7

HTRW DRILLING LOG

DISTRICT	St. Louis USACE
HOLE NUMBER	SVP164213
SHEET	1 OF 2
1. COMPANY NAME:	Leidos
2. DRILL SUBCONTRACTOR:	Leidos
3. PROJECT:	Coldwater Creek
4 LOCATION	# 196 FPS (Flood Plain Systematic
5. NAME OF DRILLER:	Chuck Finkenbein / 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
8 HOLE COORDINATES	E 865838 N 1075785
Meter - Background	
44-9	E - 42 cpm
44-10	C - 5488 cpm
9 SURFACE ELEVATION	N/A
10 DATE STARTED	2/27/14
11 DATE COMPLETED	2/27/14
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

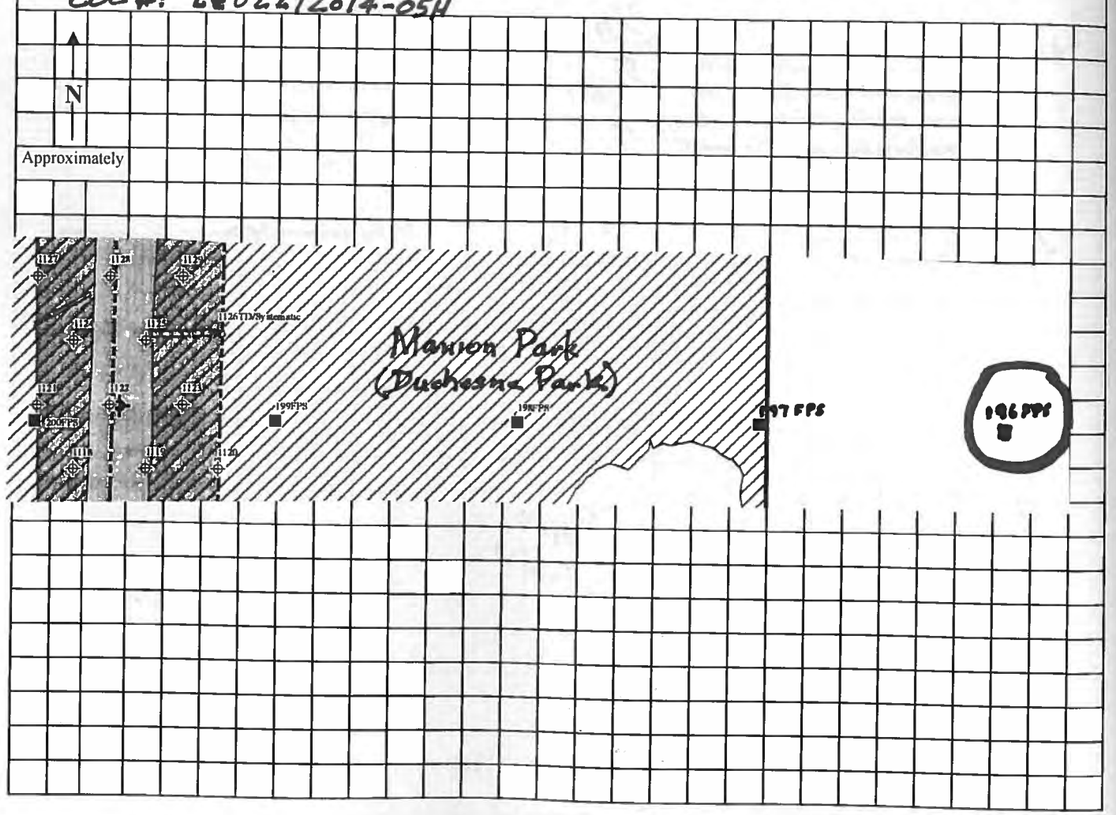
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY.
N/A	N/A	N/A	2	0	1	N/A

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite and soil plug	N/A	N/A	Gary Neutzling

LOCATION SKETCH/COMMENTS

COC #: LE02272014-05H

SCALE: None



Recorded By G Neutzling Date 2/27/14 QA By T Date 3-3-14

8

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER	196 FPS SVP 164213
PROJECT:	Coldwater Creek
INSPECTOR:	G. Neutzling
SHEET	2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
		Clayey SILT, brown, little to some v. fine sand, low plasticity, moist or ML	54 / 6067	—	—	SVP164213 1043 IsoTh gamma spec	—	
	1 / 0.5		64 / 5984	—	—	1044	—	
	2 / 1		63 / 6081	—	—	SVP164214 1047 IsoTh gamma spec	—	
	3 / 1.5		50 / 5779	—	—	Archive 1051 IsoTh gamma spec	—	
	4 / 2	Borehole terminated						Coil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G Neutzling Date 2/27/14 QA By T Date 3-3-14

9

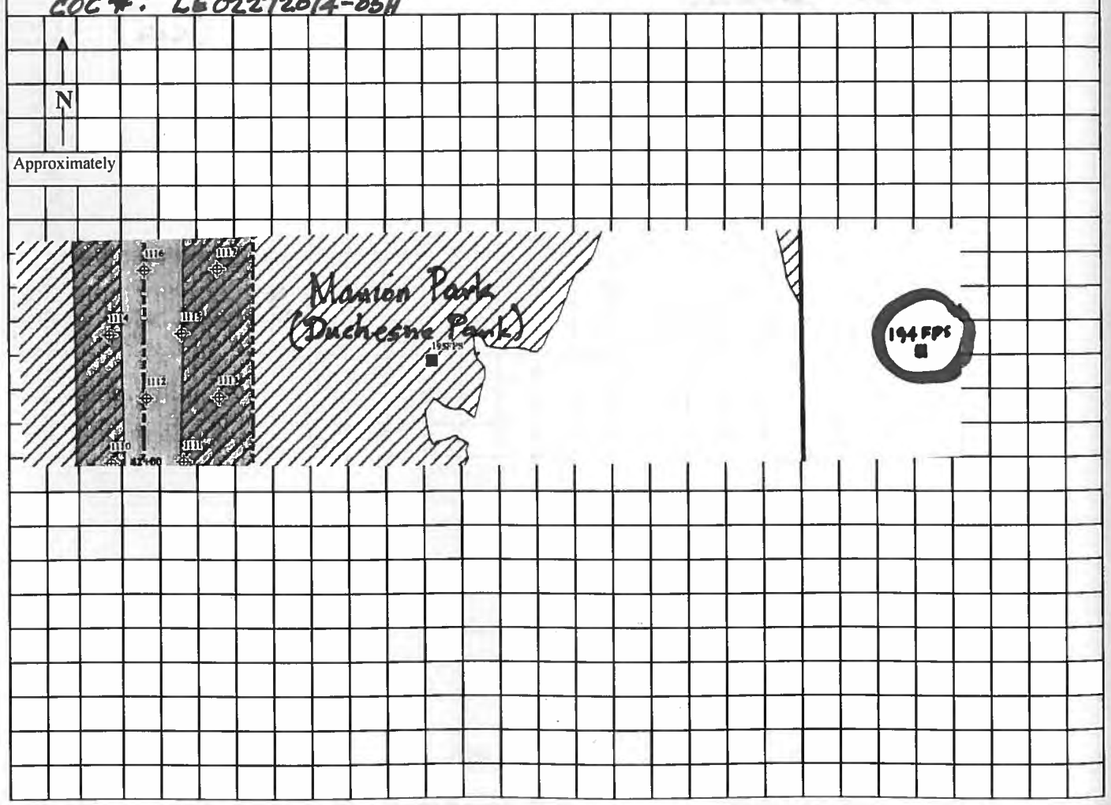
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP 164207	
1. COMPANY NAME Leidos	2. DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2
3. PROJECT Coldwater Creek	4. LOCATION: #194FPS (Flood Plain Systematic)	
5. NAME OF DRILLER Chuck Finkenbein / 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	8. HOLE COORDINATES E865280 N1075684	
Meter - Background 44-9 E - 42cpm 44-10 C - 5488 cpm	9. SURFACE ELEVATION N/A	
	10. DATE STARTED: 2/27/14	11. DATE COMPLETED 2/27/14
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 6.0 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	4	0	1	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR: Gary Neutzling		
Backfill using bentonite	w/bentonite	N/A	N/A			

LOCATION SKETCH/COMMENTS and soil plug 2/27/14 SCALE: None

COC #: LE02272014-05H



Recorded By G. Neutzling Date 2/27/14 QA By [illegible] Date 3-3-14

10

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP 164207 194 FPS

PROJECT Coldwater Creek — INSPECTOR: G. Neutzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Silt, brown, little to some v. fine sand, little clay, low plasticity, moist w/ trace of brick — ML (FILL)	65/5798	—	—	SVP164207 1059 Iso Th gamma spec	—	
	0.65		66/6114	—	—	SVP164208 1101 Iso Th gamma spec	—	
	1	trace of brick	59/6200	—	—	1103	—	
	2		51/5965	—	—	1106	—	
	2	Clayey SILT, brown, little very fine sand, low plasticity, moist — ML	55/6249	—	—	1111	—	more clayey but still silt
	3		59/6091	—	—	1114	—	looks reddish brown (glasses) but also glasses yellow brn.
	3		46/6280	—	—	1117	—	
	4		57/6182	—	—	SVP164209 1120 Iso Th gamma spec	—	
	4	Silty CLAY, brown mottled by gray, little v. fine sand, low plasticity, moist — CL	54/6331	—	—	1125	—	more clay
	5		49/6317	—	—	1130	—	
	5		58/5914	—	—	SVP164210 1181 Iso Th gamma spec Analyzed 1182 Iso Th gamma spec	—	
	6		52/5756					
	6.0	Borehole terminated						soil
	8							
	9							
	10							

Recorded By G. Neutzling Date 2/27/14 QA By [illegible] Date 3-3-14

11

HTRW DRILLING LOG

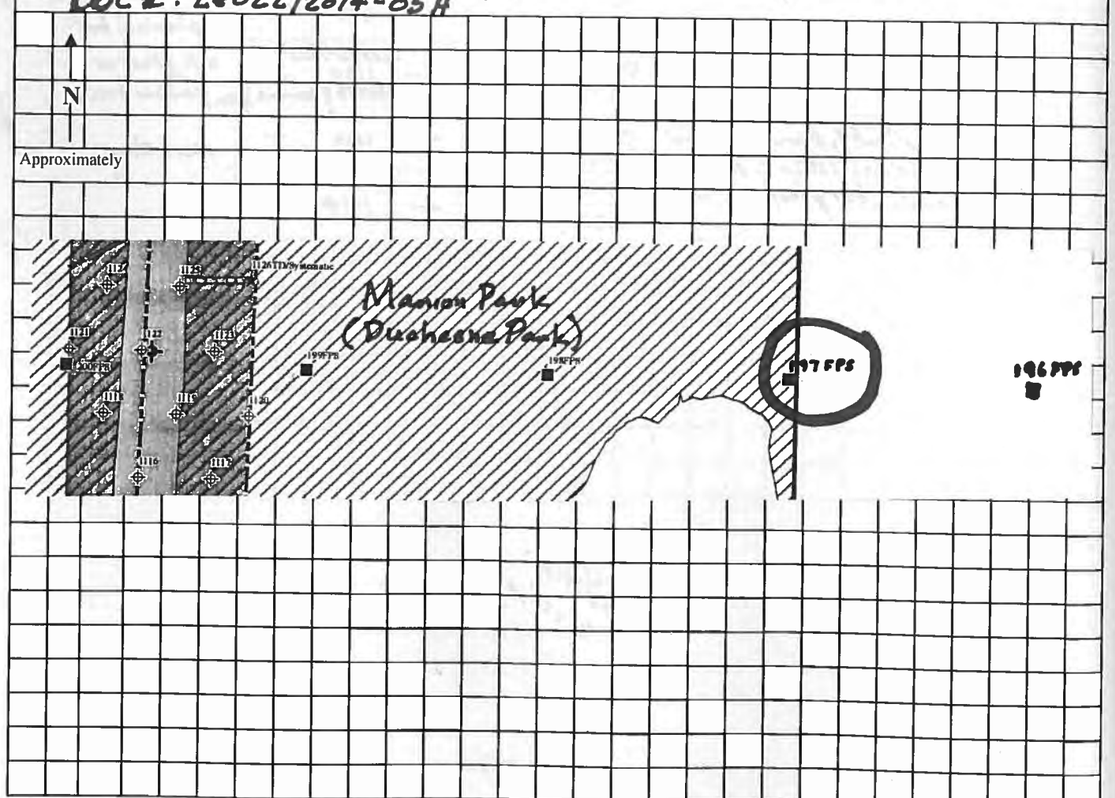
DISTRICT: St. Louis USACE	HOLE NUMBER SVP164215
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos — SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: # 197 FPS (Flood Plain Systematic)
5. NAME OF DRILLER: Chuck Finkenbein / Juan Alvarado	6. MANUFACTURERS DESIGNATION OF DRILL: N/A
7. SIZES AND 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	8. HOLE COORDINATES: E 865222 N1075785
Meter - Background: 44-9 E - 42 cpm; 44-10 C - 5488 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 2/27/14 — 11. DATE COMPLETED: 2/27/14
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	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY
N/A	N/A	N/A	2	0	1	N/A

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite	N/A	N/A	G. Neutzling

LOCATION SKETCH/COMMENTS: and grass plug G. Neutzling 2/27/14
COC #: LE022720 14-05 H

SCALE: None



Recorded By G. Neutzling Date 2/27/14 (G. Neutzling 3/4/14) QA By [illegible] Date 3-3-14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 197 FPS SVP164215 — SHEET 2 of 2

PROJECT: Coldwater Creek — INSPECTOR: G. Neutzling

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Silty CLAY, brown, little v. fine sand, little gravel & asphalt pieces, low plasticity, moist – CL	64 / 6081	–	–	SVP164215 1142 IsoTh gamma spec	–	
	0.5		58 / 5731	–	–	SVP164216 1146 IsoTh gamma spec	–	first size asphalt piece
G. Neutzling 2/27/14	1.0		41 / 5639	–	–	1846	–	
	1.5		48 / 5514	–	–	Archive 1148 IsoTh gamma spec	–	
	2.0	Borehole terminated						soil
	5							
	6							
	7							
	8							
	9							
	10							

G. Neutzling 2/27/14

Recorded By G. Neutzling Date 2/27/14 QA By [illegible] Date 3-3-14

12

13

HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP 164229
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos / SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION # 204 FPS (Flood Plain Systematic)
5. NAME OF DRILLER: Chuck Finkenbein / Adam Green	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	8. HOLE COORDINATES: E. 866280 N 1075886
Meter - Background 44-9 E - 34 cpm 44-10 C - 5206 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 2/27/14 / 11. DATE COMPLETED: 2/27/14
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

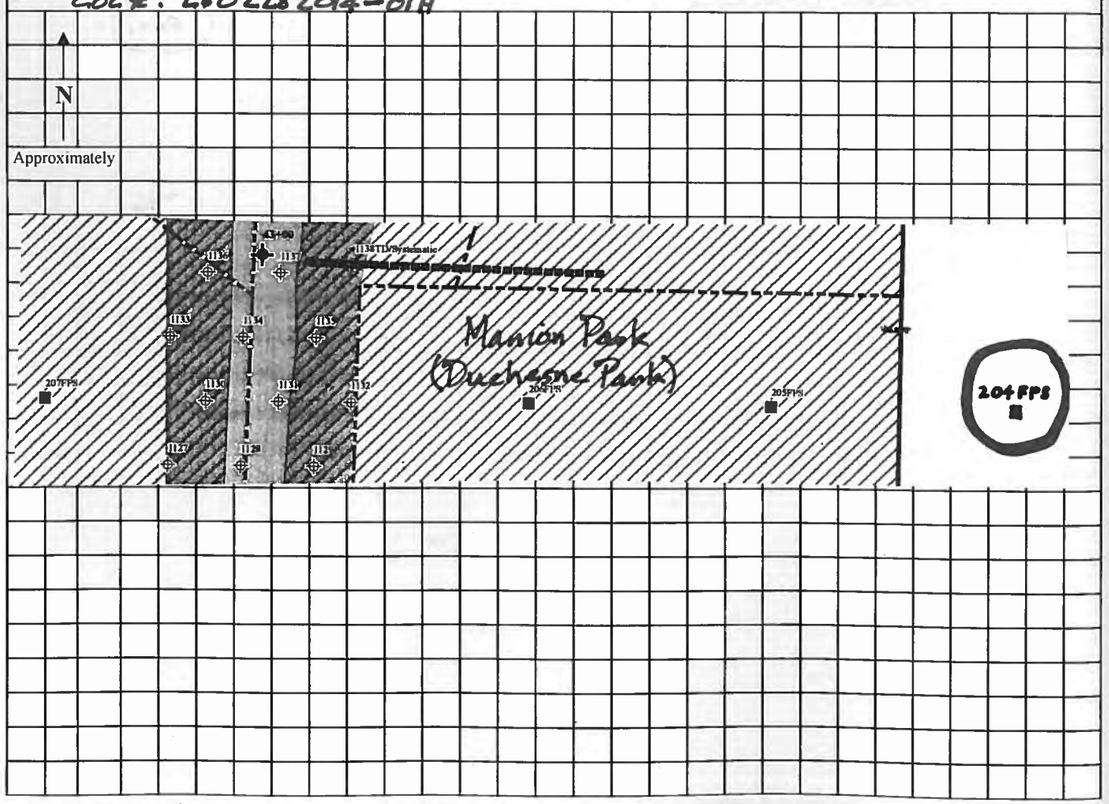
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A	N/A	N/A	2	0	1	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Nentzling

LOCATION SKETCH/COMMENTS and soil plug 2/27/14 COC#: LB02282014-01H

SCALE: None



Recorded By G. Nentzling Date 3/4/14 QA By [signature] Date 3-7-14

14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 204 FPS SVP 164229

PROJECT: Coldwater Creek | INSPECTOR: G Nentzling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Silty Clay, brown, little v. fine sand, low plasticity, moist — CL Gnm 2/27/14	55 / 5477 (39) Gnm 2/27/14	—	—	SVP 164229 1408 Iso Th Gamma Spec	—	yellow brn w/o glasses
	0.5 (Gnm 2/27/14)		58 / 6119	—	—	SVP 164230 1412 Iso Th Gamma Spec	—	
	1		52 / 5622	—	—	1415	—	
	1.5	Silt, brown, little clay, little to some v. fine sand, low p	39 / 5477	—	—	Archive 1407 Iso Th Gamma Spec	—	
	2	Borehole terminated						Soil
	5							
	6							
	7							
	8							
	9							
	10							

Gnm 2/27/14

Recorded By G. Nentzling Date 2/27/14 QA By [signature] Date 3-7-14

15

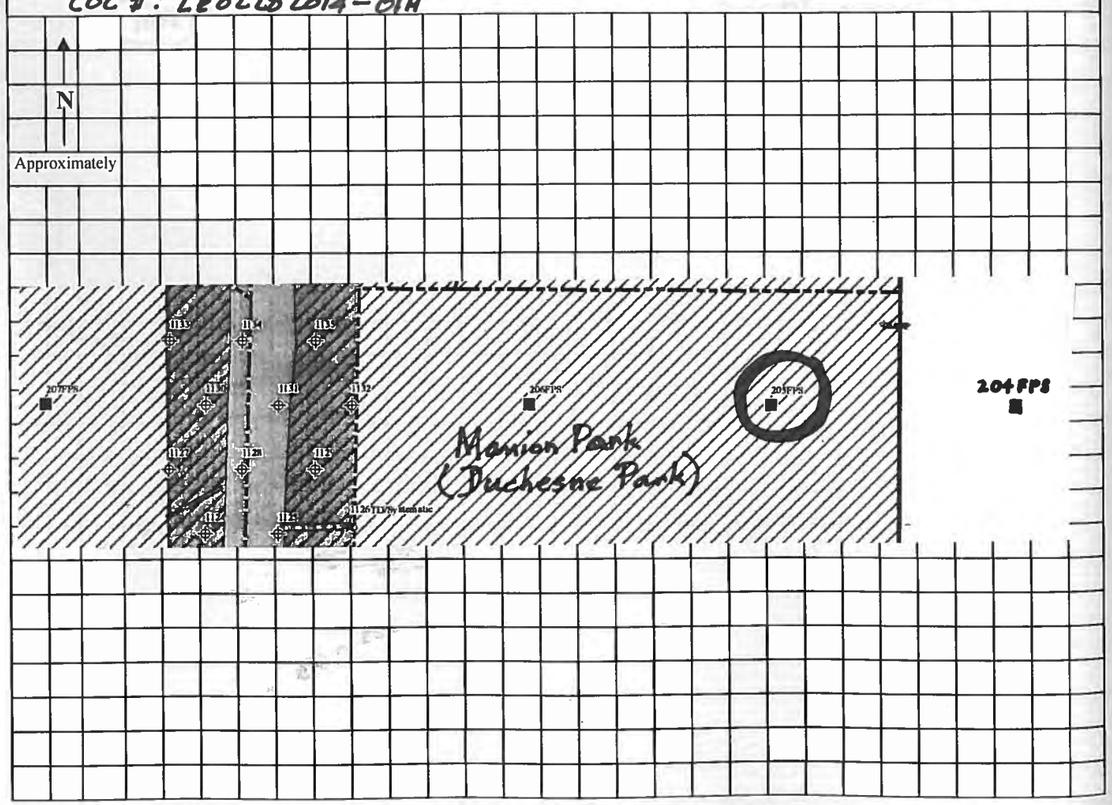
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP 164231
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos / SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION # 205 FPS (Flood Plain Systematic)
5. NAME OF DRILLER: Chuck Finkenbein / Adam Queen	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	8. HOLE COORDINATES: E 865164 N1075886
Meter - Background 44-9 E - 34 cpm 44-10 C - 5206 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 2/27/14 / 11. DATE COMPLETED 2/27/14
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 6.0 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	4	1 set of 2	0	
22. DISPOSITION OF HOLE	**BACKFILLED**	**MONITORING WELL**	**OTHER (SPECIFY)**	**23. SIGNATURE OF INSPECTOR**		
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neustzlenz		

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE02282014-01H



Recorded By G. Neustzlenz Date 3/4/14 QA By [signature] Date 3-7-14

16

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 205 FPS SVP164231

PROJECT: Coldwater Creek — INSPECTOR: G. Neustzlenz — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey Silt, brown, little to some to little v. fine sand, low plasticity, moist (FILL)	52/6214	—	—	SVP164231 1421 IsoTh gamma spec	—	Collect QC/QA Soil sampler SVP164231-1 SVP164231-2 Extra 7 of 13 QC/QA
	0.5		50/6112	—	—	1424	—	
	1		37/5865	—	—	1427	—	
		w/ piece of concrete w/in 1½ to 2 ft interval	49/6019	—	—	SVP164232 1430 IsoTh gamma spec	—	
	1.5		55/6196	—	—	1434	—	silt, little cl little to sm sd
	2		60/5953	—	—	SVP164233 1437 IsoTh gamma spec	—	
	3	Clayey SILT, med. brown, little v fine sand, low plasticity, moist	49/5720	—	—	1439	—	transition
	3.5	Silty CLAY, medium brown, little v. fine sand, moderate plastic, moist — CL	60/5588	—	—	1441	—	siCL
	4		37/6476	—	—	1457	—	
	4.5		55/6082	—	—	1459	—	more clayey but not CH
	5		56/5932	—	—	1501	—	
	5.5		65/5680	—	—	SVP164234 1503 IsoTh gamma spec	—	
	6	Borehole terminated						soil
	7							
	8							
	9							
	10							

