ	0.36	0.41	0.64	UJ	1.85	0.46	0.06	=	0.97	0.07	0.06	=	1.17	0.54	0.23	=	11.80	3.11	0.23	=	1.30	0.58	0.23	=	-0.06	0.18	0.28	UJ	1.41	0.46	0.43	=	0.92
	<b>SVP179158</b>	<b>865105</b>	<b>1073871</b>	<b>507.20</b>	<b>2/5/2015</b>	<b>0.5</b>	<b>1.0</b>	<b>sb</b>	<b>0.24</b>	<b>0.18</b>	<b>0.25</b>	<b>UJ</b>	<b>0.23</b>	<b>0.43</b>	<b>0.66</b>	<b>UJ</b>	<b>2.05</b>	<b>0.51</b>	<b>0.05</b>	<b>=</b>	<b>0.91</b>	<b>0.06</b>	<b>0.07</b>	<b>=</b>	<b>1.60</b>	<b>0.69</b>	<b>0.33</b>	<b>=</b>	<b>19.50</b>	<b>5.12</b>	<b>0.14</b>	<b>=</b>	<b>1.19</b>	<b>0.57</b>	<b>0.13</b>	<b>=</b>	<b>-0.02</b>	<b>0.17</b>	<b>0.27</b>	<b>UJ</b>	<b>1.77</b>	<b>0.46</b>	<b>0.42</b>	<b>=</b>	<b>1.25</b>
SVP179159	SVP179159	865105	1073871	507.20	2/5/2015	1.0	1.5	sb	0.07	0.14	0.24	UJ	0.35	0.40	0.63	UJ	1.73	0.43	0.06																										