Recorded By G. Neustzlenz Date 2/27/14 QA By [signature] Date 3-7-14

17

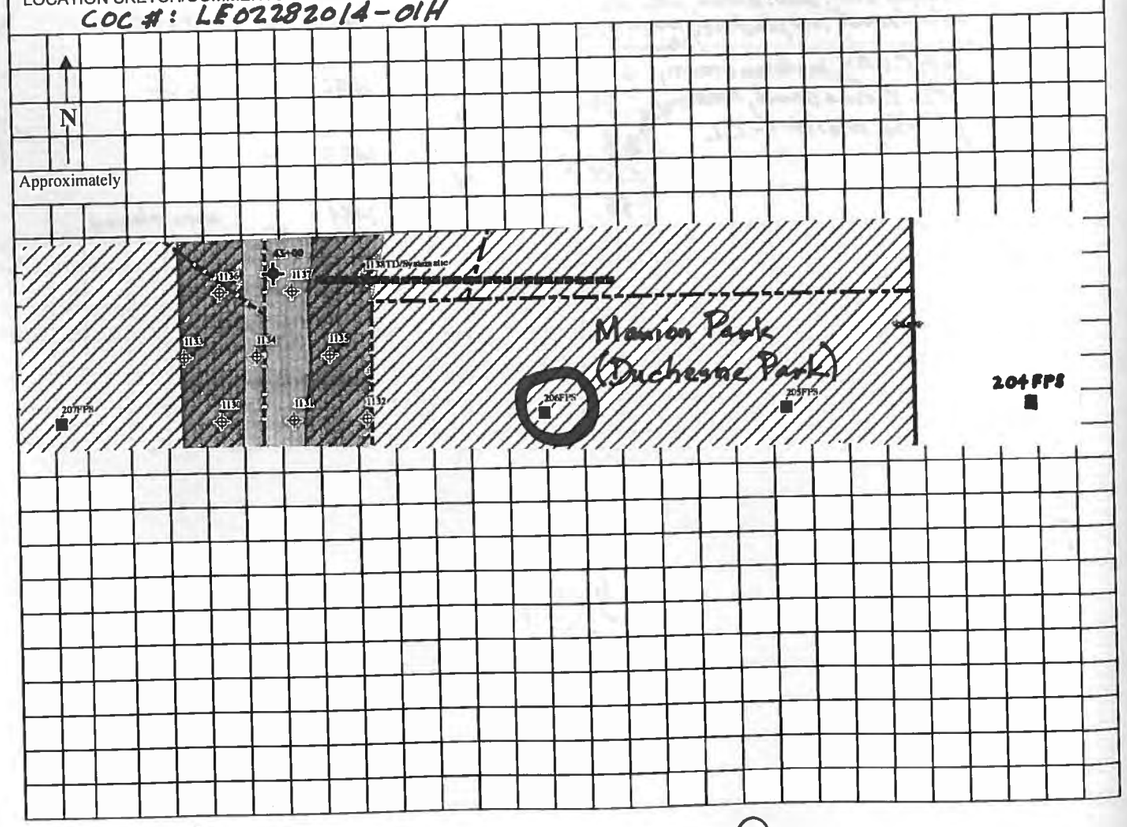
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER: SVP
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos — SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: # 206 FPS (Flood Plain Systematic)
5. NAME OF DRILLER: Chuck Finkenbein / Adam Queen	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	8. HOLE COORDINATES: E 865048 N1075886
Meter - Background 44-9 E - 34 cpm 44-10 C - 5206 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 2/27/14 — 11. DATE COMPLETED: 2/27/14
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	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A	N/A	N/A	2	0	1	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neustaeter		

SCALE: None

LOCATION SKETCH/COMMENTS
COC #: LE02282014-01H



Recorded By G. Neustaeter Date 3/4/14 QA By [signature] Date 3-7-14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: 206 FPS SVP 164235

PROJECT: Coldwater Creek — INSPECTOR: G. Neustaeter — SHEET 2 of 2

18

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, medium brown, some to little clay, little v. fine sand, low plasticity - ML	59 / 5970	—	—	SVP164235 1508 Iso Th gamma spec	—	piece of plastic v. stiffy
	1 / 0.5		47 / 6430	—	—	1511	—	
	2 / 1		53 / 5993	—	—	SVP164236 1514 Iso Th gamma spec	—	
	3 / 1.5	Clayey SILT, medium brown, little v. fine sand, low plasticity, moist - ML	50 / 5697	—	—	~~Archive~~ 1506 Iso Th gamma spec	—	more clayey Archive Submitted 8/27/14 SVP167075
	4 / 2	Borehole terminated						Soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neustaeter Date 2/27/14 QA By [signature] Date 3-7-14

19

HTRW DRILLING LOG

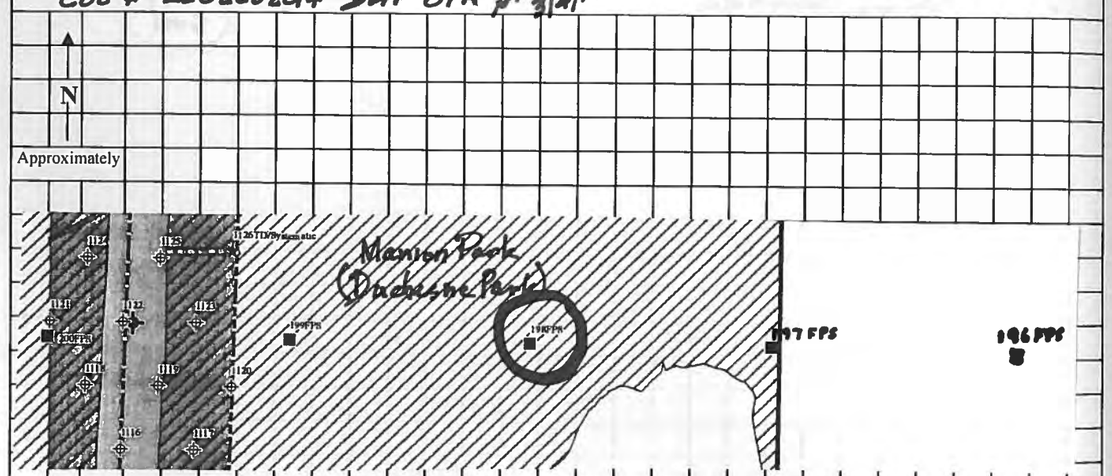
DISTRICT St. Louis USACE		HOLE NUMBER SVP 164217
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION # 198 FPS (Flood Plain Systematic)	
5. NAME OF DRILLER: Shuela Finkenbein / Adam Queen	6. MANUFACTURERS DESIGNATION OF DRILL: N/A	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve	8. HOLE COORDINATES QB 12-15-14 E 8651069 N10757855	
Meter - Background 44-9 E - 34 cpm 44-10 C - 5206 cpm	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 2/27/14	11. DATE COMPLETED 2/27/14
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	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A	N/A	N/A	2	0	1	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neustling

LOCATION SKETCH/COMMENTS — SCALE: None

COC # LE02282014 - DUP 01H 3/4/14



Recorded By G. Neustling Date 3/4/14 QA By [illegible] Date 3-7-14

20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 198 FPS SVP 164217

PROJECT: Coldwater Creek — INSPECTOR: G Neustling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, brown, little clay, little v. fine sand, low plasticity, moist (FILL)	64 / 6199	—	—	SVP164217 1525 Iso Th Gamma Spec.	—	
	0.5		54 / 6092	—	—	1527	—	
	1	Clayey SILT, medium brown, little v. fine sand trace gravel, low plasticity, moist (FILL) - ML	62 / 5891	—	—	SVP164218 1529 Iso Th Gamma Spec	—	trgr
	1.5		47 / 5416	—	—	Archive 1523 Iso Th Gamma Spec	—	trgr
	2	Borehole terminated.						
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neustling Date 2/27/14 QA By [illegible] Date 3-7-14

21

HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER: SVP164233211 (195 207FPS)
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos
	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: #195 207 FPS (Flood Plain Systematic)
5. NAME OF DRILLER: Chuck Prokopkevin / Adam Queen	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	8. HOLE COORDINATES: E 865048 N 1075684
Meter - Background 44-9 E - 34 cpm 44-10 C - 5206 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 2/27/14 — 11. DATE COMPLETED: 2/27/14
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 bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A
N/A			

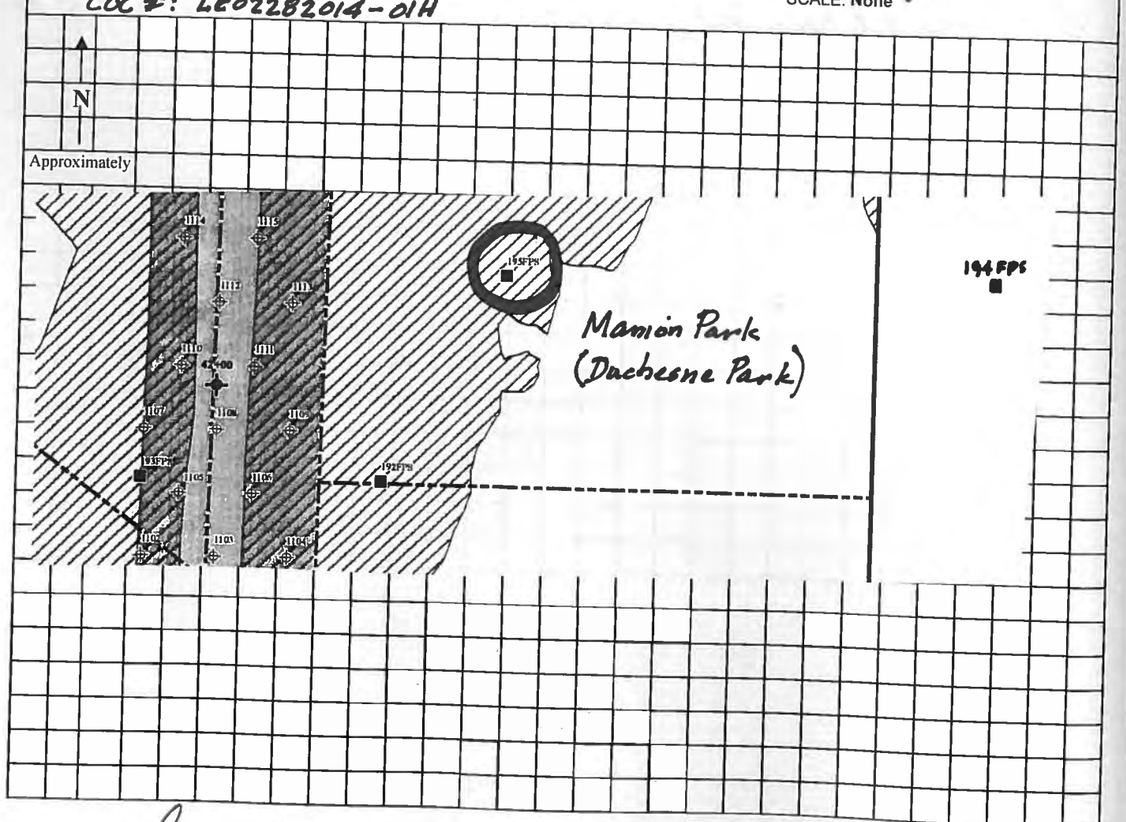
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A	N/A	N/A	2	0	1	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite	N/A	N/A	J. Neustaeter

LOCATION SKETCH/COMMENTS

COC #: LE02282014-01H

SCALE: None



Recorded By J. Neustaeter Date 3/4/14 QA By [signature] Date 3-7-14

HTRW DRILLING LOG (Continuation Sheet)

PROJECT: Coldwater Creek	INSPECTOR: G. Neustaeter
HOLE NUMBER: SVP164233211 (195 207FPS)	SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Silty CLAY, med brown/gray mottled, trace sand, trace carbonate low plasticity, moist — CL (FILL)	52 / 6140	—	—	SVP164211 1583 I-80 Th gamma spec	—	
	0.5	Clayey SILT, brown, little v. fine sand, low plasticity, moist — ML	50 / 5987	—	—	1537	—	
	1	w/ trace gravel (FILL)	53 / 5874	—	—	1539	—	
	1.5	Silty CLAY, brown, little v. fine sand, low plasticity, moist — CL	76 / 5446	—	—	SVP164212 1531 I-80 Th gamma spec	—	
	2		54 / 5829	—	—	Archive 1550 I-80 Th gamma spec	—	
	2.5	Borehole terminated						
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By J. Neustaeter Date 2/27/14 QA By [signature] Date 3-7-14

23

HTRW DRILLING LOG

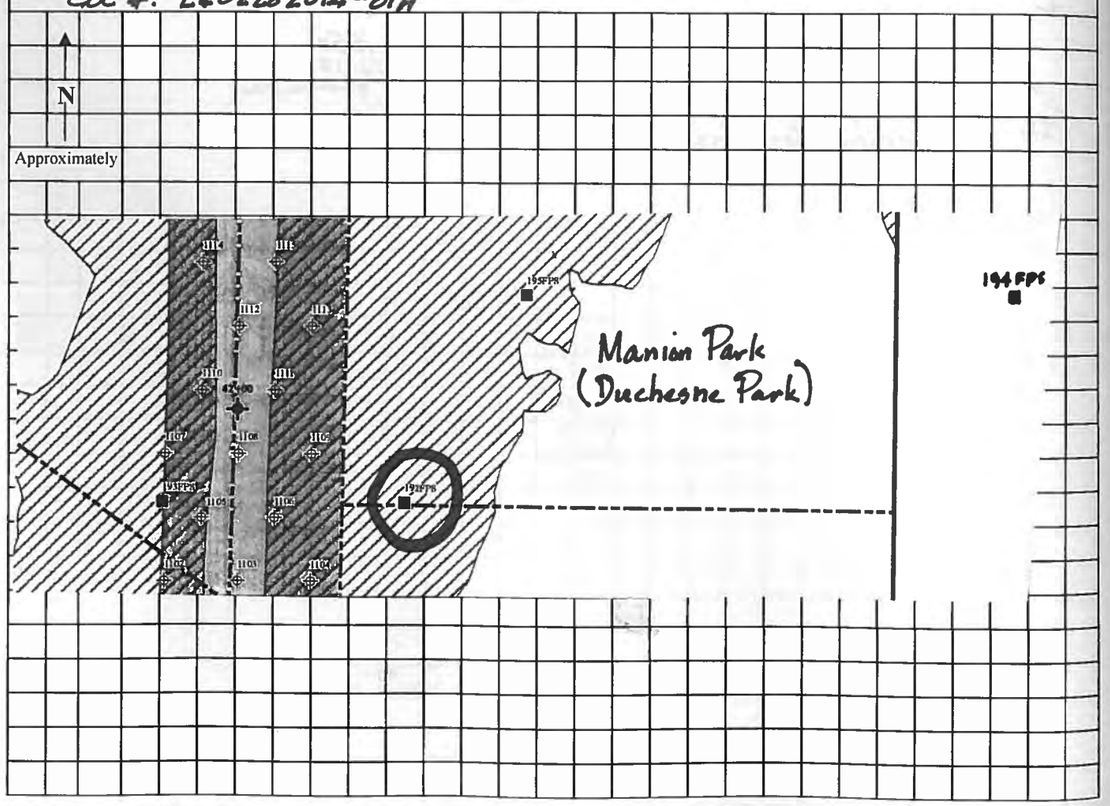
DISTRICT: St. Louis USACE		HOLE NUMBER SVP164203
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION # 192 FPS (Flood Plain Systematic)	
5. NAME OF DRILLER: Chuck Fickenscher / Adam Queen	6. MANUFACTURERS DESIGNATION OF DRILL: N/A	
7. SIZES AND 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	8. HOLE COORDINATES: QB 12-15-14 E 8649901 N 10756830	
Meter - Background 44-9 E - 34 cpm 44-10 C - 5206 cpm	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 2/27/14	11. DATE COMPLETED: 2/27/14
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 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	1 set of 2	1	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite ✓	N/A	N/A	Gary Neutzling

LOCATION SKETCH/COMMENTS: Well sitting down 2/27/14
COC #: LE02282014-01H

SCALE: None



Recorded By G. Neutzling Date 3/4/14 QA By [signature] Date 3-7-14

24

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP164203 192 FPS

PROJECT: Coldwater Creek — INSPECTOR: G. Neutzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, dark brown, little clay some v. fine sand, trace gravel, low plasticity, moist — ML (FILL)	35 / 6019	—	—	SVP164203 1561 IsoTh ~~Gamma Spec~~	—	Collect QC/QA Soil samples SVP164203-1 SVP164203-2
	0.5	Silty CLAY, brown, little v. fine sand, low plasticity, moist — CL	55 / 5993	—	—	SVP164204 1553 IsoTh ~~Gamma Spec~~	—	siCL
	1	becomes medium brown (FILL)	52 / 5840	—	—	1565	—	med br siCL
	1.5	Clayey SILT, brown, little v. fine sand, trace gravel, low plasticity, moist — ML (FILL)	52 / 5836	—	—	1558	—	Cl si trgr FILL
	2	SILT, brown, little clay, little v. fine sand, low plasticity, moist — ML	65 / 5968	—	—	Archive 1601	—	si lt Cl
	2.5	Borehole terminated						
	3							
	3.5							
	4							
	4.5							
	5							
	5.5							
	6							
	6.5							
	7							
	7.5							
	8							
	8.5							
	9							
	9.5							
	10							

Gary 2/27/14

Recorded By G. Neutzling Date 2/27/14 QA By [signature] Date 3-7-14

25

HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP 164219
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos
	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: # 199FPS (Flood Plain systematic coring)
5. NAME OF DRILLER: Juan Alvarado/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	8. HOLE COORDINATES 88 QB12-15-14 E 864990 N1075788.3
Meter - Background	
44-9 F - 42cpm	9. SURFACE ELEVATION: N/A
44-10 C - 7586cpm	10. DATE STARTED: 3/4/14 / 11. DATE COMPLETED: 3/4/14
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

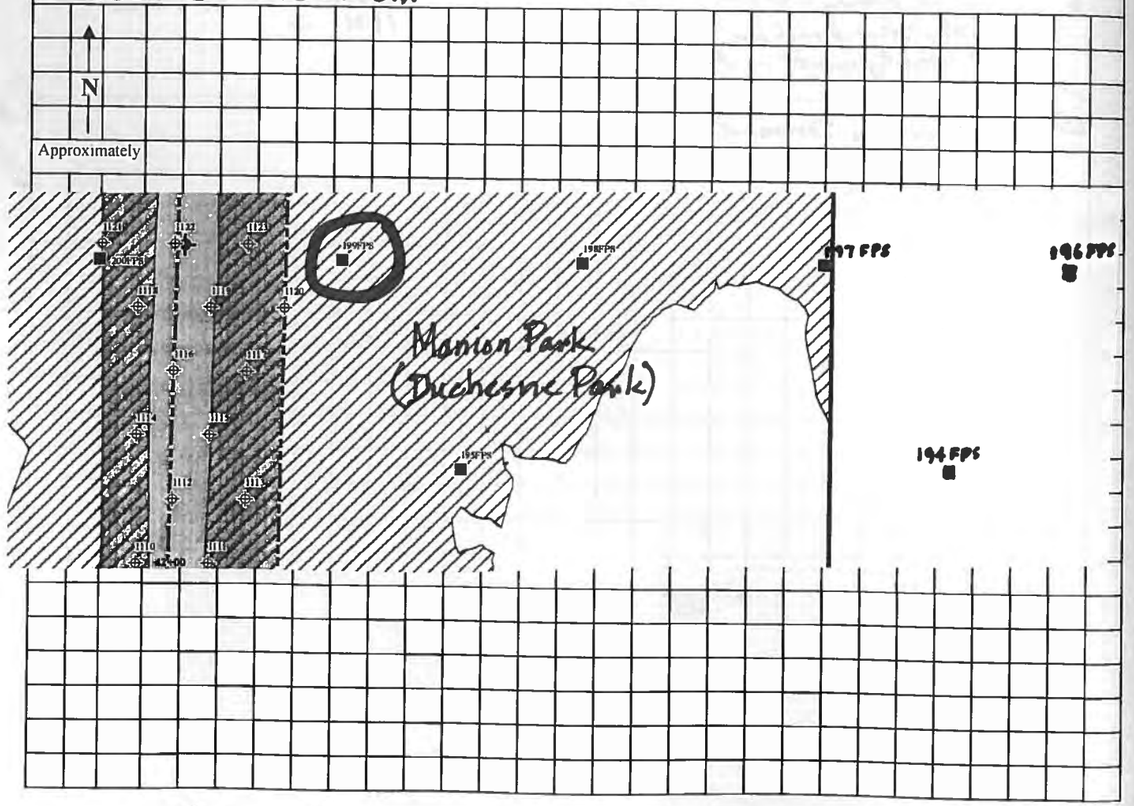
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A	N/A	N/A	2	1 set of 2	1	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neustling

LOCATION SKETCH/COMMENTS
COC # LE03042014-01H

SCALE: None



Recorded By G. Neustling Date 3/4/14 QA By [illegible] Date 3-7-14

26

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP 164219 199 FPS

PROJECT: Coldwater Creek | INSPECTOR: G. Neustling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Silty CLAY, brown, trace sand, low plasticity, moist (FILL) CL	57/7316	—	—	SVP164219 0922 IsoThd gamma spec	—	Freezer Collect QC/QA soil samples SVP164219-1 SVP164219-2 2nd batch
			53/7345	—	—	0924 IsoThd gamma spec	—	
	1	Silty CLAY, brown, trace sand, low plasticity, little crushed limestone trace asphalt pieces, moist - CL (FILL)	56/7112	—	—	SVP164220 0937 IsoThd gamma spec	—	moved ~1½ ft to East
			46/7444	—	—	Archive 0939 IsoThd gamma spec	—	
	2	Borehole terminated (auger refusal)						
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neustling Date 3/4/14 QA By [illegible] Date 3-7-14

27

HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP162338
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR Leidos
	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION # 1120 (systematic among)
5. NAME OF DRILLER: Juan Alvarado/Antonio Martinez/Chuck F	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	8. HOLE COORDINATES @B 12-15-14 E 8649638 N 1075764.57
Meter - Background 44-9 F - 42 cpm 44-10 C - 7586 cpm	9. SURFACE ELEVATION N/A
	10. DATE STARTED 3/4/14 — 11. DATE COMPLETED 3/4/14
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	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A	N/A	N/A	2	9	0	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neutzling

LOCATION SKETCH/COMMENTS
COC#: LE03042014-01H

SCALE: None

Recorded By G. Neutzling Date 3/4/14 QA By [illegible] Date 3-7-14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1120 SVP162338

28

PROJECT: Coldwater Creek — INSPECTOR: G Neutzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, brown, some clay trace sand, trace roots, low plasticity, moist - ML (FILL)	60 / 7579	—	—	SVP162338 1000 Iso Th Gamma Spec	—	
	0.5		67 / 7520	—	—	1005	—	
	1.0	Silty CLAY, brown, trace sand, low plasticity moist - CL (FILL) w/ trace gravel below ~1½ ft	41 / 7523	—	—	1007	—	
	1.5		67 / 7511	—	—	SVP162339 1010 Iso Th Gamma Spec	—	
	2.0	Borehole terminated						
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neutzling Date 3/4/14 QA By [illegible] Date 3-7-14

29

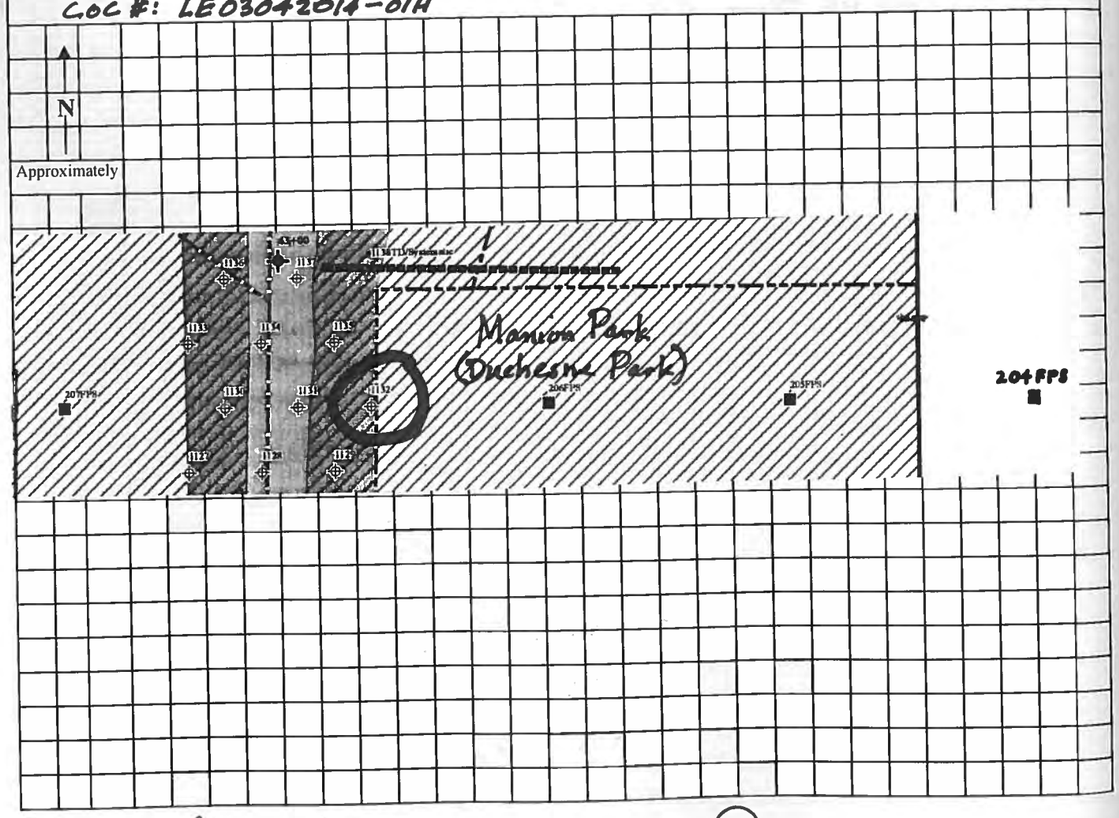
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP 162362
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos — SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION # 1132 (systematic ansmp)
5. NAME OF DRILLER: Juan Alvarado / Chuck Finkenbein	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	8. HOLE COORDINATES: E 864963 N1075885
Meter - Background 44-9 F - 42cpm 44-10 C - 7586 cpm	9. SURFACE ELEVATION: N/A 10. DATE STARTED: 3/4/14 — 11. DATE COMPLETED: 3/4/14
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	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		
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neustzling		

LOCATION SKETCH/COMMENTS ~~and gra~~ 3/4/14
COC #: LE03042014-01H

SCALE: None



Recorded By G. Neustzling Date 3/4/14 QA By [illegible] Date 3-7-14

30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1132
SVP162362

PROJECT: Coldwater Creek — INSPECTOR: G Neustzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, brown, little to some V. fine sand, low plasticity, moist – ML	57 / 8117	—	—	SVP162362 1012 Iso Th gamma spec	—	
	0.5		59 / 7730	—	—	1015	—	
	1		64 / 7702	—	—	1018	—	
	1.5		73 / 7497	—	—	SVP162363 1021 Iso Th gamma spec	—	
	2.0	Borehole terminated						
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neustzling Date 3/4/14 QA By [illegible] Date 3-7-14

31

HTRW DRILLING LOG

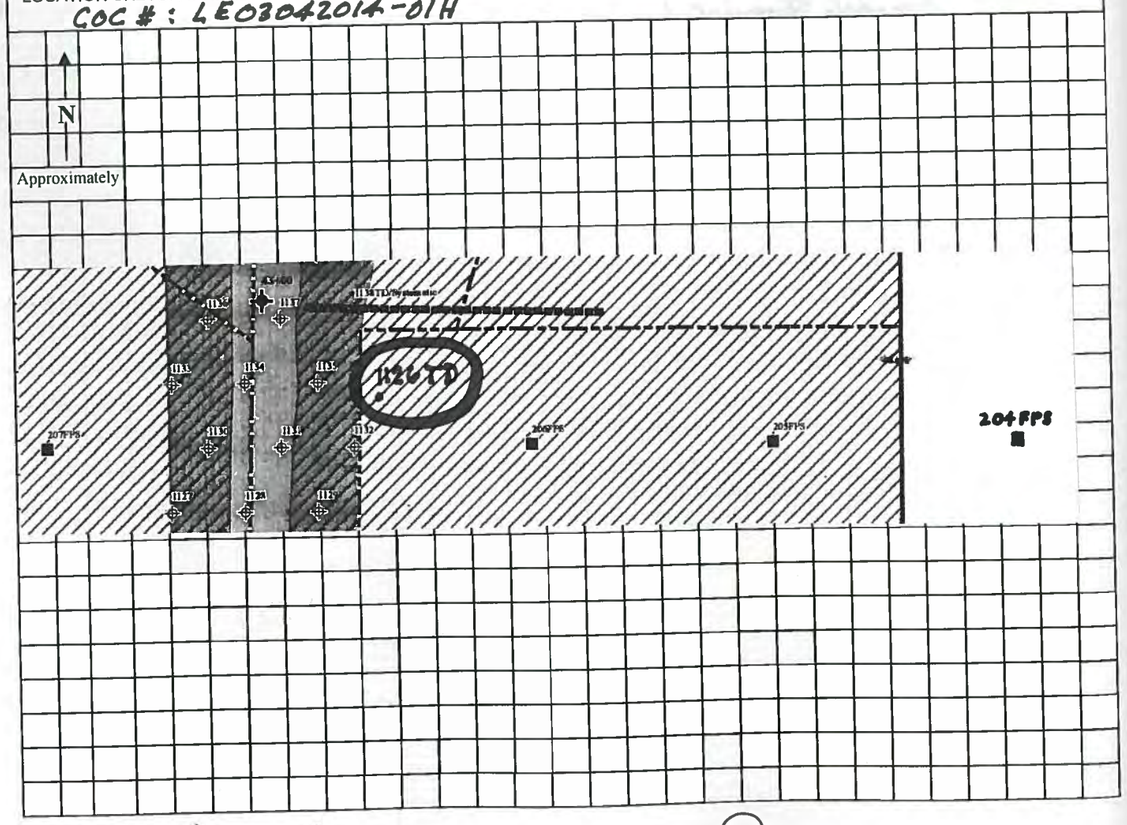
DISTRICT: St. Louis USACE	HOLE NUMBER SVP162350
2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
1. COMPANY NAME: Leidos	
3. PROJECT: Coldwater Creek	4. LOCATION: # 1126 (Biased TD/Systematic array)
5. NAME OF DRILLER: Juan Alvarado/Chuck Fukenbein	6. MANUFACTURERS DESIGNATION OF DRILL: N/A
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve	8. HOLE COORDINATES: E864963 N1075885 moved to actual ditch New Coord E 864979 N1075909
Meter - Background 44-9 F - 42 cpm 44-10 C - 7586 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 3/4/14 — 11. DATE COMPLETED: 3/4/14
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 — 21. TOTAL CORE RECOVERY: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE
N/A	N/A	N/A	2	1 set of 2	1

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite	N/A	N/A	

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE03042014-01H



Recorded By G. Neustzling Date 3/4/14 QA By [signature] Date 3-7-14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1126 SVP162350

PROJECT: Coldwater Creek — INSPECTOR: G Neut — SHEET 2 of 2

32

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
		Clayey SILT, brown, little v. fine sand, low plasticity, moist — ML	64 / 7292	–	–	SVP162350 1102 IsoTh gamma spec	–	moved from pinned loc to actual drainage ditch
	1		70 / 7524	–	–	SVP162351 1104 IsoTh gamma spec	–	Collect QC/QA Soil samples SVP162350-1 SVP162350-2
	2		64 / 7853	–	–	1106	–	
	3		59 / 8053			Archive 1108 IsoTh gamma spec	–	SVP169550 submitted archive CIA 6/12/14
	4	Borehole terminated						
	5							
	6							
	7							
	8							
	9							
	10							

Frozen at top

Recorded By G. Neustzling Date 3/4/14 QA By [signature] Date 3-7-14

33

HTRW DRILLING LOG

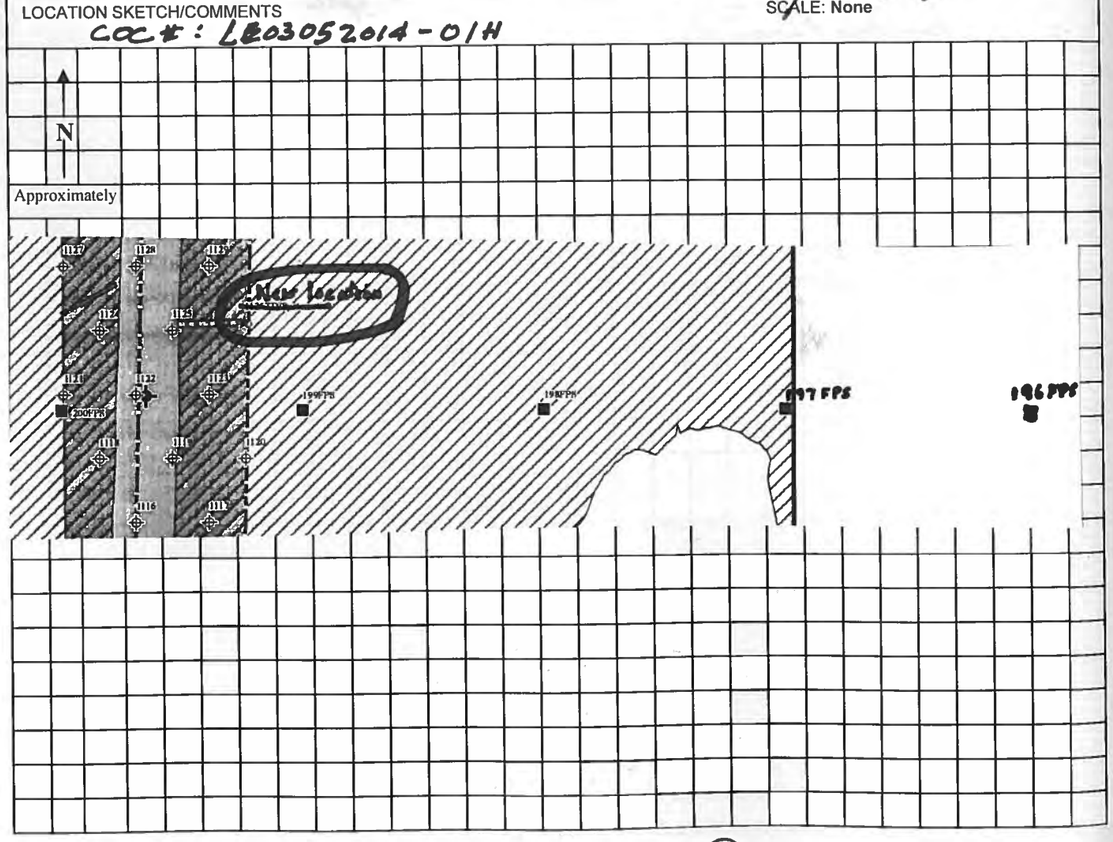
DISTRICT: St. Louis USACE	HOLE NUMBER SVP167068
1. COMPANY NAME: Leidos	2 DRILL SUBCONTRACTOR Leidos / SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4 LOCATION # former 1126 (systematic array)
5. NAME OF DRILLER: Juan Alvarado/Chuck Eikenberry/Anthony Hartway	6 MANUFACTURERS DESIGNATION OF DRILL N/A
7. SIZES 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	8 HOLE COORDINATES E 864963 N 1075885
Meter - Background 44-9 F - 42 cpm 44-10 C - 7918 cpm	9 SURFACE ELEVATION N/A 10. DATE STARTED: 3/4/14 / 11. DATE COMPLETED 3/4/14
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	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		
Backfill using bentonite	w/bentonite ✓	N/A	N/A	Gary Neutzling		

LOCATION SKETCH/COMMENTS

COC #: LE03052014-01H

SCALE: None



Recorded By G. Neutzling Date 3/5/14 QA By [signature] Date 3-7-14

34

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER former 1126 SVP167068

PROJECT: Coldwater Creek | INSPECTOR: G. Neutzling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, brown, some v. fine sand, little clay, low plasticity, moist - ML	55 / 8268	—	—	SVP167068 1319 Iso Th gamma spec	—	
	~~1~~ 0.5		55 / 7893	—	—	1323	—	
	~~2~~ 1		61 / 8113	—	—	1326	—	
	~~3~~ 1.5		62 / 8082	—	—	SVP167069 1320 Iso Th gamma spec	—	
	~~4~~ 2.	Borehole terminated						
	5							
	6							
	7							
	8							
	9							
	10							

GMN 3/4/14

Recorded By G. Neutzling Date 3/4/14 QA By [signature] Date 3-7-14

39

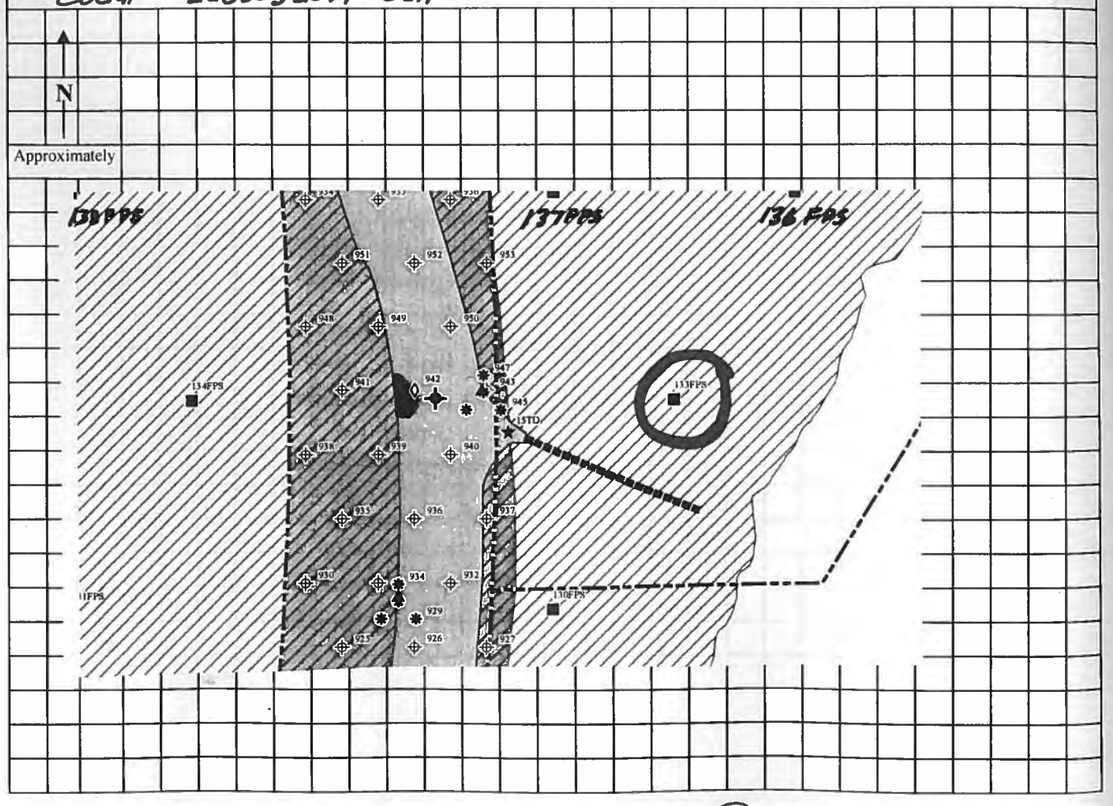
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP 164081
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos / SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4 LOCATION # 133 FPS (Flood Plain Systematic)
5. NAME OF DRILLER: Juan Alvarado/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	8 HOLE COORDINATES: QS 12-15-14 E 865280 N 1073866.3
Meter - Background 44-9 E - 53 cpm 44-10 K - 8281 cpm	9. SURFACE ELEVATION N/A
	10. DATE STARTED: 3/5/14 / 11. DATE COMPLETED: 3/5/14
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	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21 TOTAL CORE RECOVERY N/A
N/A	N/A	N/A	2	1 set of 2	0	
22 DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/bentonite ✓	N/A	N/A	Gary Neutzling		

LOCATION SKETCH/COMMENTS SCALE: None

COC#: LE03052014-02H



Recorded By G. Neutzling Date 3/5/14 QA By [signature] Date 3-7-14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 133 FPS SVP 164081

PROJECT: Coldwater Creek INSPECTOR: G. Neutzling SHEET 2 of 2

40

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey Silt, med brown, little v. fine sand, low plasticity, moist - ML	65 / 8314	—	—	SVP164081 0815 Zero Th Gamma Spec	—	Collect QC/QA Soil Samples SVP164081-1 SVP164081-2 Extra 8 of 13
	1 / 0.5		57 / 8173	—	—	0817	—	CLSi trace v. fine sand
	2 / 1	Silty CLAY, medium brown, trace v. fine sand, low plasticity, moist - CL	58 / 8132	—	—	0818	—	SiCL
	3 / 1.5		65 / 8214	—	—	SVP164082 0813 Zero Th Gamma Spec	—	
	4 / 2	Borehole terminated						Soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neutzling Date 3/5/14 QA By [signature] Date 3-7-14

41

HTRW DRILLING LOG

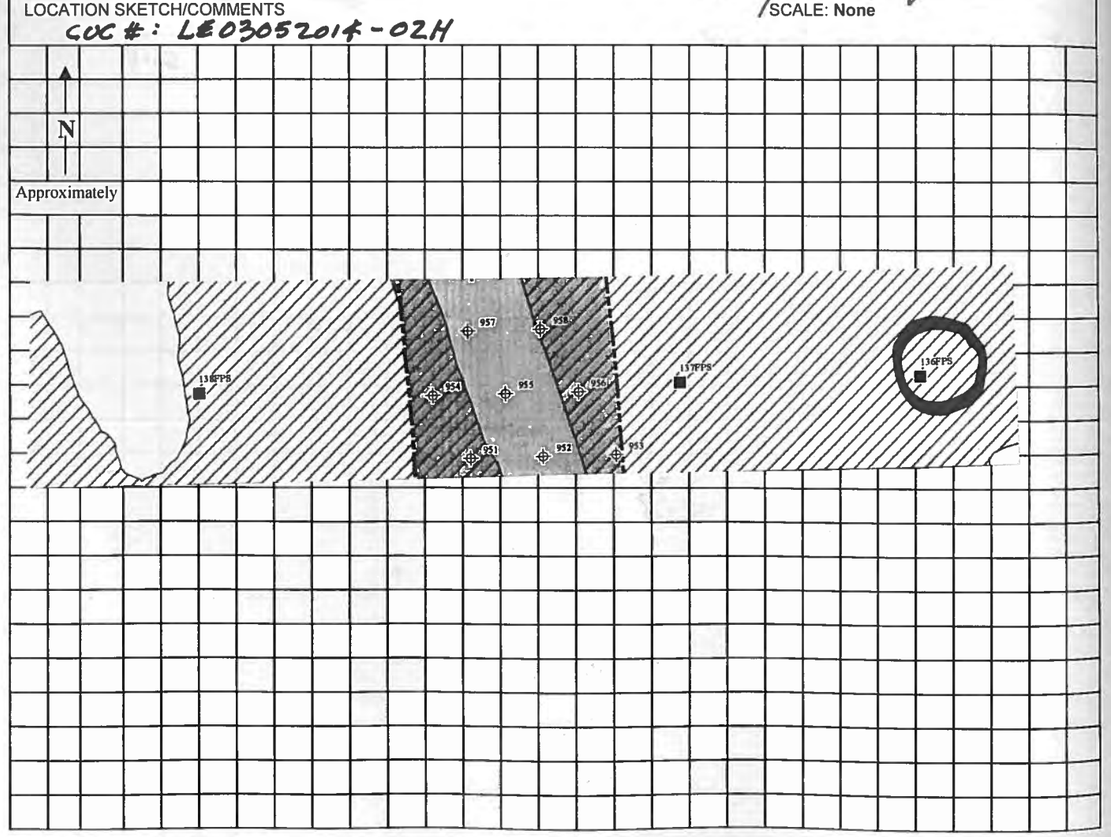
DISTRICT: St. Louis USACE	HOLE NUMBER SVP 164087	
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION # 136 FPS (Flood Plain Systematic)	
5. NAME OF DRILLER: Juan Alvarado/Antonio Martinez	6. MANUFACTURERS DESIGNATION OF DRILL: N/A	
7. SIZES AND 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	8. HOLE COORDINATES: E 865338 N1073967	
Meter - Background 44-9 E - 53 cpm 44-10 K - 8381 cpm	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 3/5/14	11. DATE COMPLETED: 3/5/14
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: 6.0 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	4	0	1	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/bentonite ✓	N/A	N/A	Gary Neustzling		

LOCATION SKETCH/COMMENTS

COC #: LE03052014-02H

SCALE: None



Recorded By G. Neustzling Date 3/5/14 QA By [signature] Date 3-7-14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 136 FPS SVP 164087

42

PROJECT: Coldwater Creek | INSPECTOR: G. Neustzling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, medium brown, little v. fine sand, low plasticity, moist – ML	53/8374	–	–	SVP164087 0837 IsoTh/gamma spec	–	
			50/8241	–	–	0838	–	
	1		43/8396	–	–	0839	–	
			65/8651	–	–	SVP164088 0840 IsoTh/gamma spec	–	
	2.0	Silty CLAY, dark brown, trace v. fine sand, low plasticity, moist – CL	71/8500	–	–	SVP164089 0841 IsoTh/gamma spec	–	
			59/8452	–	–	0849	–	
	3	CLAY, mix of dark brown & brown, some silt, trace sand, high plasticity, moist – CH	53/8258	–	–	0851	–	FAT CLAY LL > 50
			56/8147	–	–	0853	–	
	4		59/8403	–	–	0855	–	
			51/8191	–	–	0857	–	
	5		73/8170	–	–	SVP164090 0900 IsoTh/gamma spec	–	
			60/8419	–	–	Archive 0904 IsoTh/gamma spec	–	
	6.0	Borehole terminated						Soil
	7							
	8							
	9							
	10							

GNeustzling 3/5/14

Recorded By G. Neustzling Date 3/5/14 QA By [signature] Date 3-7-14

43

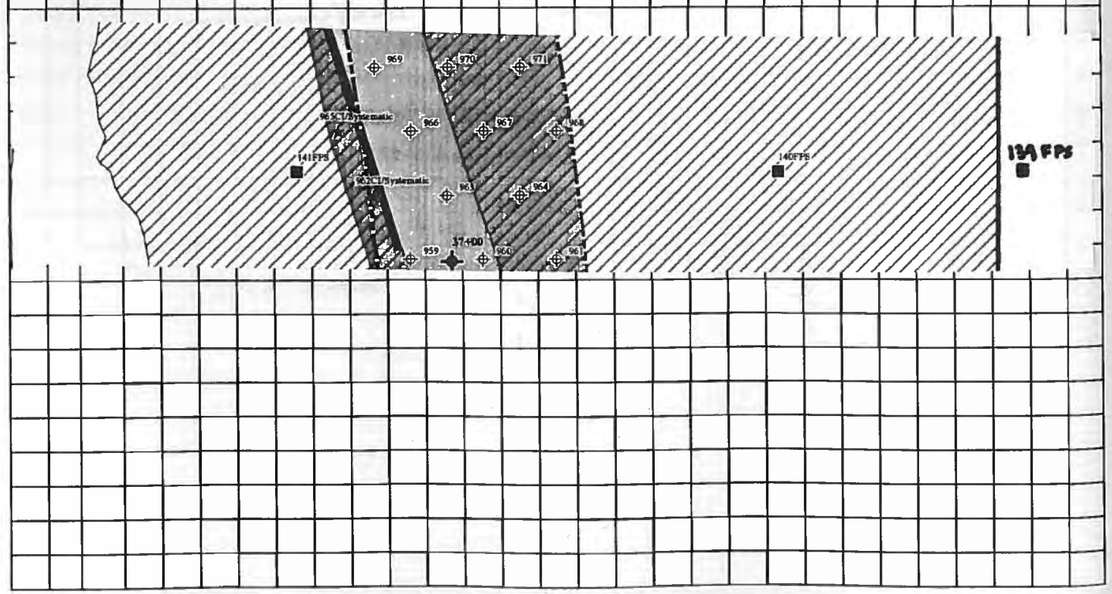
HTRW DRILLING LOG

DISTRICT: St. Louis USACE		HOLE NUMBER SVP164095
1 COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
3 PROJECT: Coldwater Creek	4 LOCATION # 139 FPS (Flood Plain Systematic)	
5 NAME OF DRILLER: Juan Alvarado/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	8 HOLE COORDINATES E 865396 N 1074068	
Meter - Background 44-9 E - 39cpm 44-10 K - 8316cpm	9 SURFACE ELEVATION N/A	
	10 DATE STARTED 3/5/14	11 DATE COMPLETED 3/5/14
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	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A	N/A	N/A	2	1 set of 2	0	
22 DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neustling		

LOCATION SKETCH/COMMENTS
COC #: LE03052014-02H

SCALE: None



Recorded By G. Neustling Date 3/5/14 QA By [signature] Date 3-7-14

44

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP164095 139 FPS

PROJECT: Coldwater Creek | INSPECTOR G. Neustling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Silty CLAY, brown, trace sand, low plasticity to moderate plasticity, moist – CL	43 / 8333	–	–	SVP164095 0928 Iso Th gamma spec	–	Collect QC/QA Possible Fill soil sample same SVP164095-1 SVP164095-2
	0.5		60 / 8301	–	–	0931	–	
	1		53 / 8528	–	–	0936	–	
	1.5		61 / 8143	–	–	SVP164096 0934 Iso Th gamma spec	–	
	2.0	Borehole terminated.						Soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neustling Date 3/5/14 QA By [signature] Date 3-7-14

45

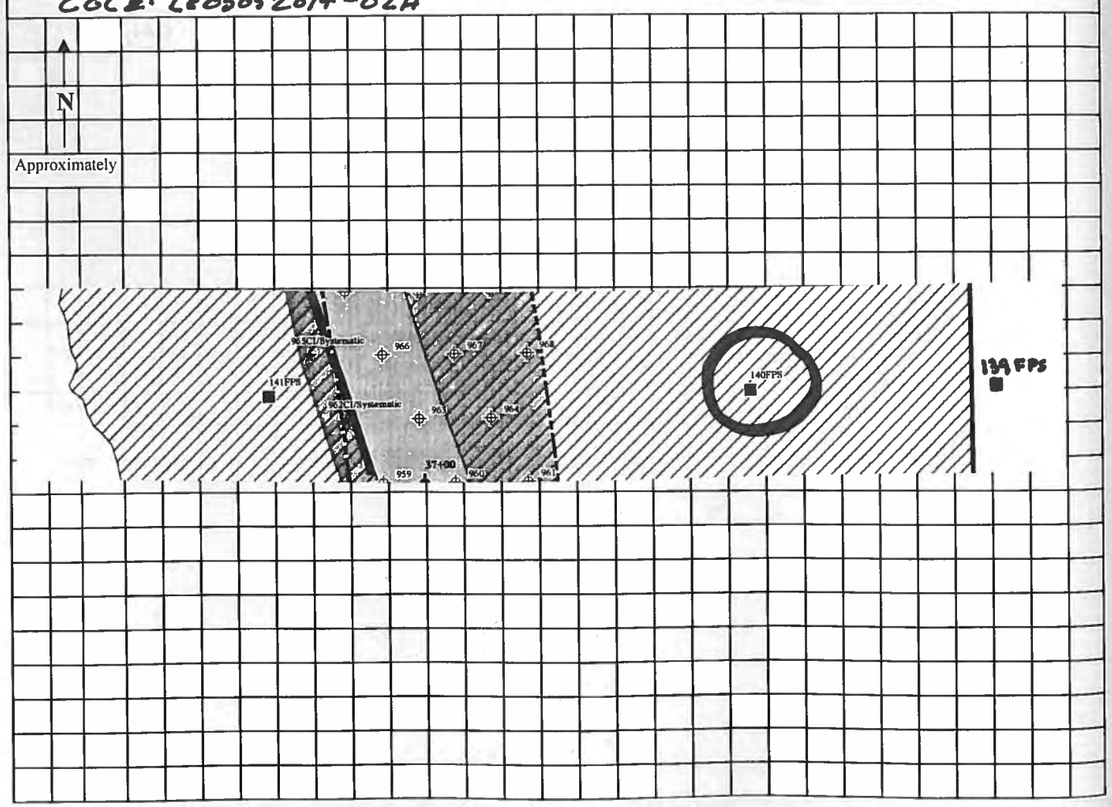
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP 164097
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos — SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: # 14 7/8 FPS (Flood Plain Systematic)
5. NAME OF DRILLER: Juan Alvarado / 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	8. HOLE COORDINATES: E 865~~522~~ 580 N 1074~~+64~~ 068 Jmm 3/5/14
Meter - Background: 44-9 E - 39 kcpm Jmm 3/5/14; 44-10 K - 8310 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 3/5/14 — 11. DATE COMPLETED: 3/5/14
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	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 WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR: Gary Neutzling		
Backfill using bentonite	w/bentonite	N/A	N/A			

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE03052014-02H



Recorded By G. Neutzling Date 3/5/14 QA By [signature] Date 3-7-14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP 164097 — 14 7/8 FPS Jmm 3/5/14 — 46

PROJECT: Coldwater Creek — INSPECTOR: G. Neutzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, brown, little v. fine sand, low plasticity, moist – NSL	49 / 8309	—	—	SVP 164097 0958 Iso Th Gamma Spec	—	top 3" frozen as all are today
Jmm 3/5/14	1 0.5		71 / 8540	—	—	SVP 164098 1000 Iso Th Gamma Spec	—	
	2 1		68 / 8294	—	—	Archive 1002 Iso Th Gamma Spec	—	
	3 1.5		57 / 8284	—	—	Archive 0957 Iso Th Gamma Spec	—	
	4 2.0	Borehole terminated						soil
	5							
	6							
	7							
	8							
	9							
	10							

Jmm 3/5/14

Recorded By G. Neutzling Date 3/5/14 QA By [signature] Date 3-7-14

47

HTRW DRILLING LOG

DISTRICT	St. Louis USACE
HOLE NUMBER	SVP164091
1. COMPANY NAME:	Leidos
2. DRILL SUBCONTRACTOR	Leidos
SHEET	1 OF 2
3. PROJECT:	Coldwater Creek
4. LOCATION	# 137FPS (Blood Plain Systematic)
5. NAME OF DRILLER:	Juan Alvarado/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
8. HOLE COORDINATES	CB 12-15-14 E 8652274 N 10739675.7
Meter - Background	
44-9	E - 39 cpm
44-10	K - 8310 cpm
9. SURFACE ELEVATION	N/A
10. DATE STARTED	3/5/14
11. DATE COMPLETED	3/5/14
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

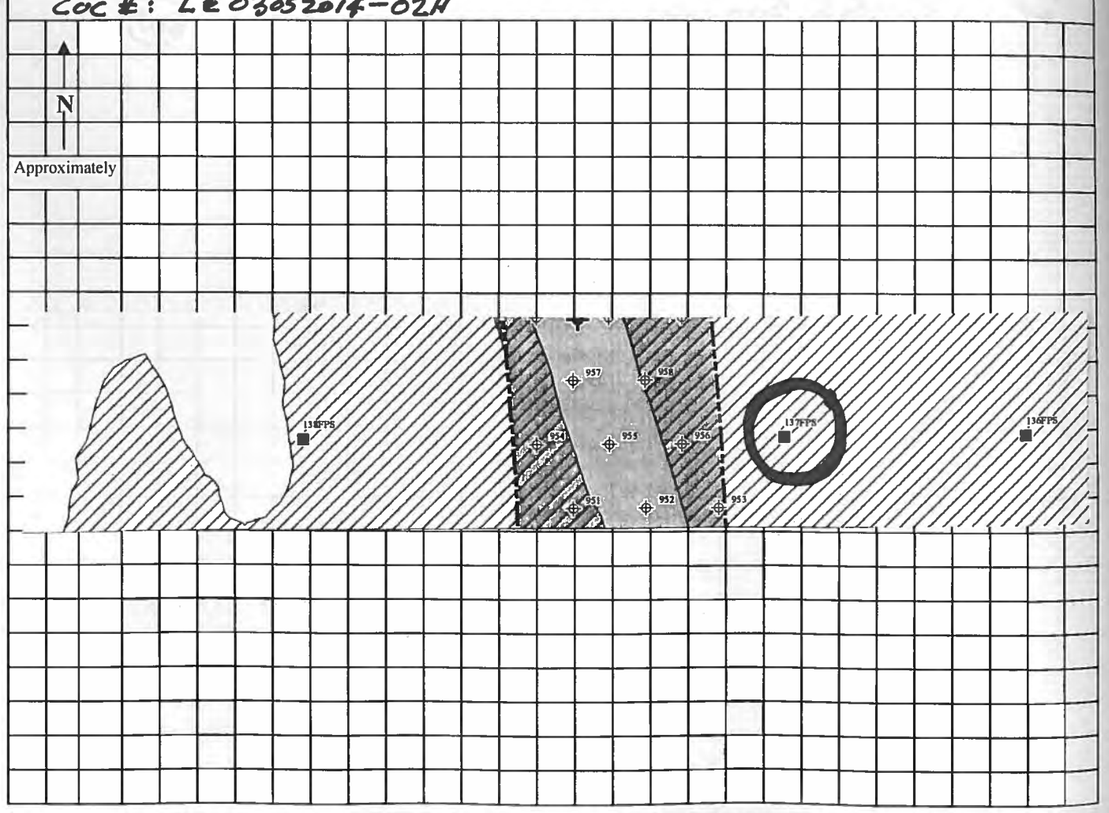
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY:
N/A	N/A	N/A	2	0	1	N/A

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neustyling

LOCATION SKETCH/COMMENTS

COC #: LE03052014-02H

SCALE: None



Recorded By G. Neustyling Date 3/5/14 QA By [signature] Date 3-7-14

48

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 137 FPS SVP 164091

PROJECT: Coldwater Creek | INSPECTOR: G Neustyling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, brown, little V. fine sand, low plasticity, moist — ML	49 / 8395	—	—	SVP164091 1015 Iso Th gamma spec	—	
	0.5		44 / 8374	—	—	1016	—	Same
	1		53 / 8188			SVP164092 1017 Iso Th gamma spec		
	1.5		46 / 8314	—	—	Archive 1013 Iso Th gamma spec	—	
	2.0	Borehole terminated						Soil
	5							
	6							
	7							
	8							
	9							
	10							

Gary 3/5/14

Recorded By G. Neustyling Date 3/5/14 QA By [signature] Date 3-7-14

49

HTRW DRILLING LOG

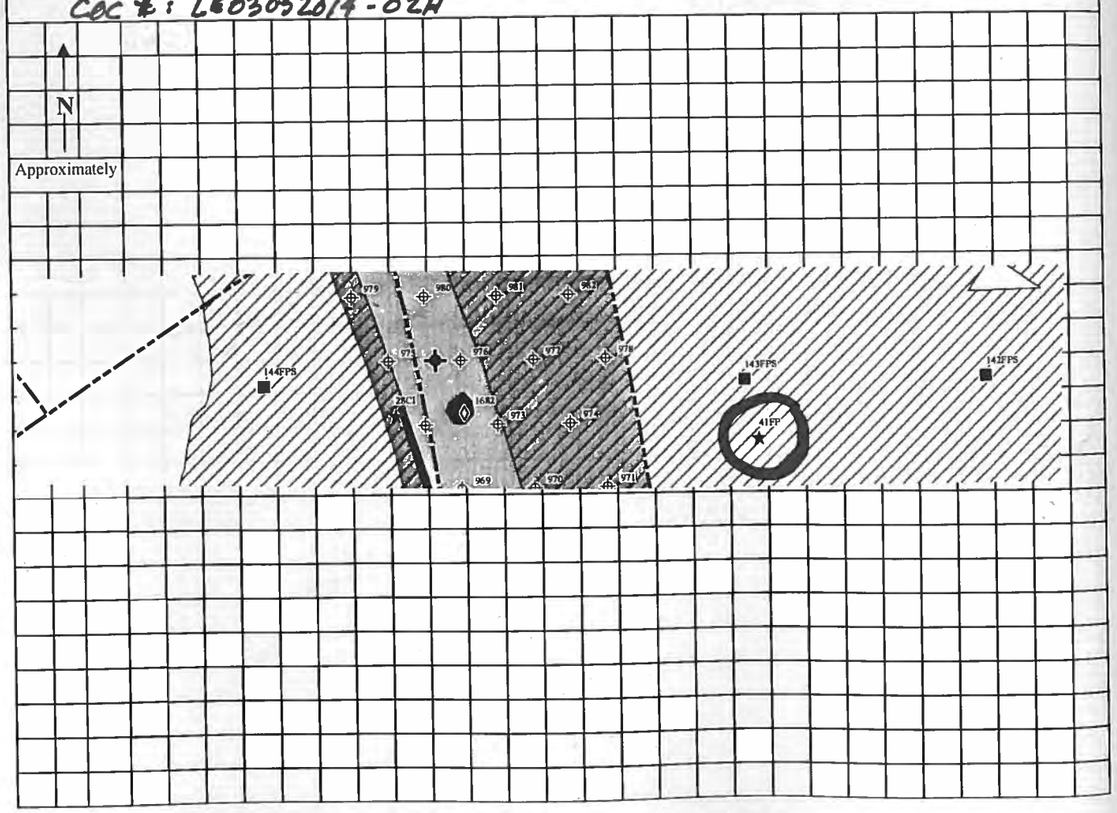
DISTRICT: St. Louis USACE	HOLE NUMBER SVP163695
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos — SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION # 41 FP (Biased Flood Plain)
5. NAME OF DRILLER: Juan Alvarado / Antonio Martinez	6. MANUFACTURERS DESIGNATION OF DRILL: N/A
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve	8. HOLE COORDINATES: E 865228 N1074141
Meter - Background 44-9 E - 39 cpm 44-10 K - 8310 cpm	9. SURFACE ELEVATION: N/A 10. DATE STARTED: 3/5/14 — 11. DATE COMPLETED: 3/5/14
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	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
Backfill using bentonite	w/bentonite ✓	N/A	N/A	Gary Neutzling

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE03052014-02H



Recorded By G. Neutzling Date 3/5/14 QA By [illegible] Date 3-7-14

50

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 41 FP SVP 163695

PROJECT: Coldwater Creek — INSPECTOR: G. Neutzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	~~Silty CLAY~~ ~~Clayey SILT~~, brown, little v. fine sand, low plasticity, moist — ML CL (GMM 3/5/14)	55 / 8298	—	—	SVP163695 1029 Iso Th gamma spec	—	Seemed clayey.
	0.5	SILT, brown, little clay, little v. fine sand, low plasticity, moist — ML (GMM 3/5/14)	47 / 8537	—	—	1031	—	
	1	Clayey SILT, brown, trace v. fine sand, low plasticity, moist — ML	55 / 8018	—	—	1035	—	
	1.5		65 / 8383	—	—	SVP163696 1026 Iso Th gamma spec	—	
	2.0	Borehole terminated (GMM 3/5/14)						soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neutzling Date 3/5/14 QA By [illegible] Date 3-7-14

51

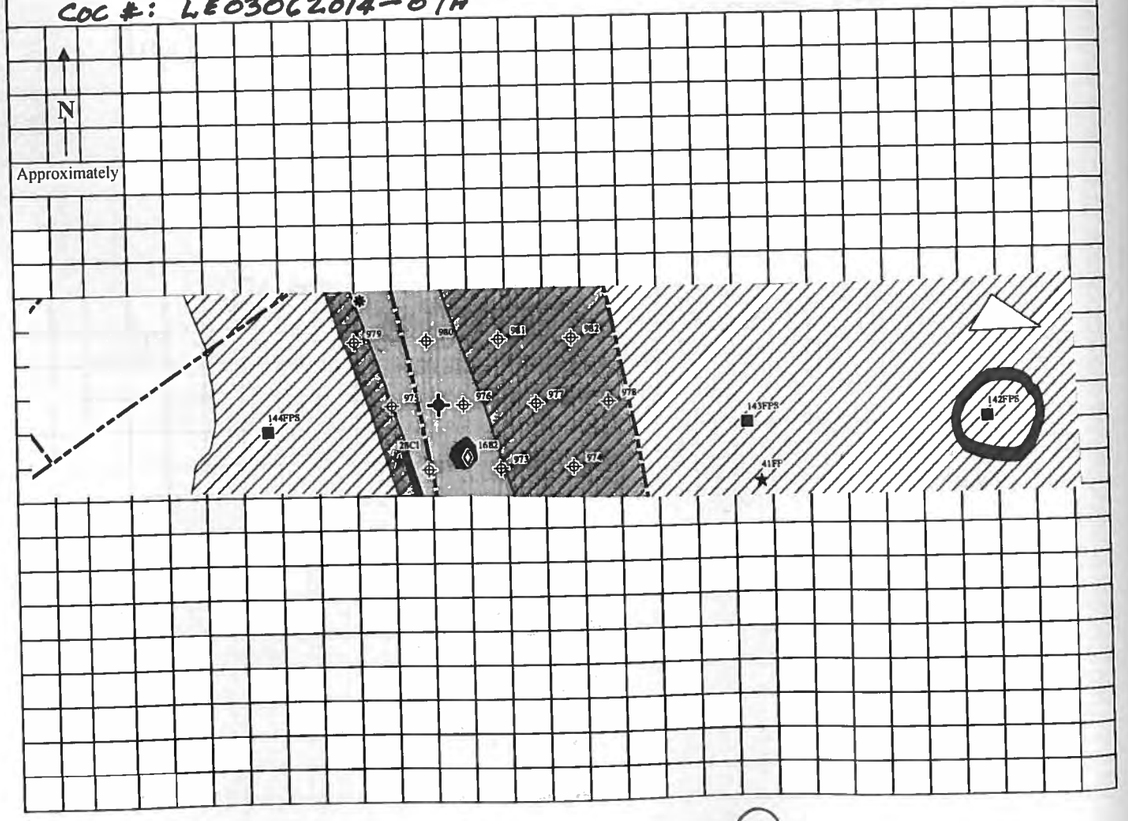
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP164103
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos — SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: # 142 FPS (Flood Plain Systematic)
5. NAME OF DRILLER: Juan Alvarado / Antonio Martinez / Chuck Fingerhanis	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	8. HOLE COORDINATES: E 865338 N 1074169
Meter - Background: 44-9 E - 37 cpm; 44-10 K - 7889 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 3/5/14 — 11. DATE COMPLETED: 3/5/14
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			21. TOTAL CORE RECOVERY: N/A
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	
N/A	N/A	N/A	2	0	1	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR: Gary Neustring		
Backfill using bentonite	w/bentonite	N/A	N/A			

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE03062014-01H



Recorded By G. Neustring Date 3/5/14 QA By [signature] Date 3-7-14

52

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 142 FPS SVP164103

PROJECT: Coldwater Creek — INSPECTOR: G. Neustring — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, brown, little clay, little v. fine sand, low plasticity, moist – ML	54 / 8479	—	—	SVP164103 1310 Iso Th gamma Spec	—	
	0.5		68 / 8170	—	—	SVP164104 1312 Iso Th gamma spec	—	
	1		52 / 8023	—	—	1315	—	
	1.5	SILT, med brown, little clay, trace v. fine sand, low plasticity, moist – ML	67 / 7975	—	—	Archive 1313 Iso Th gamma spec	—	
	2	Borehole terminated						Soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neustring Date 3/5/14 QA By [signature] Date 3-7-14

53

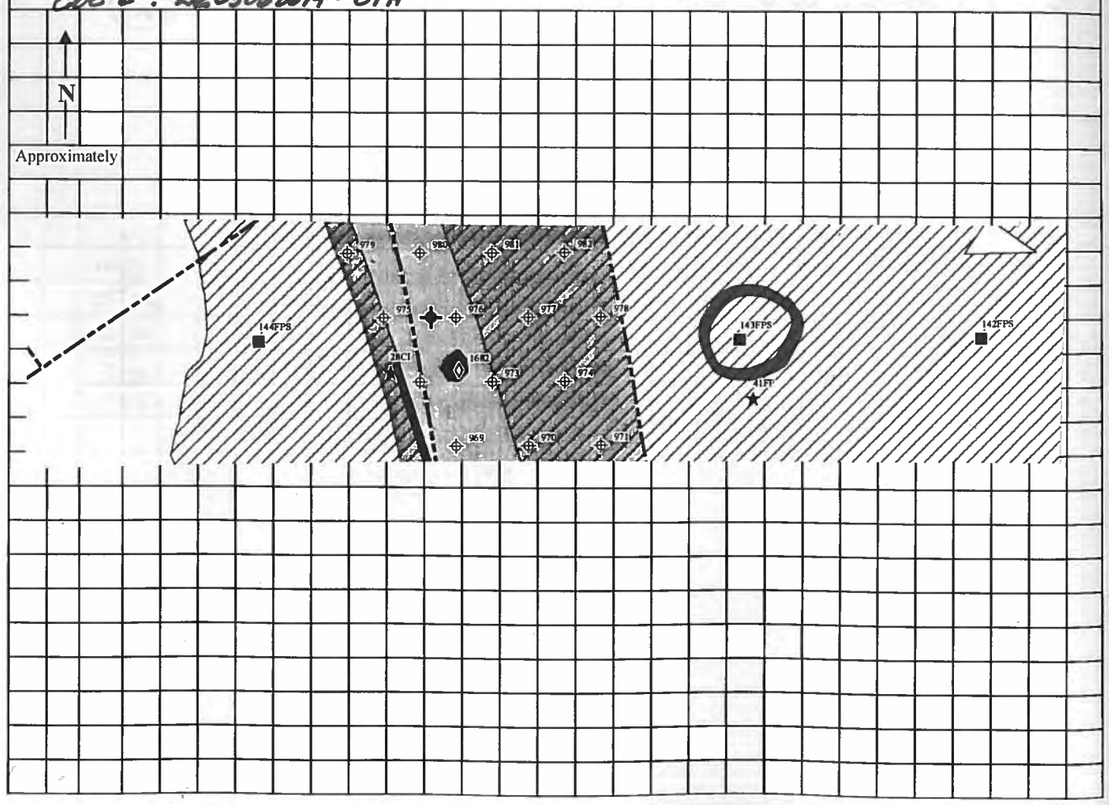
HTRW DRILLING LOG

DISTRICT: St. Louis USACE		HOLE NUMBER: SVP164105
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: #143FPS (Flood Plain Systematic)	
5. NAME OF DRILLER: Juan Alvarado/Antonio Martinez/Charles Finkenbinder	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	8. HOLE COORDINATES: @8 12/15/14 E 865222 N107416957	
Meter - Background	9. SURFACE ELEVATION: N/A	
44-9 E - 37cpm		
44-10 K - 7084 cpm	10. DATE STARTED: 3/5/14	11. DATE COMPLETED: 3/5/14
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	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A	N/A	N/A	2	1 set of 2	1	
22. DISPOSITION OF HOLE	**BACKFILLED**	**MONITORING WELL**	**OTHER (SPECIFY)**	**23. SIGNATURE OF INSPECTOR**		
Backfill using bentonite	w/bentonite ✓	N/A	N/A	Gary Neustifling		

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE030620A-01H



Recorded By G. Neustifling Date 3/5/14 QA By [signature] Date 3-7-14

54

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: SVP164105 143FPS		
PROJECT: Coldwater Creek	INSPECTOR: G Neustifling	SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, brown, little to some clay, little v. fine sand, low plasticity, moist — ML	57 / 8680	—	—	SVP164105 1323 Iso Th gamma spec	—	Collect QC/QA soil samples SVP164105-1 SVP164105-2
	0.5		53 / 8267	—	—	1327	—	
	1		64 / 8239	—	—	SVP164106 1330 Iso Th gamma spec	—	
	1.5		60 / 8081	—	—	Archive 1333 Iso Th gamma spec	—	more clayey but still ML
	2.0	Borehole terminated						soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neustifling Date 3/5/14 QA By [signature] Date 3-7-14

55

HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP164109
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos
	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: # 146 FPS (Flood Plain Systematic)
5. NAME OF DRILLER: Juan Alvarado / Antonio Martinez / Chuck Finkenbein	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 of ss sediment sampler with plastic sleeve	8. HOLE COORDINATES: E 865280 N 1074278.61 (QB 12-15-14)
Meter - Background: 44-9 E - 37 cpm; 44-10 K - 7884 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 3/5/14 — 11. DATE COMPLETED: 3/5/14
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

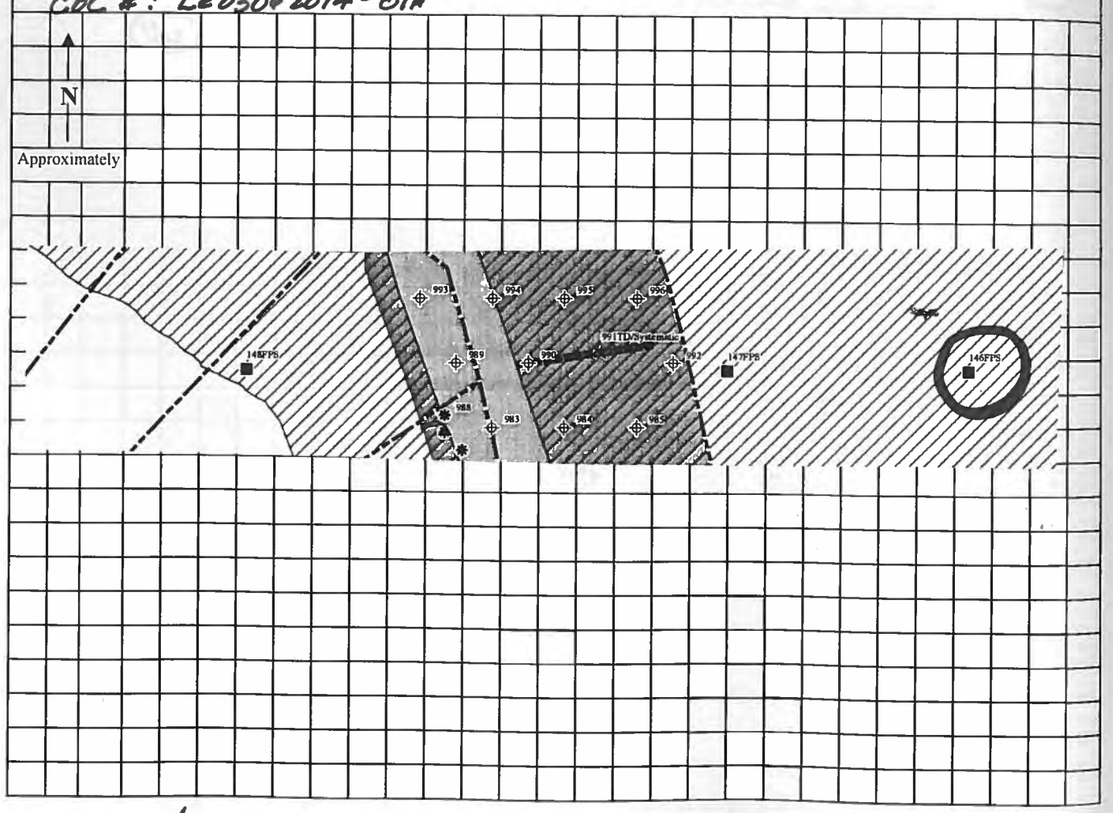
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY
N/A	N/A	N/A	2	0	1	N/A

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite	N/A	N/A	G. Neustifling

LOCATION SKETCH/COMMENTS

COC #: LE03062014-01H

SCALE: None



Recorded By G. Neustifling Date 3/5/14 QA By [illegible] Date 3-7-14

56

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP 164109 146 FPS

PROJECT: Coldwater Creek — INSPECTOR: G. Neustifling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, brown, little clay, little v. fine sand, low plasticity, moist - ML	49/8151	—	—	SVP164109 1337 Iso Th Gamma Spec	—	
	0.5		54/8129	—	—	1341	—	
	1		63/7845	—	—	SVP164110 1342 Iso Th Gamma Spec	-	
	1.5		46/8057	—	—	Archive 1345 Iso Th Gamma Spec	—	
	2	Borehole terminated						soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neustifling Date 3/5/14 QA By [illegible] Date 3-7-14

57

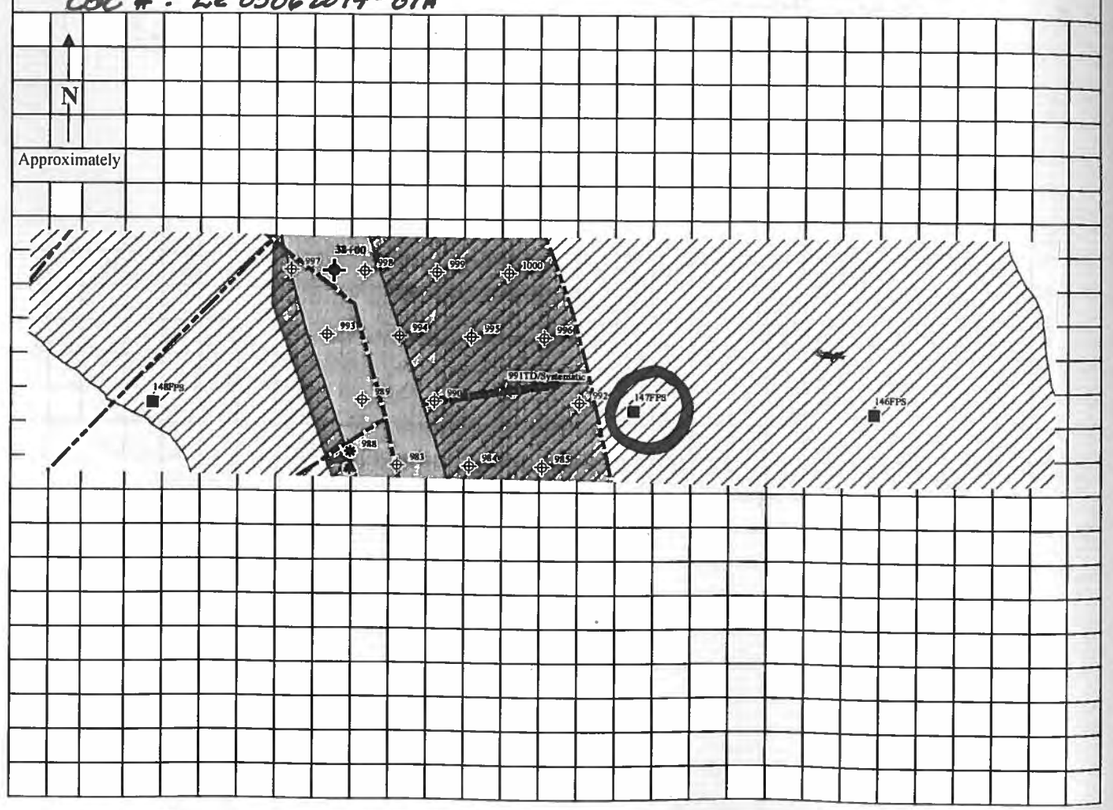
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER: SVP164111
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos — SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: # 147 FPS (Flood Plain Systematic)
5. NAME OF DRILLER: Juan Alvarado/Antonio Martinez/Chuck Finkenbein	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	8. HOLE COORDINATES: QS 12-15-14 E 8651646 N 1074270.1
Meter - Background: 44-9 B - 37 cpm; 44-10 K - 7889 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 3/5/14 — 11. DATE COMPLETED: 3/5/14
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: 6.0 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	4	0	0	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/bentonite ✓	N/A	N/A	Gary Neutzling		

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE 03062014-01H



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58

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 147 FPS SVP164111

PROJECT: Coldwater Creek — INSPECTOR: G. Neutzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
		SILT, brown, little v. fine sand, little clay, low plasticity, moist – ML	61/8121	–	–	SVP164111 1347 Isotopic & gamma spec	–	silt
	1		65/8176	–	–	SVP164112 1351 Isotopic & gamma spec	–	
			61/8038	–	–	1354	–	
			59/8049	–	–	1357	–	
	2.0	Clayey SILT, dark brown, trace sand, moderately plastic, moist – CL	67/8024	–	–	SVP164113 1400 Isotopic & gamma spec	–	more clayey
	2.5	CLAY, dark brown, some silt, trace sand, moderate to highly plastic, moist – CH	58/8333	–	–	1403	–	FAT Clay
	3		48/8100	–	–	1408	–	
			50/8269	–	–	1409	–	
	4		52/8462	–	–	1416	–	
			43/8227	–	–	1418	–	
	5		57/8278	–	–	~~SVP164114~~ 1420 ~~Isotopic & gamma spec~~	–	3/5/14
			58/8171	–	–	SVP164114 1422 Isotopic & gamma spec	–	
	6.0	Borehole terminated						soil
	7							
	8							3/5/14
	9							
	10							

Recorded By G. Neutzling Date 3/5/14 QA By [signature] Date 3-7-14

59

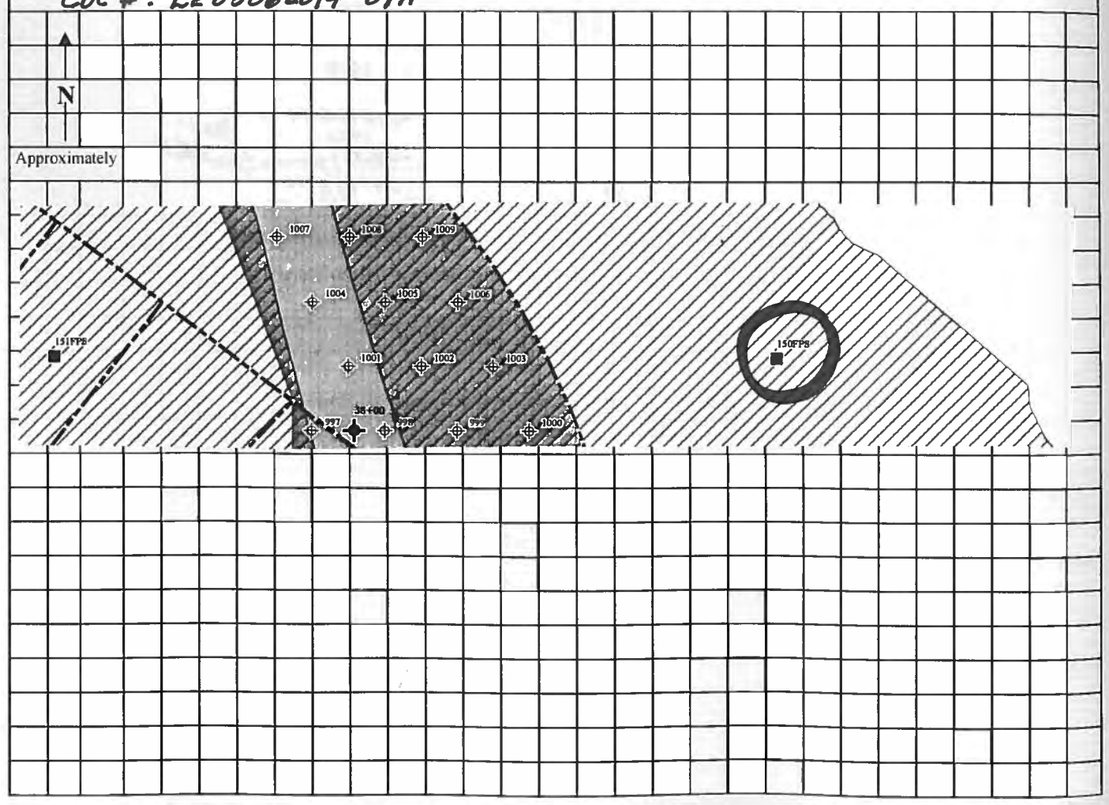
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER: SVP164117
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos / SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: #150 FPS
5. NAME OF DRILLER: Juan Alvarado / Antonio Martinez / Chuck Bartenbach	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	8. HOLE COORDINATES: QB 12-15-14 E 865219 N1074374.59
Meter - Background: 44-9 E - 37 cpm; 44-10 K - 7889 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 3/5/14 / 11. DATE COMPLETED: 3/5/14
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	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A	N/A	N/A	2	1 set of 2	0	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neutzling		

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE03062014-01H



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60

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: SVP164117 150 FPS

PROJECT: Coldwater Creek — INSPECTOR: G. Neutzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, brown, little clay, little v. fine sand, low plasticity, moist — ML	78 / 8151	—	—	SVP164117 1423 Iso Th Gamma Spec	—	Collect QC/QA soil samples SVP164117-1 SVP164117-2 Extra 9 of 13
	1 / 0.5		57 / 8123	—	—	1427	—	Same
	2 / 1		54 / 8230	—	—	1429	—	
	3 / 1.5		57 / 8197	—	—	SVP164118 1434 Iso Th Gamma Spec	—	
	4 / 2.0	Borehole terminated						Soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neutzling Date 3/5/14 QA By [signature] Date 3-7-14

61

HTRW DRILLING LOG

DISTRICT	St. Louis USACE
HOLE NUMBER	SVP 164121
SHEET	1 OF 2
1. COMPANY NAME	Leidos
2. DRILL SUBCONTRACTOR	Leidos
3. PROJECT	Coldwater Creek
4. LOCATION	# 153 FPS (Flood Plain Systematic)
5. NAME OF DRILLER	Juan Alvarado / Antonio Martinez / Chuck Bickenbach
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
8. HOLE COORDINATES	E 865164 N1074472
Meter - Background	
44-9	E - 37cpm
44-10	K - 7889 cpm
9. SURFACE ELEVATION	N/A
10. DATE STARTED	3/5/14
11. DATE COMPLETED	3/5/14
12. OVERBURDEN THICKNESS	N/A
13. DEPTH DRILLED INTO ROCK	N/A
14. TOTAL DEPTH OF HOLE	2.0 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
19. TOTAL NUMBER OF CORE BOXES	N/A
20. SAMPLES FOR CHEMICAL ANALYSIS	N/A
21. TOTAL CORE RECOVERY	N/A
22. DISPOSITION OF HOLE	Backfill using bentonite
23. SIGNATURE OF INSPECTOR	Gary Neustzlang

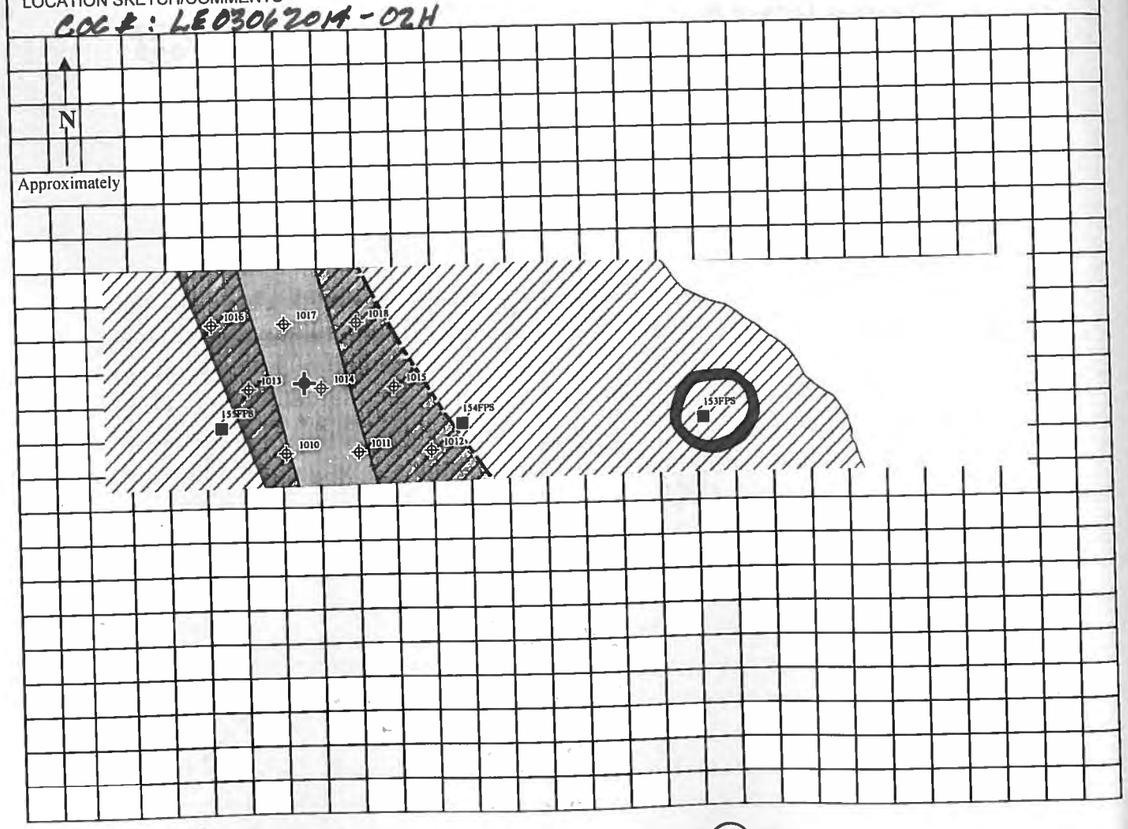
DISTURBED	UNDISTURBED	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE
		N/A	N/A	2	1 set of 2	1

BACKFILLED	MONITORING WELL	OTHER (SPECIFY)
w/bentonite	N/A	N/A

SCALE: None

LOCATION SKETCH/COMMENTS

COC #: LE03062014-02H



Recorded By G. Neustzlang Date 3/5/14 QA By [signature] Date 3-7-14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 153 FPS SVP164121

62

PROJECT: Coldwater Creek | INSPECTOR: Zo Nestzlang | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, brown, little v. fine sand, little clay, low plasticity, moist — ML	54 / 8201	—	—	SVP164121 1437 Iso Th gamma spec	—	Collect QC/QA soil samples SVP164121-1 SVP164121-2
	0.5		59 / 8125	—	—	SVP164122 ~~1442~~ Iso Th gamma spec		Same
	1		46 / 8176	—	—	1447	—	
	1.5		54 / 8310	—	—	Archive 1449 Iso Th gamma spec	—	
	2.0	Borehole terminated						soil
	5							
	6							
	7							
	8							
	9							
	10							

3/5/14

Recorded By G. Neustzlang Date 3/5/14 QA By [signature] Date 3-7-14

63

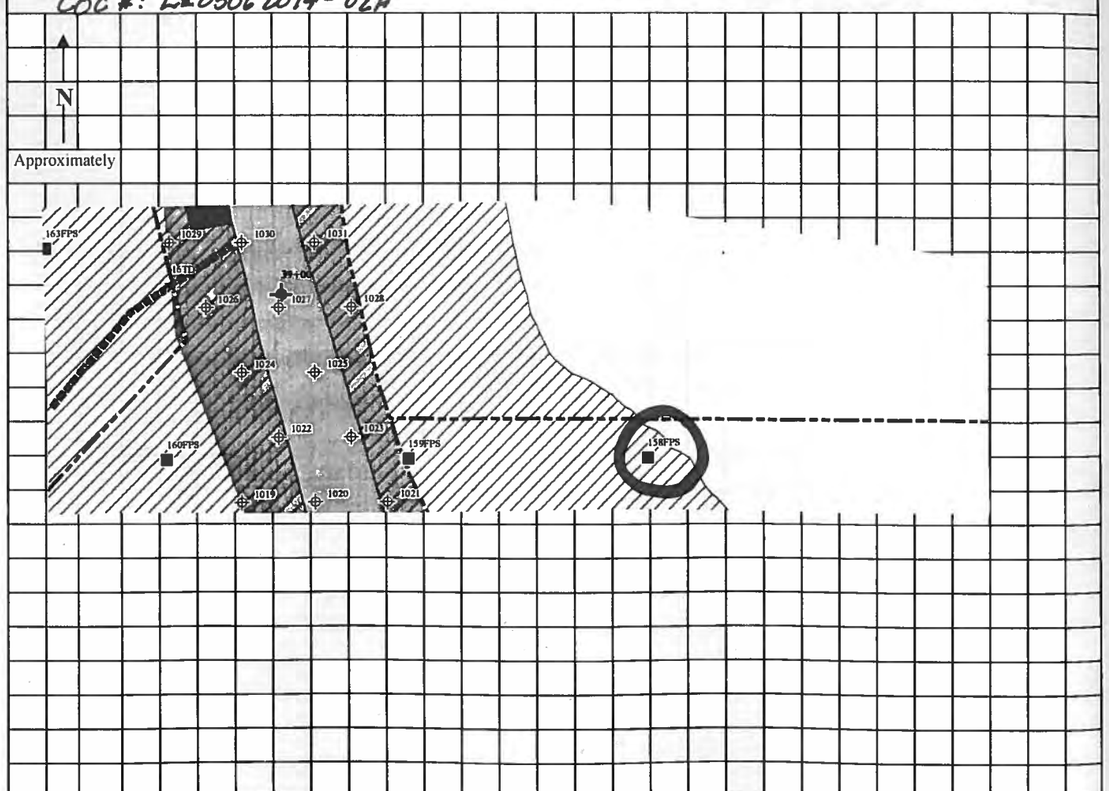
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP164133	
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION # 158FPS (Flood Plain Systematic)	
5. NAME OF DRILLER: Juan Alvarado/Antonio Martinez/Chuck Eukenberg	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	8. HOLE COORDINATES: E 865106 N1074573	
Meter - Background 44-9 E - 37 cpm 44-10 K - 7889 cpm	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 3/5/14	11. DATE COMPLETED: 3/5/14
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	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**		
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neustaeng		

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE03062014-02H



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64

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 158FPS SVP164133

PROJECT: Coldwater Creek — INSPECTOR: G. Neustaeng — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, brown, little v. fine sand, little clay, low plasticity, moist — ML	57 / 8487	—	—	SVP164133 1459 IsoTh gamma spec	—	
	0.5		56 / 7999	—	—	1502	—	
	1		60 / 7852	—	—	SVP164134 1504 IsoTh gamma spec	—	
	1.5		55 / 8449	—	—	Archive 1456 IsoTh gamma spec	—	
	2.0	Borehole terminated						soil
	5							
	6							
	7							
	8							
	9							
	10							

3/5/14

Recorded By G. Neustaeng Date 3/5/14 QA By [signature] Date 3-7-14

65

HTRW DRILLING LOG

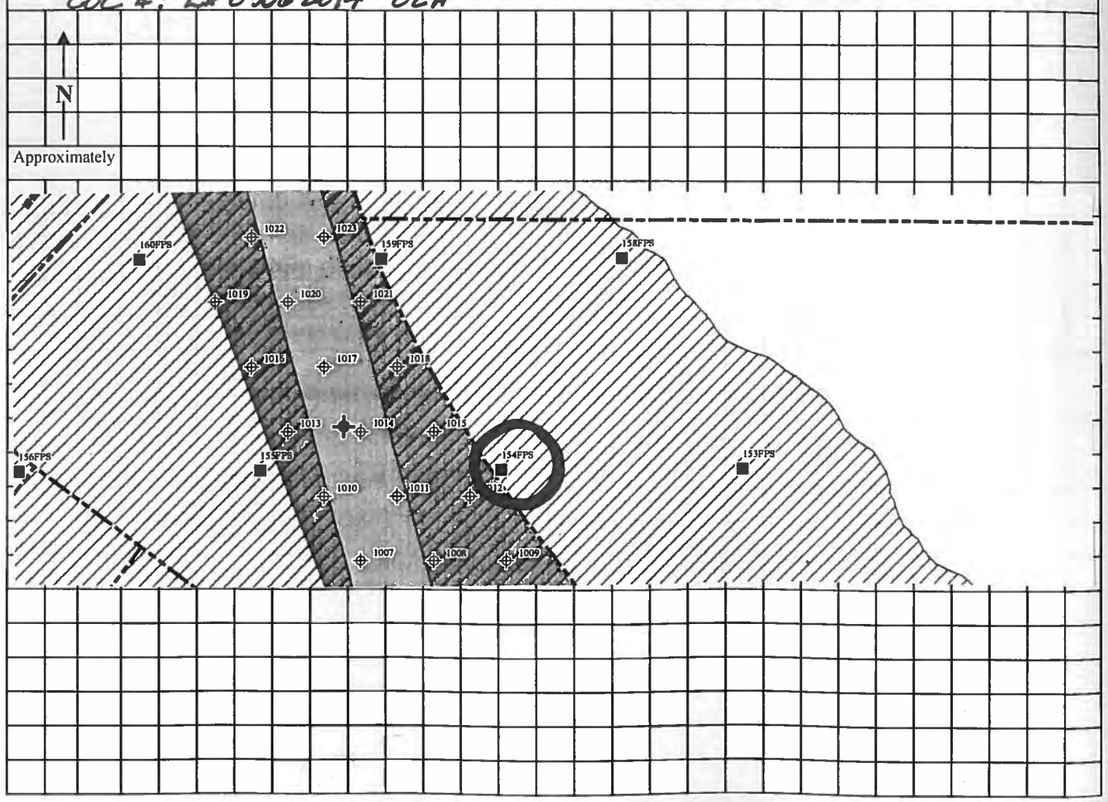
DISTRICT: St. Louis USACE	HOLE NUMBER: SVP 164123
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos
	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: # 154 FPS (Flood Plain Systematic)
5. NAME OF DRILLER: Chuck Finkenbein / Antonio Martinez / Juan Hernandez	6. MANUFACTURERS DESIGNATION OF DRILL: 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	8. HOLE COORDINATES: E 865048 N 1074473 QB 12-15-14
Meter - Background: 44-9 E - 37 cpm; 44-10 K - 7884 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 3/5/14 — 11. DATE COMPLETED: 3/5/14
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: 6.0 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		1 set of 2		N/A
22. DISPOSITION OF HOLE	**BACKFILLED**	**MONITORING WELL**	**OTHER (SPECIFY)**	**23. SIGNATURE OF INSPECTOR**		
Backfill using bentonite	w/bentonite	N/A	N/A	G. Neustifang		

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE 03062014-02H



Recorded By G. Neustifang Date 3/5/14 QA By [signature] Date 3-7-14

66

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: 154 FPS SVP 164123

PROJECT: Coldwater Creek — INSPECTOR: G. Neustifang — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	1	SILT, brown, little clay, little v. fine sand, low plasticity, slightly moist to moist – ML	43/8561	—	—	SVP164123 1512 Iso Th & gamma spec	—	Collect QC/QA soil samples SVP164123-1 SVP164123-2
			69/8283	—	—	1515	—	
			59/7987	—	—	1518	—	
	2		78/8451	—	—	SVP164124 1522 Iso Th & gamma spec	—	
			54/8626	—	—	1523	—	
	3		65/8128	—	—	SVP164125 1527 Iso Th & gamma spec	—	
	3.4	Silty CLAY, med brown, trace sand, moderate plasticity, moist – CL	57/8245	—	—	1532	—	
			58/8137	—	—	1534	—	
	4.0	CLAY, dark brown, some silt, trace sand, high plasticity, moist – CH	63/8262	—	—	SVP164126 1537 Iso Th & gamma spec	—	Fat CLAY
	5		58/8225	—	—	1537	—	
			60/8173	—	—	1540	—	
	6.0		48/8178	—	—	Archive 1329 Iso Th gamma spec	—	
		Borehole terminated						Soil
	7							
	8							
	9							
	10							

GMN 3/5/14

Recorded By G. Neustifang Date 3/5/14 QA By [signature] Date 3-7-14

71

HTRW DRILLING LOG

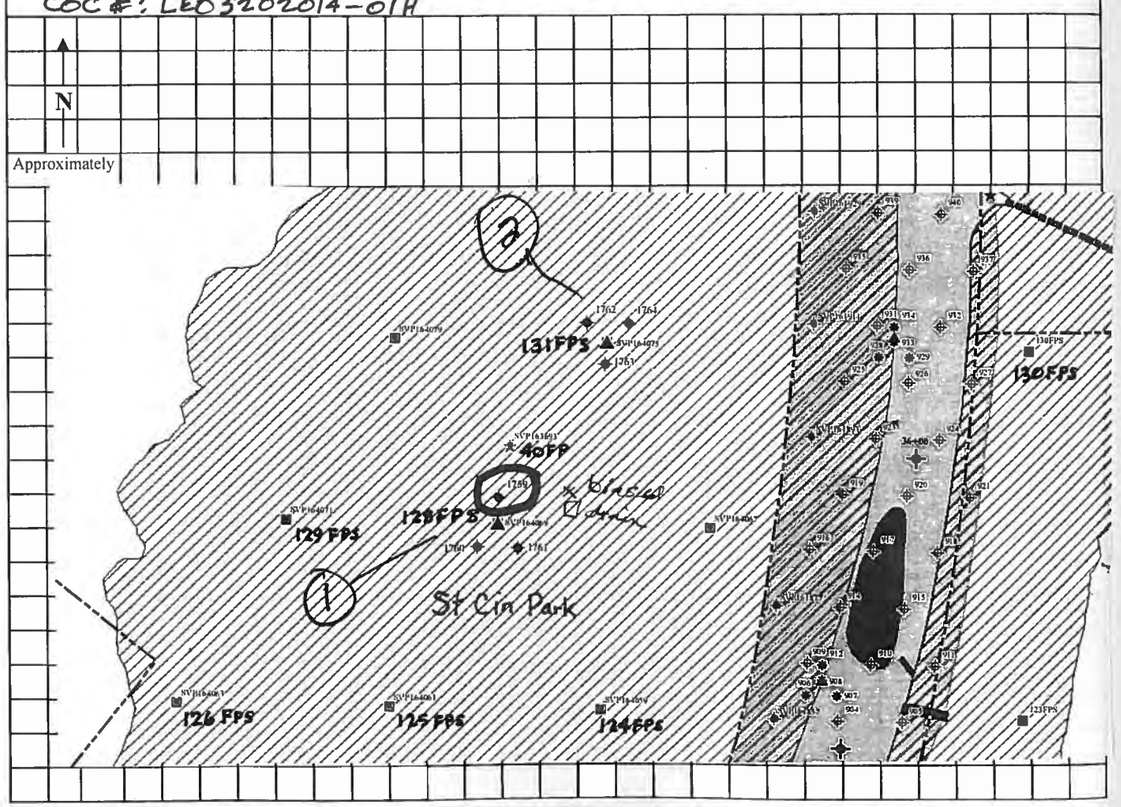
DISTRICT: St. Louis USACE		HOLE NUMBER SVP167089
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
3 PROJECT: Coldwater Creek	4. LOCATION: # 176059 (Horiz bound SVP164069) (128FPS)	
5 NAME OF DRILLER: David Guyan/Juan Alvarado/M. Sherman	6 MANUFACTURERS DESIGNATION OF DRILL: N/A	
7 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	8 HOLE COORDINATES: E 864932 N 1073651	
Meter - Background 44-9 A - 36 cpm 44-10 K - 5798 cpm	9 SURFACE ELEVATION: N/A	
	10. DATE STARTED: 3/19/14	11 DATE COMPLETED: 3/19/14
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	2	1 set of 2	1	
22 DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neutzling		

LOCATION SKETCH/COMMENTS and grass plug 3/19/14
COC #: LE03202014-01H

SCALE: None



Recorded By G. Neutzling Date 3/19/14 QA By M Andermyes Date 3/26/14

HTRW DRILLING LOG (Continuation Sheet)

PROJECT: Coldwater Creek	INSPECTOR: G. Neutzling	HOLE NUMBER 176059 SVP167089
		SHEET 2 of 2

72

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey Silt, brown, little v. fine sandy fr roots, low plasticity, moist - ML (possible fill)	62 / 6347	—	—	SVP167089 1355 IsoTh gamma spec	—	Collect QC/QA soil samples SVP167089-1 SVP167089-2
	1 / 0.5		62 / 6176	—	—	SVP167090 1400 IsoTh gamma spec	—	
	2 / 1	w/ pieces of yellowish brown silty CLAY w/in 1-1½ ft interval	62 / 5956	—	—	Archive 1403 IsoTh gamma spec	—	
	3 / 1.5	Borehole terminated						Soil
	4							
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neutzling Date 3/19/14 QA By M Andermyes Date 3/26/14

73

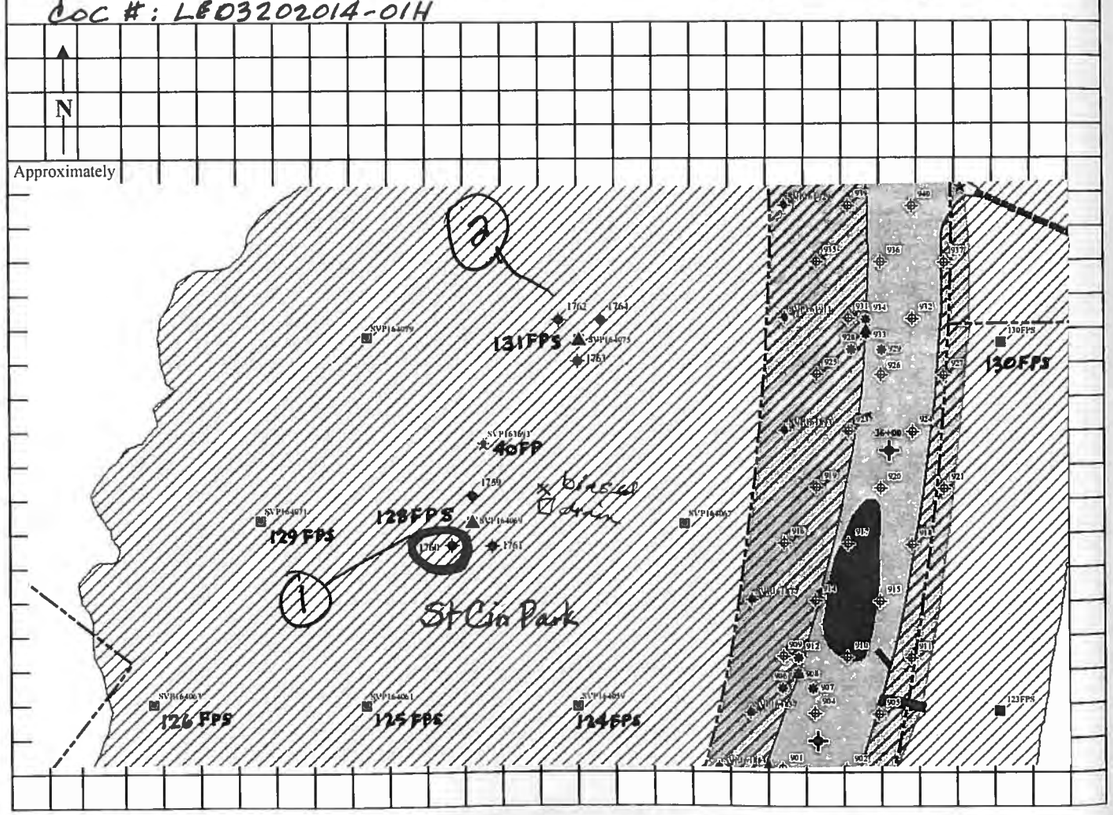
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP167091
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos — SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: #1760 (Horiz bound SVP164069)
5. NAME OF DRILLER: David Dugan / Juan Alvarado / M Chenna	6. MANUFACTURERS DESIGNATION OF DRILL: N/A (128FPS)
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	8. HOLE COORDINATES: E 864921 N1073651
Meter - Background: 44-9 A - 36 cpm; 44-10 K - 5798 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 3/19/14 — 11. DATE COMPLETED: 3/19/14
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	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A	N/A	N/A	3	9	1	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/bentonite and grass plug	N/A	N/A	Gary Neustzling		

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE03202014-01H



Recorded By G. Neustzling Date 3/19/14 QA By M Andemyer Date 3/26/14

74

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP167091 1760 — SHEET 2 of 2

PROJECT: Coldwater Creek — INSPECTOR: G. Neustzling

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
		Clayey SILT, med brown, little V fine sand, low plasticity, moist — ML	64/5919	—	—	SVP167091 1417 Iso Th gamma spec	—	
	0.5		63/6378	—	—	SVP167092 1419 Iso Th	—	
	1		80/6181	—	—	~~Archive~~ SVP167095 1421 Iso Th gamma spec	—	>2x go deeper
	1.5	Silty CLAY, dark brown, little sand, low plasticity, moist — CL	49/6295	—	—	Archive ~~1420~~ 1440 Iso Th gamma spec	—	
	2	Borehole terminated						Soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neustzlenger Date 3/19/14 QA By M Andemyer Date 3/26/14

75

HTRW DRILLING LOG

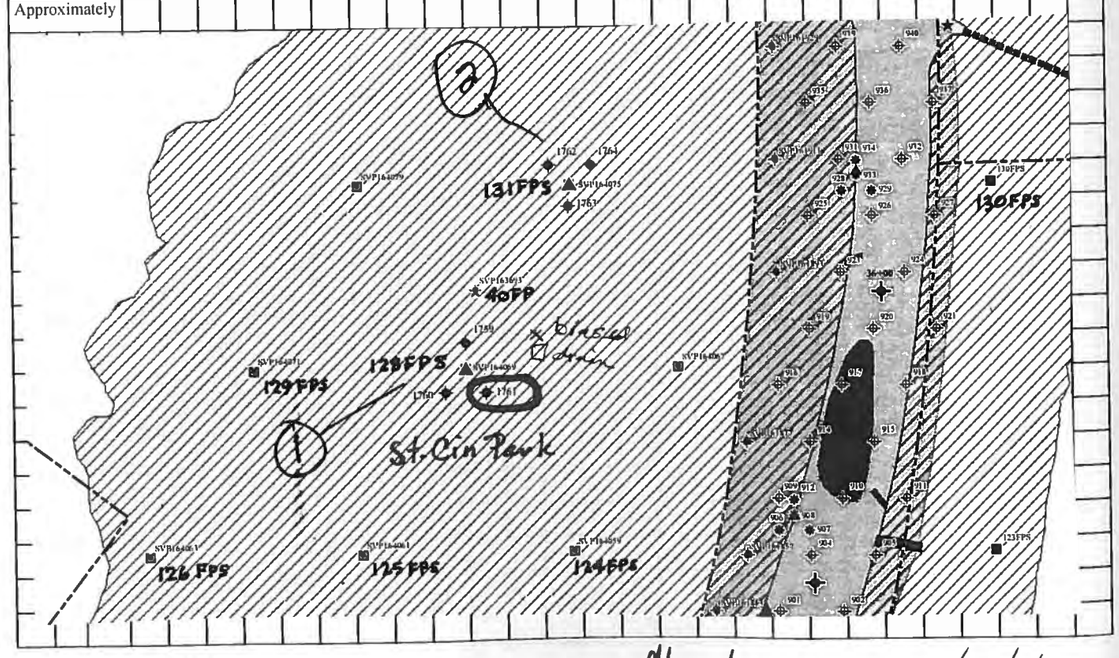
DISTRICT: St. Louis USACE	HOLE NUMBER SVP 167093	
1. COMPANY NAME Leidos	2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
3. PROJECT Coldwater Creek	4. LOCATION #1761	
5. NAME OF DRILLER: David Guyon/Juan Alvarado.	6. MANUFACTURERS DESIGNATION OF DRILL: N/A	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve	8. HOLE COORDINATES E 864943 N 1073651	
Meter - Background 44-9 A - 36 cpm 44-10 K - 5798cpm	9. SURFACE ELEVATION N/A	
	10. DATE STARTED: 3/19/14	11. DATE COMPLETED 3/19/14
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	2	0	1	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neustzling		

LOCATION SKETCH/COMMENTS and grass plug 3/19/14

COC #: LE03202014-01H

SCALE: None



Recorded By G. Neustzling Date 3/19/14 QA By M Anderson Date 3/26/14

76

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP 167093 1761

PROJECT: Coldwater Creek | INSPECTOR: G. Neustzling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Silty Clay, brown, little v fine sandy, low plasticity, moist — CL	72/5910	—	—	SVP167093 1433 Iso Th gamma spec	—	≈2X SiCL or CL SE could go either way.
	1 / 0.5	GMN 3/19/14	58/6024	—	—	SVP167094 1436 Iso Th gamma spec	—	
	2 / 1		63/6328	—	—	Archive 1438 Iso Th gamma spec	—	
	3 / 1.5	Borehole terminated						Soil
	4 / 2							
	5							
	6		GMN 3/19/14					
	7							
	8							
	9							
	10							

Recorded By G. Neustzling Date 3/19/14 QA By M Anderson Date 3/26/14

77

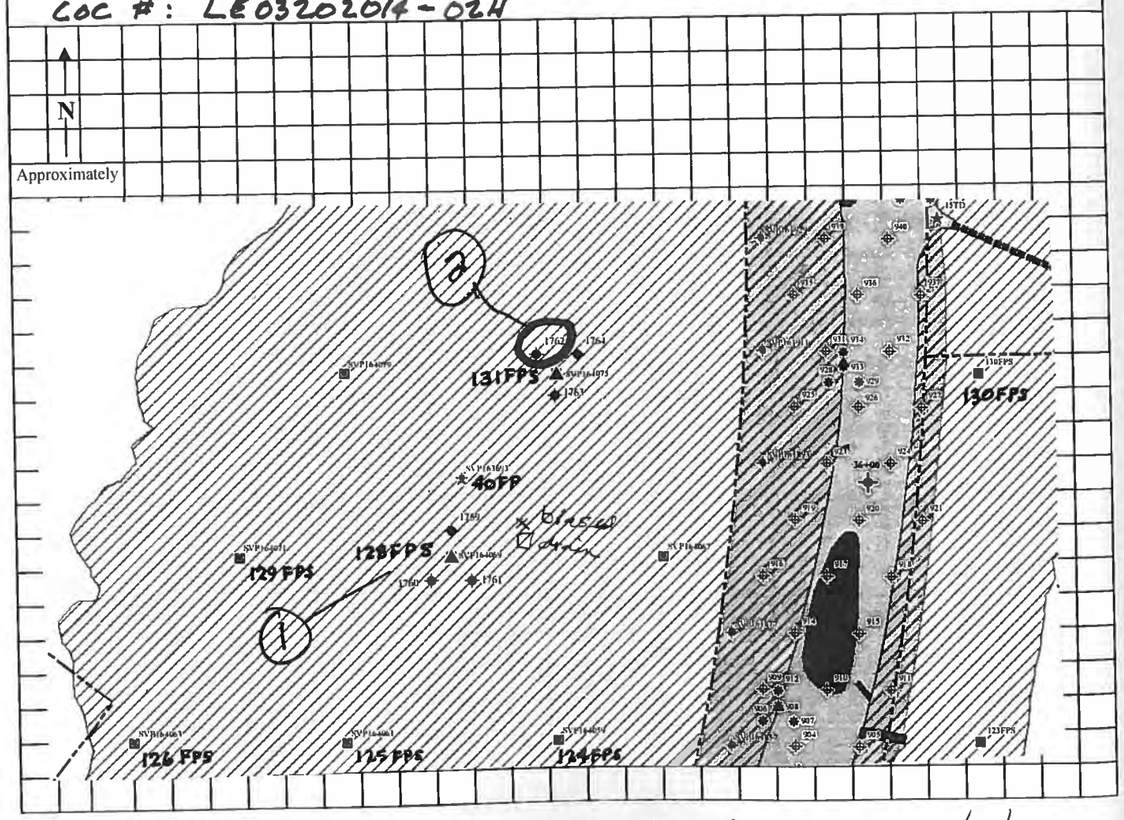
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP167096
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos — SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4 LOCATION: # 1762 (Horiz bound SVP164075 (D2) (131FPS))
5. NAME OF DRILLER: David Guyan/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	8 HOLE COORDINATES: E 864979 N1073776
Meter - Background: 44-9 A - 36 cpm; 44-10 K - 5798 cpm	9 SURFACE ELEVATION N/A
	10. DATE STARTED: 3/19/14 — 11 DATE COMPLETED 3/19/14
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 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	7	0	0	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/bentonite and grass plug	N/A	N/A	Gary Neutzling		

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE03202014-02H



Recorded By G. Neutzling Date 3/19/14 QA By M Andemyes Date 3/26/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP167096 1762 — SHEET 2 of 2 — 78

PROJECT: Coldwater Creek — INSPECTOR: G. Neutzling

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, brown, little Clay, little V. fine sand, low plasticity, moist — ML	51 / 6000	—	—	SVP167096 1456 IsoTh gamma spec	—	V. silty
	0.5 (Gmn 3/19/14)		57 / 6122	—	—	SVP167097 1458 IsoTh gamma spec	—	
	1	~~becomes slightly moist below approx 1 ft Gmn 3/19/14~~	72 / 6253	—	—	SVP167098 1500 IsoTh gamma spec	—	= 2x
	1.5		65 / ~~68~~ / ~~6094~~ 6309	—	—	SVP167099 1503 IsoTh gamma spec	—	
	2	~~becomes~~ START slightly moist below approx 2 ft. Gmn 3/19/14	76 / ~~65~~ / ~~6309~~ 6284	—	—	SVP167100 1507 IsoTh gamma spec	—	>2x
	2.5		55 / ~~76~~ / ~~6284~~ 6473	—	—	SVP167101 1508 IsoTh gamma spec	—	
	3		68 / 6094	—	—	SVP167102 1510 IsoTh gamma spec	—	
	3.5	Borehole terminated						Soil
	8		Gmn 3/19/14					
	9							
	10							

Recorded By G. Neutzling Date 3/19/14 QA By M Andemyes Date 3/26/14

79

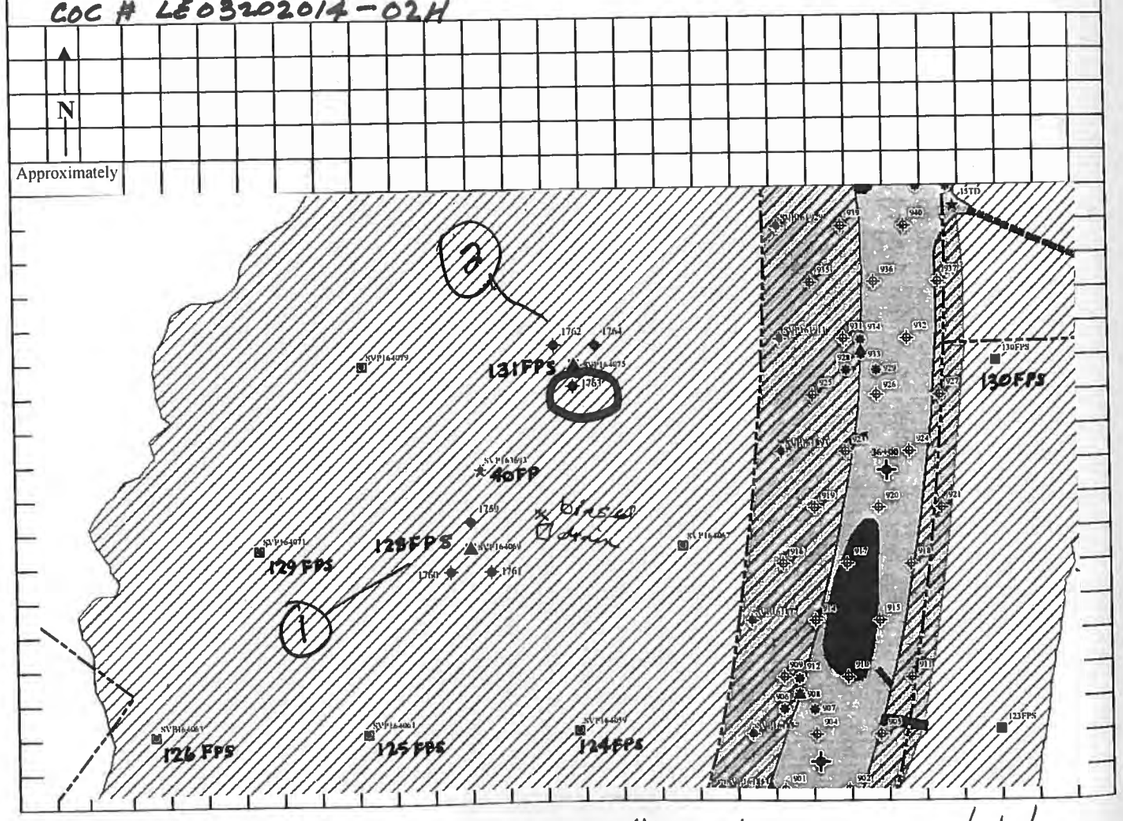
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP 167103
1 COMPANY NAME Leidos	2. DRILL SUBCONTRACTOR: Leidos — SHEET 1 OF 2
3 PROJECT Coldwater Creek	4 LOCATION # 1763 (Hole bound SVP 164075 (D2) (131 FPS)
5 NAME OF DRILLER David Guyan / 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	8 HOLE COORDINATES E 864989 N 1073753
Meter - Background 44-9 A - 36 cpm 44-10 K - 5798 cpm	9 SURFACE ELEVATION N/A
	10. DATE STARTED: 3/19/14 — 11 DATE COMPLETED 3/19/14
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 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	7	0	0	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR		
Backfill using bentonite and grass plug	w/bentonite ✓	N/A	N/A	Gary Neutzling 3/19/14		

LOCATION SKETCH/COMMENTS COC # LE03202014-02H

SCALE: None



Recorded By G. Neutzling Date 3/19/14 QA By [illegible] Date 3/26/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1763 SVP 167103

PROJECT Coldwater Creek — INSPECTOR: G. Neutzling — SHEET 2 of 2

80

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, brown, little clay, little v. fine sand, low plasticity, moist — ML	48 / 6025	—	—	SVP167103 → 1521 Iso Th gamma spec	—	
	0.5		74 / 5961	—	+524	SVP167104 → 1524 Iso Th gamma spec	—	>2x
	1		47 / 5890	—	—	SVP167105 → 1527 Iso Th gamma spec	—	
	1.5		76 / 6089	—	—	SVP167106 → 1533 Iso Th gamma spec	—	>2x
	2	- becomes slightly moist below approx 2 ft	59 / 6411	—	—	SVP167107 → 1535 Iso Th gamma spec	—	driver.
	2.5		55 / 6546	—	—	SVP167108 → 1537 Iso Th gamma spec	—	
	3		67 / 6364	—	—	SVP167109 → 1532 Iso Th gamma spec	—	
	3.5	Borehole terminated						soil
	8							
	9							
	10							

Recorded By G. Neutzling Date 3/19/14 QA By [illegible] Date 3/26/14

81

HTRW DRILLING LOG

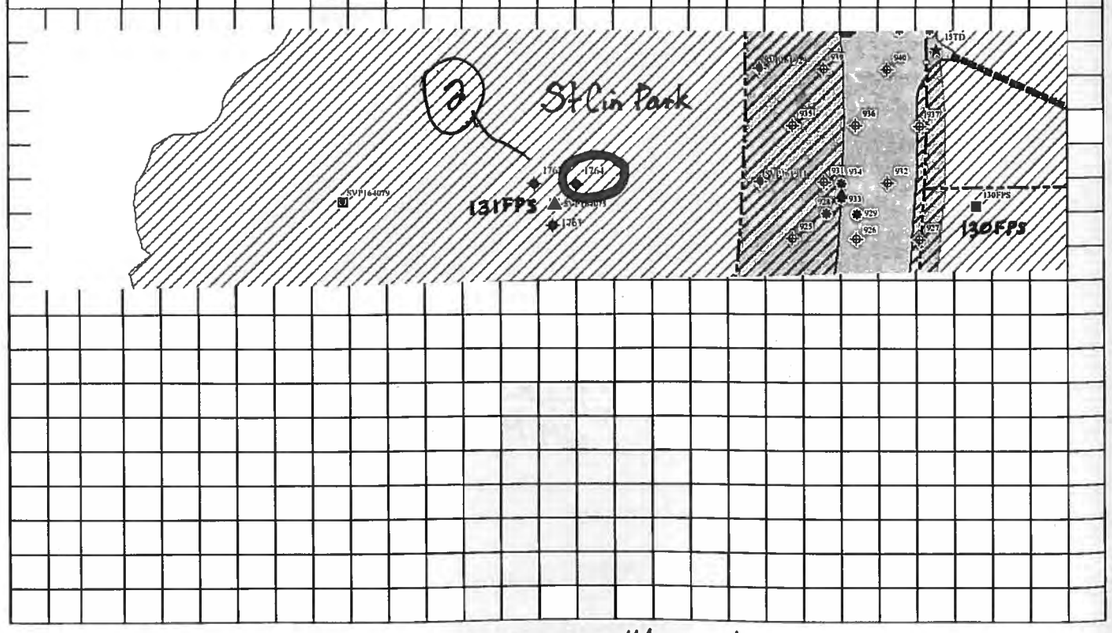
DISTRICT St. Louis USACE		HOLE NUMBER SVP167110
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4 LOCATION #1764 (Horiz based SVP164075 (D2)) (131FPS)	
5. NAME OF DRILLER: Chuck Finkenbein / Juan Alvarado	6 MANUFACTURERS DESIGNATION OF DRILL: N/A	
7. SIZES 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	8 HOLE COORDINATES E 865002 N1073776	
Meter - Background 44-9 L - 39 cpm 44-10 K - 6363 cpm	9 SURFACE ELEVATION N/A	
	10. DATE STARTED: 3/20/14	11. DATE COMPLETED 3/20/14
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 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	7	0	0	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neutzling		

LOCATION SKETCH/COMMENTS and grass plug GN 3/20/14

COC #: LE03202014-03H

SCALE: None



Recorded By G. Neutzling Date 3/20/14 QA By [illegible] Date 3/26/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1764 SVP167110

PROJECT: Coldwater Creek | INSPECTOR: G. Neutzling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, brown, little clay, little v. fine sand, low plasticity, moist — ML	63/6060	—	—	SVP167110 0909 Iso Th gamma Spec	—	
	0.5		74/6108	—	—	SVP167111 0910 gamma Spec Iso Th	—	
GN 3/20/14	1		67/6214	—	—	SVP167112 0912 Iso Th gamma Spec	—	
	1.5		67/6501	—	—	SVP167113 0915 Iso Th gamma Spec	—	
	2	becomes slightly moist below ~ 2 ft	65/6781	—	—	SVP167114 0916 Iso Th gamma Spec	—	slightly drier
	2.5		76/7172	—	—	SVP167115 0917 Iso Th gamma Spec	—	
	3		49/6890	—	—	SVP167116 0919 Iso Th gamma Spec	—	
	3.5	Borehole terminated						soil
	8							
	9							
	10							

GN 3/20/14

Recorded By G. Neutzling Date 3/20/14 QA By [illegible] Date 3/26/14

82

83

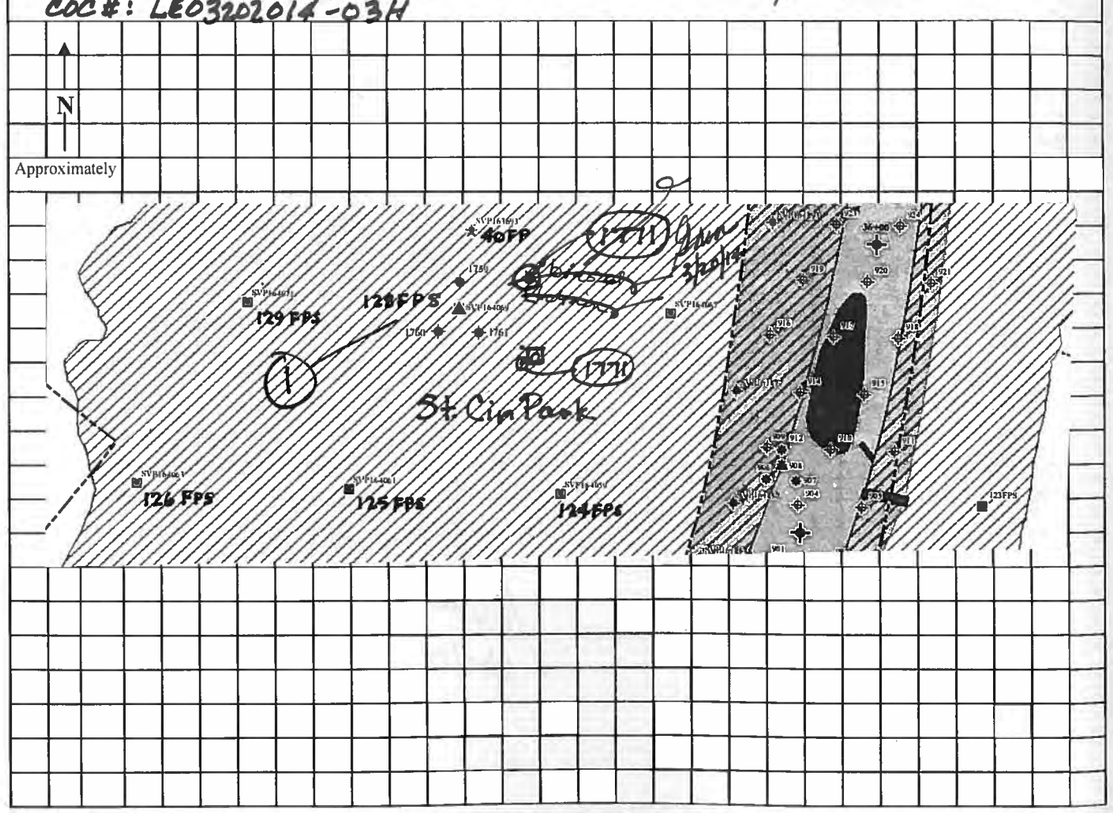
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP167117
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos — SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4 LOCATION # 1771 (Bias location downstream from area 128FPS toward open inlet)
5. NAME OF DRILLER: Chuck Fitkenbein / 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	8 HOLE COORDINATES: E864954 N1073671
Meter - Background 44-9 L - 39 cpm 44-10 K - 6363 cpm	9 SURFACE ELEVATION: N/A
	10. DATE STARTED: 3/20/14 — 11. DATE COMPLETED: 3/20/14
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: 0.5 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	0	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neustzling		

LOCATION SKETCH/COMMENTS and grass plug GNN 3/20/14
COC#: LE03202014-03H

SCALE: None



Recorded By G. Neustzling Date 3/20/14 QA By M Anderson Date 3/24/14

84

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1771 SVP167117

PROJECT: Coldwater Creek — INSPECTOR: G. Neustzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, medium brown, little clay, little v. fine sand, low plasticity, moist — ML	52 / 6131	—	—	SVP167117 0937 Iso Gamma Spec	—	
	0.5	Borehole terminated.						soil
	1.0							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							

Gnn 3/20/14

Recorded By G. Neustzling Date 3/20/14 QA By M Anderson Date 3/26/14

85

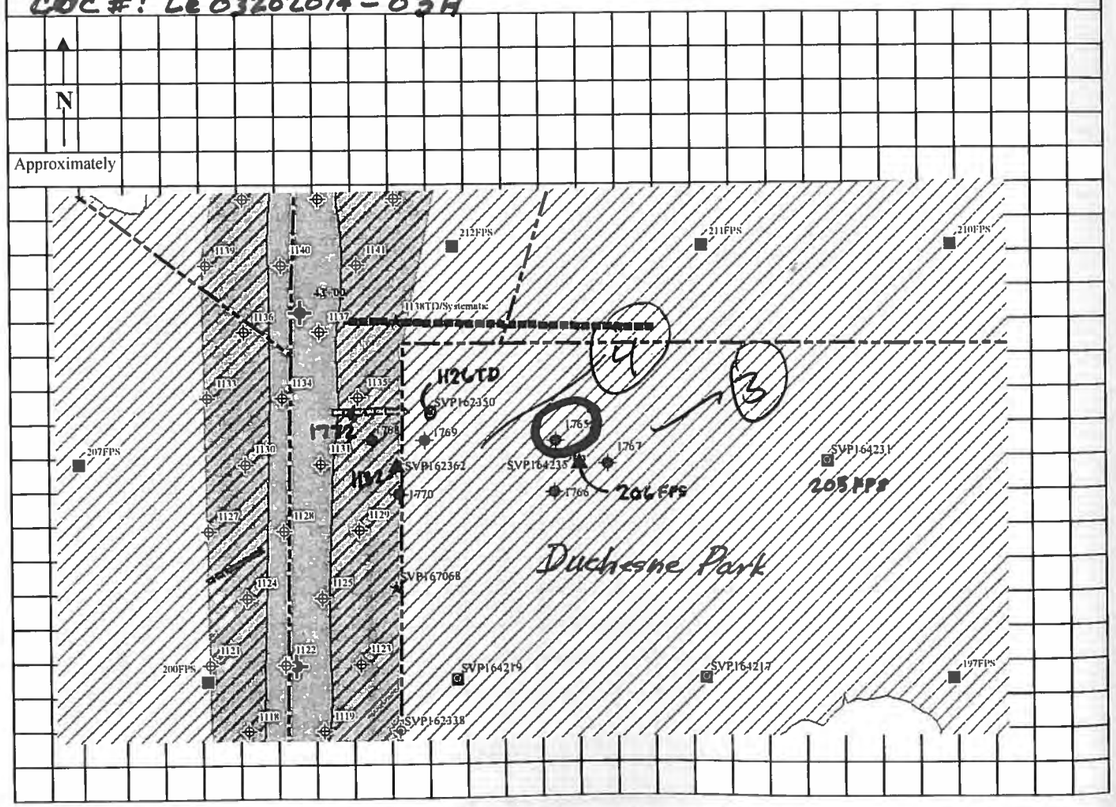
HTRW DRILLING LOG

DISTRICT: St. Louis USACE		HOLE NUMBER SVP169470
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION # 1765 (Horiz Bound 206 FPS (D3))	
5. NAME OF DRILLER: Todd Keeton / 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	8. HOLE COORDINATES: E 865037 N 1075896	
Meter - Background 44-9 L - 33 cpm 44-10 K - 5493 cpm	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 3/20/14	11. DATE COMPLETED: 3/20/14
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 Soil	N/A	N/A	Gary Neutzling		

LOCATION SKETCH/COMMENTS SCALE: None

COC #: LE03202014-03H



Recorded By Gary Neutzling Date 3/20/14 QA By Mandi Myers Date 3/24/14

86

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1765 SVP 169470

PROJECT: Coldwater Creek | INSPECTOR: G. Neutzling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, brown, little clay, little v. fine sand, low plasticity, moist — ML	70 / 6174	—	—	SVP169470 1029 Iso Th gamma spec	—	>2x
	0.5		69 / 6342	—	—	SVP169471 1030 Iso Th gamma spec	—	>2x
	1		59 / 6409	—	—	SVP169472 1033 Iso Th gamma spec	—	
	1.6	Borehole terminated. 3/20/14						soil
	2							
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neutzling Date 3/20/14 QA By Mandi Myers Date 3/26/14

87

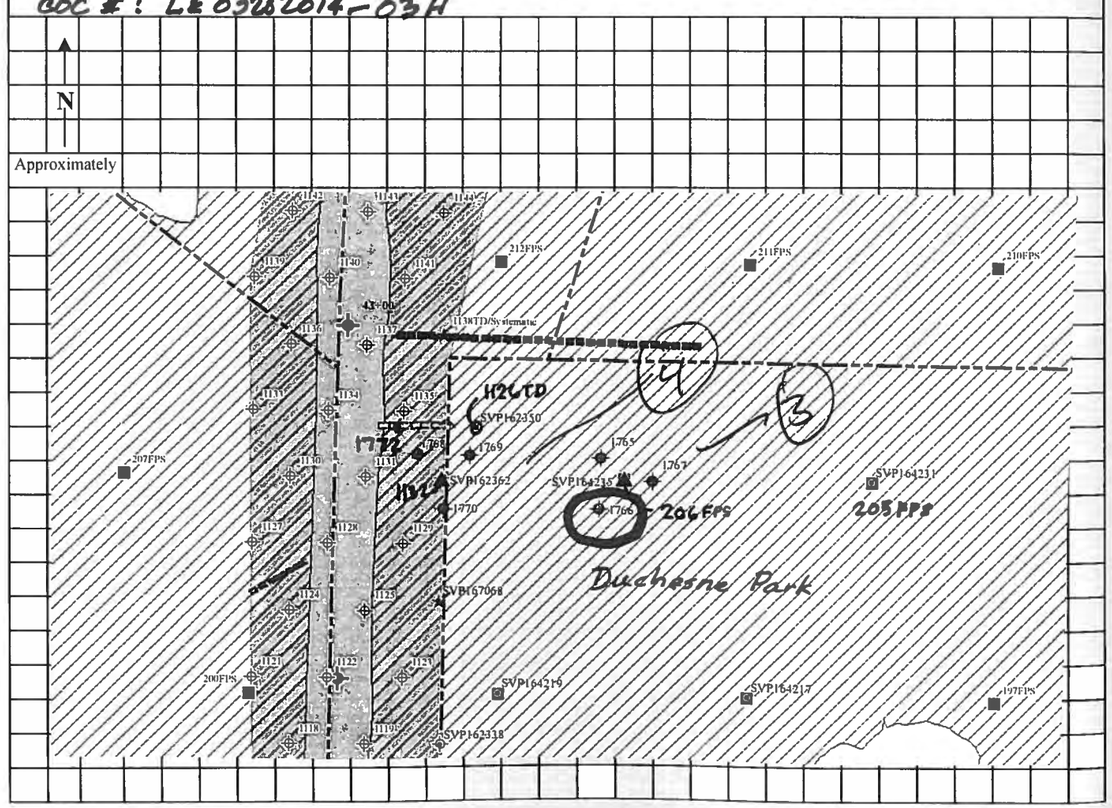
HTRW DRILLING LOG

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 (Boring bounding 206 FPS (D3))	
5 NAME OF DRILLER Chuck Funkenbusch/Megan Sharman/J 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	8 HOLE COORDINATES E 865036 N 1075872	
Meter - Background 44-9 L - 33 cpm 44-10 K - 5493 cpm	9 SURFACE ELEVATION N/A	
	10. DATE STARTED: 3/20/14	11 DATE COMPLETED 3/20/14
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~~ soil	N/A	N/A	Gary Neustyling		

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE03202014-03H



Recorded By G. Neustyling Date 3/20/14 QA By Mandenyan Date 3/26/14

88

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1766 SVP 169473

PROJECT: Coldwater Creek — INSPECTOR: G. Neustyling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, brown, little Clay, little v. fine Sand, low plasticity, moist — ML	58 / 6323	—	—	SVP169473 1045 Iso Th Gamma Spec	—	
	0.5		52 / 5993	—	—	SVP169474 1047 Iso Th Gamma Spec	—	
	1	Clayey SILT, brown, mottled by yellowish brown, little v. fine sand, low plasticity, moist	65 / 6264	—	—	SVP169475 1051 Iso Th Gamma Spec	—	
	1.5	Borehole terminated						soil
	4							
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neustyling Date 3/20/14 QA By Mandenyan Date 3/26/14

89

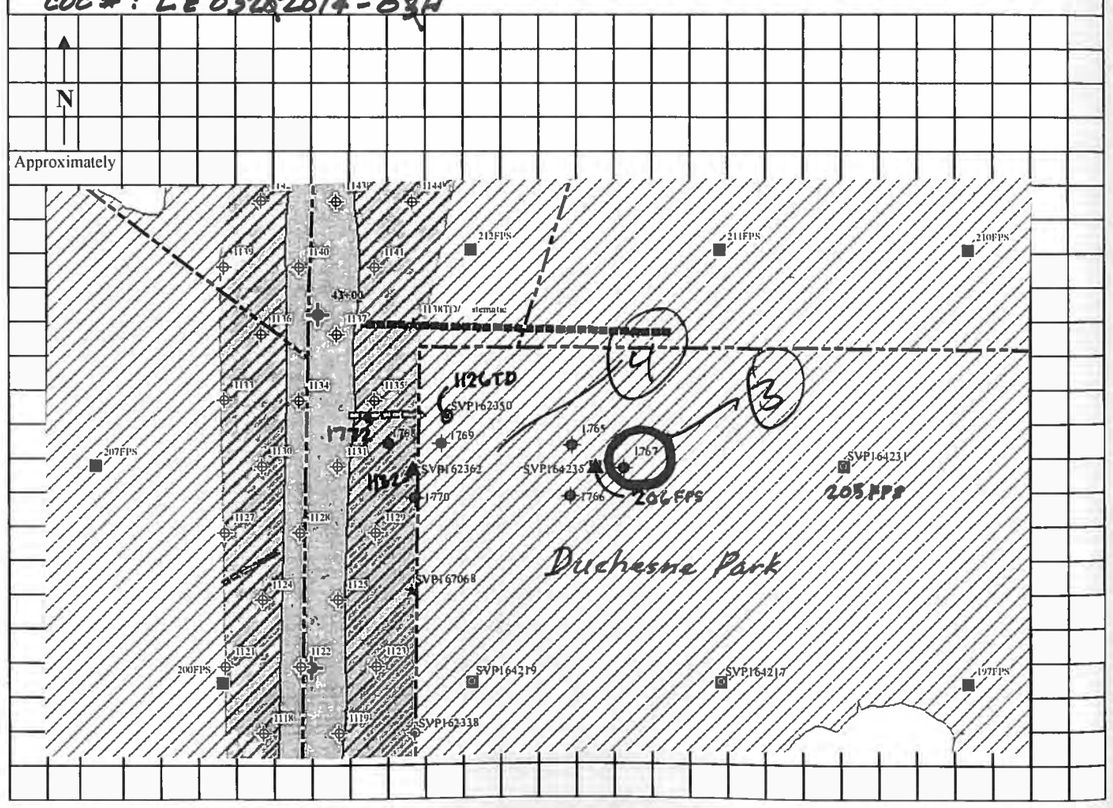
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP 169476	
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: #1767 (thru bound 206 FPS (D1))	
5. NAME OF DRILLER: Juan Alvarado / Hope Sexton	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	8. HOLE COORDINATES: E 865061 N 1075885	
Meter - Background 44-9 L - 33 cpm same loc as pre lunch 44-10 K - 5443 cpm use same legends	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 3/20/14	11. DATE COMPLETED: 3/20/14
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: Gary Neutzling		
Backfill using bentonite	w/bentonite	N/A	N/A			

LOCATION SKETCH/COMMENTS w/ green plug. Gary 3/20/14
COC #: LE 032020 14-03H

SCALE: None



Recorded By G. Neutzling Date 3/20/14 QA By [illegible] Date 3/26/14

90.

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP 169476 1767

PROJECT: Coldwater Creek — INSPECTOR: G Neutzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, brown, little clay, little v. fine sand, low plasticity, moist – ML	54 / 5662	—	—	SVP 169476 1255 Iso Th Gamma Spec	—	
	0.5		70 / 6108	—	—	SVP 169477 1256 Iso Th Gamma Spec	—	>2X
	1		55 / 6973	—	—	SVP 169478 1257 Iso Th Gamma Spec	—	
	1.5	Borehole terminated						soil
	2							
	5							
	6							
	7							
	8							
	9							
	10							

Gary 3/20/14

Recorded By G. Neutzling Date 3/20/14 QA By [illegible] Date 3/26/14

91

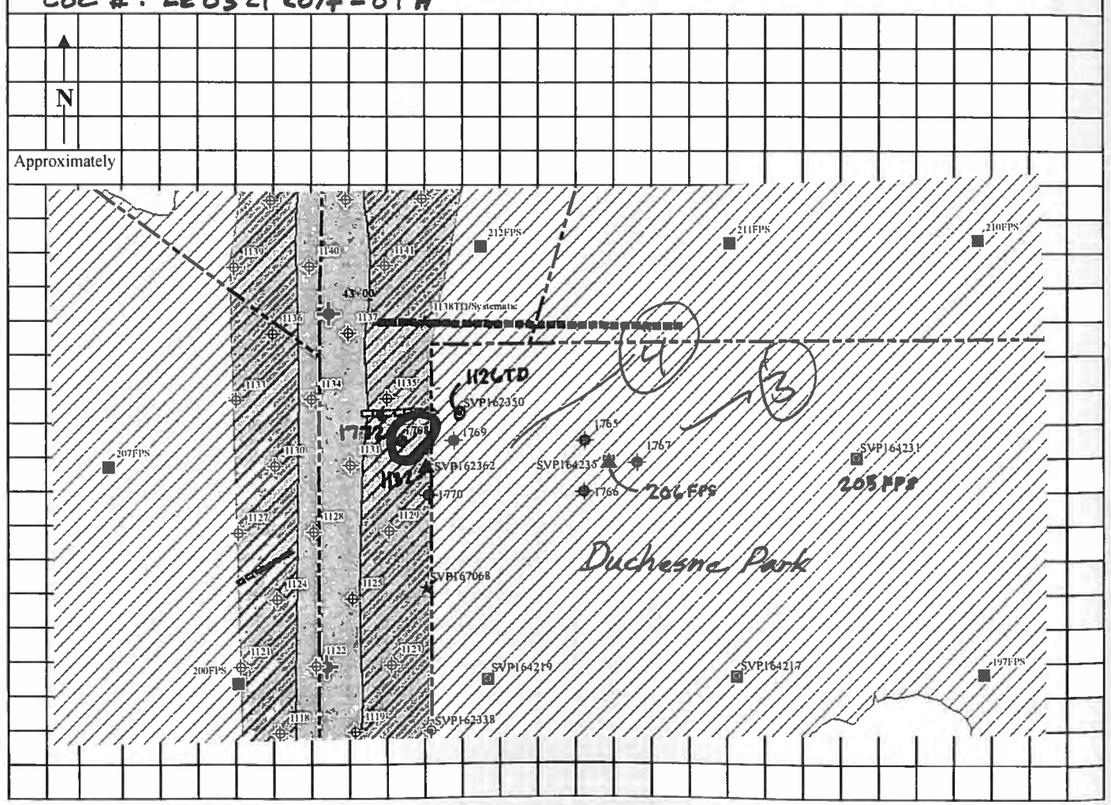
HTRW DRILLING LOG

DISTRICT St. Louis USACE		HOLE NUMBER SVP169479
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION # 1768 (Hong bound SVP162362 @4)	
5. NAME OF DRILLER: Juan Alvarado / Hope Sexton	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	8. HOLE COORDINATES: E 864952 N1075896 JMM 3/20/14	
Meter - Background 44-9 L - 33 cpm 44-10 K - 5493 cpm	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 3/20/14	11. DATE COMPLETED: 3/20/14
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	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		
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neutzling		

LOCATION SKETCH/COMMENTS and grass play JMM 3/20/14
COC #: LE03212014-01H

SCALE: None



Recorded By G. Neutzling Date 3/20/14 QA By MMendinger Date 3/26/14

92

HTRW DRILLING LOG (Continuation Sheet)

PROJECT: Coldwater Creek	INSPECTOR: G. Neutzling	HOLE NUMBER SVP169479 1768
		SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, med brown, little v. fine sand, low plasticity, moist	72 / 5931	—	—	SVP169479 1214 IsoTh gamma spec	—	>2X
	0.5		55 / 6123	—	—	SVP169480 1215 IsoTh gamma spec	—	
	1.0	Borehole terminated		—	—		—	soil
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							

JMM 3/20/14

Recorded By G. Neutzling Date 3/20/14 QA By MMendinger Date 3/26/14

93

HTRW DRILLING LOG

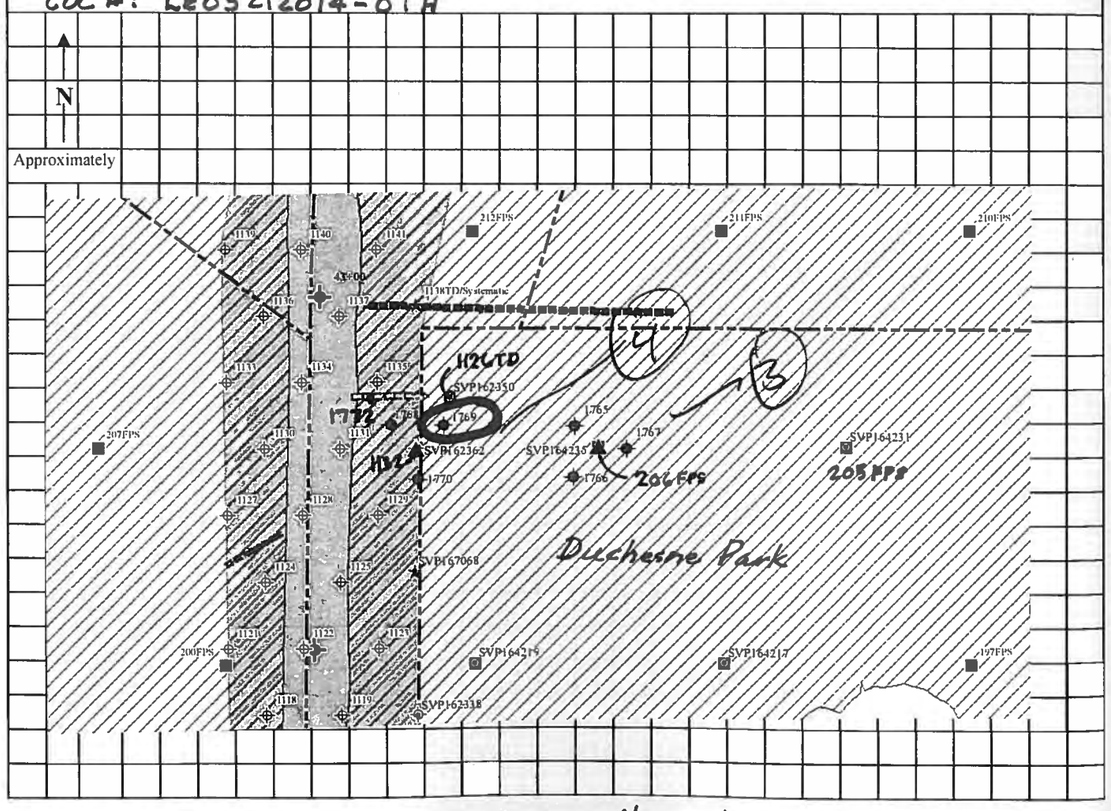
DISTRICT: St. Louis USACE	HOLE NUMBER SVP 169481
1. COMPANY NAME Leidos	2. DRILL SUBCONTRACTOR: Leidos — SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION #1769 (Hole bound SVP162362 (PA))
5. NAME OF DRILLER Juan Alvarado/Hope Sartor	6. MANUFACTURERS DESIGNATION OF DRILL N/A
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve	8. HOLE COORDINATES E 864976 N1075896
Meter - Background 44-9 L - 33 cpm 44-10 K - 5493 cpm	9. SURFACE ELEVATION N/A 10. DATE STARTED: 3/20/14 — 11. DATE COMPLETED 3/20/14
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	2	0	1	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neutzling

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE032120 14-01H



Recorded By G. Neutzling Date 3/20/14 QA By [illegible] Date 3/26/14

94

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1769 SVP169481

PROJECT: Coldwater Creek — INSPECTOR: G. Neutzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, brnd brown, little v. fine sand, low plasticity, moist — ML	69/5885	—	—	SVP169481 1310 IsoTh gamma spec	—	
	0.5		66/6077	—	—	SVP169482 1312 IsoTh gamma spec	—	go deeper!
	1		50/6086	—	—	Archive 1332 IsoTh gamma spec	—	
	1.5	Borehole terminated						Soil
	4							
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neutzling Date 3/20/14 QA By [illegible] Date 3/26/14

97

HTRW DRILLING LOG

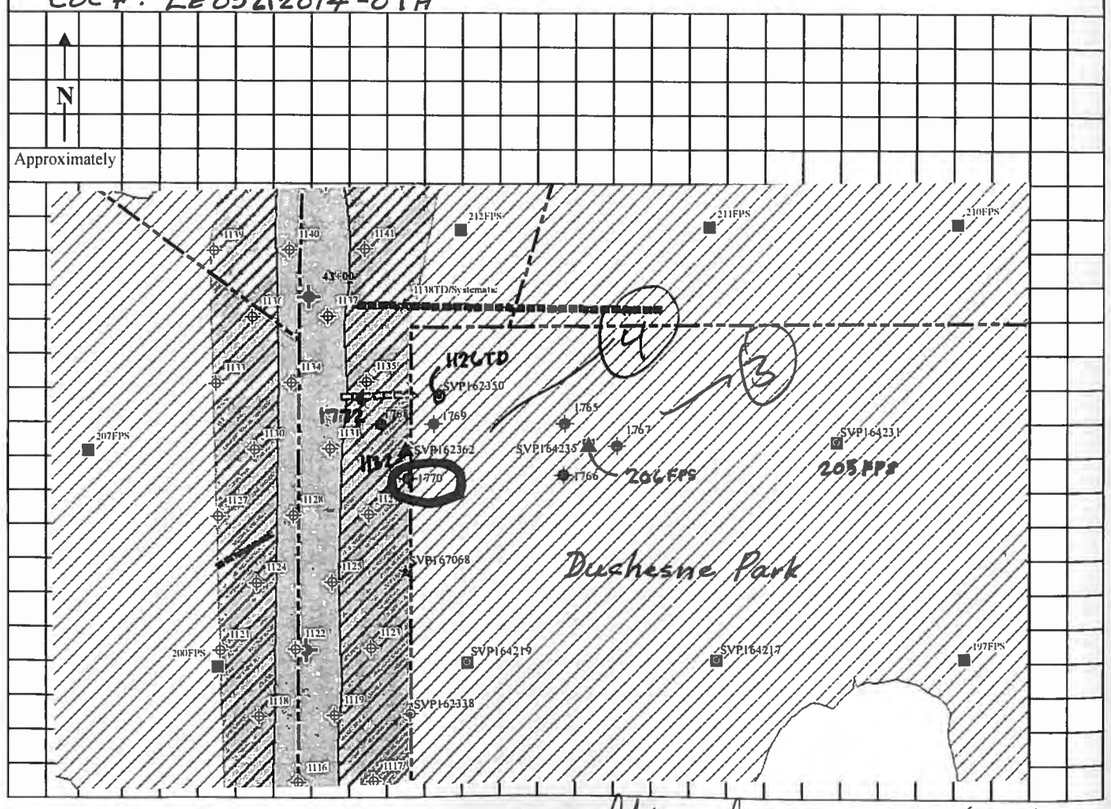
DISTRICT: St. Louis USACE		HOLE NUMBER SVP169483
1 COMPANY NAME: Leidos	2 DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2
3 PROJECT: Coldwater Creek	4 LOCATION # 1770 (Horiz bound SVP 162362 (Pt) loc 1132)	
5 NAME OF DRILLER: Juan Alvarado / Hope Sexton	6. MANUFACTURERS DESIGNATION OF DRILL: N/A	
7 SIZES AND 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	8 HOLE COORDINATES E 864964 N1075871	
Meter - Background 44-9 L - 33 cpm 44-10 A - 5493 cpm	9 SURFACE ELEVATION N/A	
	10 DATE STARTED: 3/20/14	11. DATE COMPLETED: 3/20/14
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	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		
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neutzling		

LOCATION SKETCH/COMMENTS

COC #: LE03212014-01H

SCALE: None



Recorded By G. Neutzling Date 3/20/14 QA By [illegible] Date 3/26/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP169483 1770

98

PROJECT: Coldwater Creek | INSPECTOR: G. Neutzling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, medium brown, little clay, little v. fine sand, low plasticity, moist — ML	54 / 5769	—	—	SVP169483 1326 Iso Th gamma spec	—	
	0.5		61 / 5672	—	—	SVP169484 1327 Iso Th gamma spec	—	
	1.0	Borehole terminated						Soil

G. Neutzling 3/20/14

Recorded By G. Neutzling Date 3/20/14 QA By [illegible] Date 3/26/14

HTRW DRILLING LOG

DISTRICT St. Louis USACE	HOLE NUMBER SVP161971
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR Leidos
	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION # 961 (systematic array)
5. NAME OF DRILLER: Matt Dostal/Antonio Martinez Rick Whitney	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	8. HOLE COORDINATES E 865173 N1074025.19 (69) GB 12-15-14
Meter - Background 44-9 A - 39 cpm 44-10 I - 7747 cpm	9. SURFACE ELEVATION N/A
	10. DATE STARTED 4/1/14 — 11. DATE COMPLETED 4/1/14
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

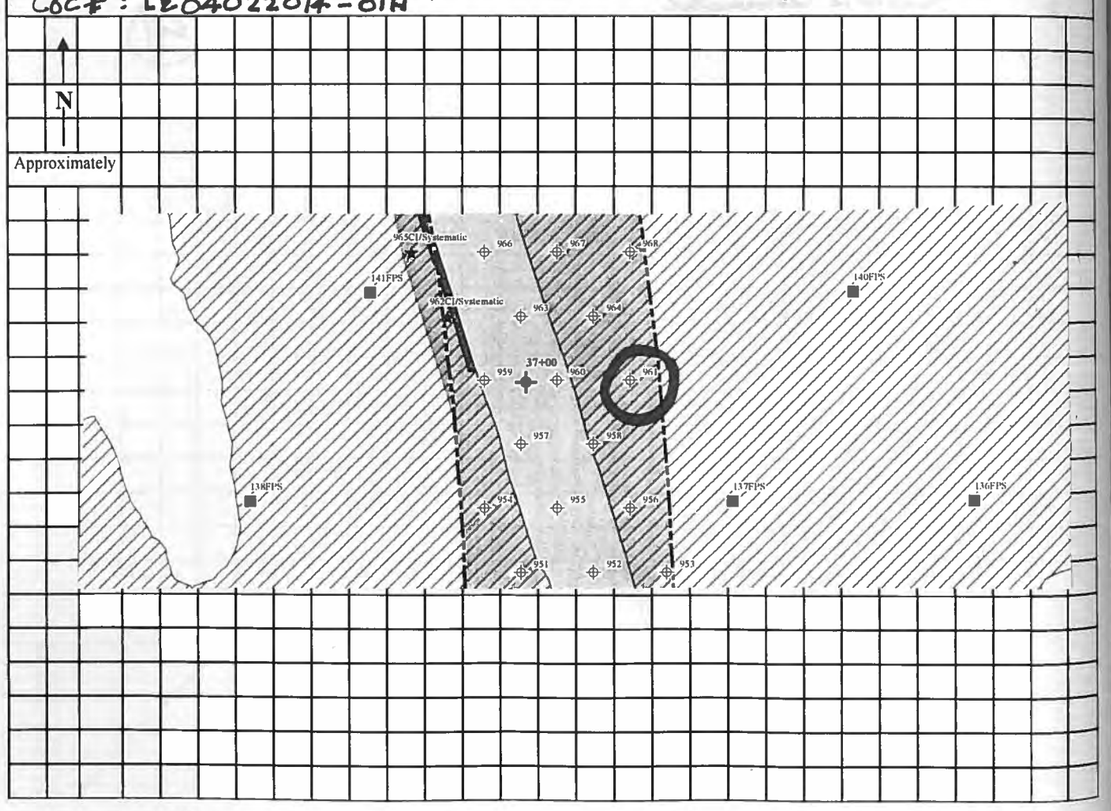
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N/A			N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY
N/A	N/A	N/A	2	0	1	N/A

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/~~bentonite~~ soil	N/A	N/A	Gary Neustling

LOCATION SKETCH/COMMENTS — SCALE: None

COC#: LE04022014-01H



Recorded By G. Neustling Date 4/1/14 QA By Megan Sherman Date 4-17-14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 961 SVP 161971

PROJECT Coldwater Creek — INSPECTOR: G. Neustling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, med brown, little v. fine sand, low plasticity, moist ML	61 / 7795	—	—	SVP161971 1453 Iso Th gamma spec	—	
	0.5		64 / 8021	—	—	SVP161972 1455 Iso Th gamma spec	—	
	1		53 / 7906	—	—	1457	—	
	1.5		45 / 7908	—	—	Archive 1500 Iso Th gamma spec	—	
	2.0	Borehole terminated						Soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neustling Date 4/1/14 QA By Megan Sherman Date 4-17-14

25

HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP161976
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos — SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: # 964 (systematic array) soil
5. NAME OF DRILLER: Adam Queen / Antonio Martinez / 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	8. HOLE COORDINATES: QB 12-15-14 E 865155 N1074056.1
Meter - Background: 44-9 F - 29 cpm; 44-10 I - 6211 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 4/8/14 — 11. DATE COMPLETED: 4/8/14
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: 6.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

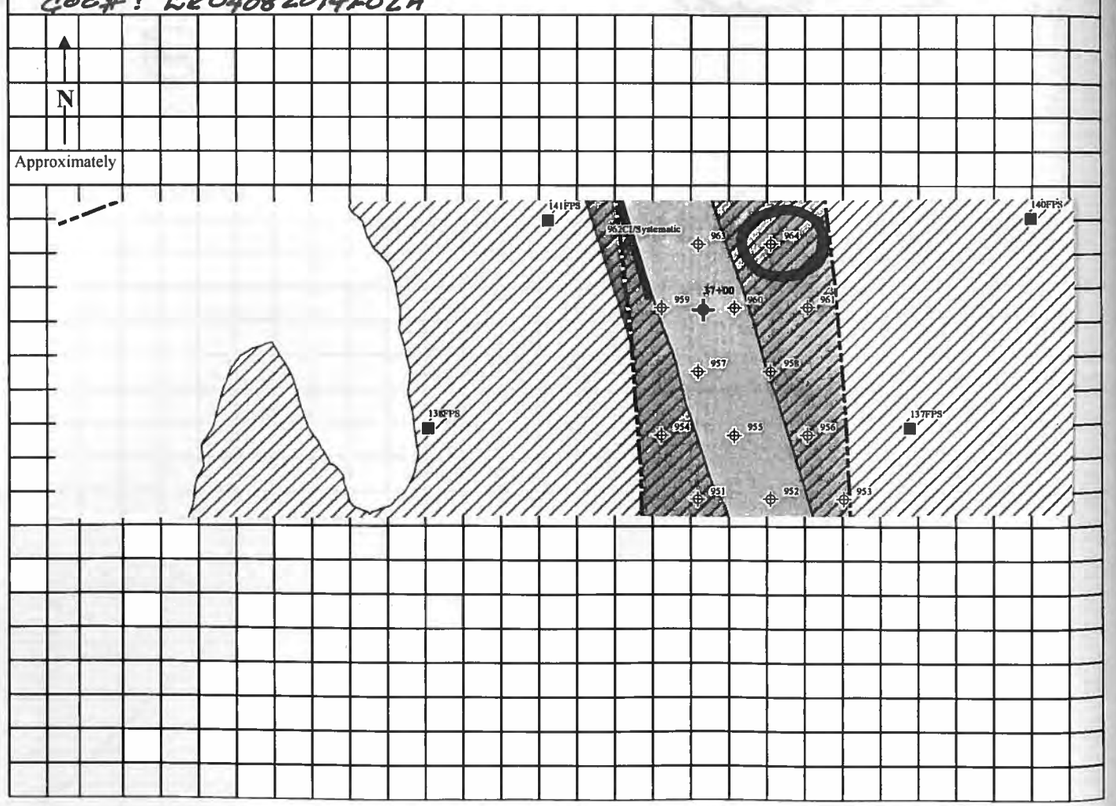
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N/A			N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY
N/A	N/A	N/A	4	1 set of 2	1	N/A

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neutzling

LOCATION SKETCH/COMMENTS — SCALE: None

COC#: LE04082014L02H



Recorded By G. Neutzling Date 4/8/14 QA By Megan Shroner Date 4-17-14

26

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 964 SVP161976 — SHEET 2 of 2

PROJECT: Coldwater Creek — INSPECTOR: G. Neutzling

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Silty CLAY, med brown, trace fine sand, low plasticity moist – CL	54/6815	—	—	SVP161976 0806 Iso Th & gamma spec	—	Collect QC/QA soil samples SVP161976-1 SVP161976-2
	0.9	Clayey SILT, brown, little v. fine sand, low plasticity moist – ML	56/6491	—	—	0809	—	
	1		60/6765	—	—	SVP161977 0811 Iso Th & gamma spec	—	
			55/6588	—	—	0815	—	drier
	2		60/6626	—	—	0817	—	
			68/6755	—	—	SVP161978 0819 Iso Th & gamma spec	—	
	3		66/6815	—	—	0840	—	
			65/6607	—	—	0842	—	
	4		44/6573	—	—	0844	—	
			52/6712	—	—	MS 4/17/14 ~~0847~~ 0847	—	
	5		60/6526	—	—	SVP161979 0849 Iso Th & gamma spec	—	
			47/6755	—	—	Archive 0837 Iso Th & gamma spec	—	
	6	Borehole terminated						soil
	7							
	8							
	9							
	10							

Recorded By G. Neutzling Date 4/8/14 QA By Megan Shroner Date 4-17-14

27

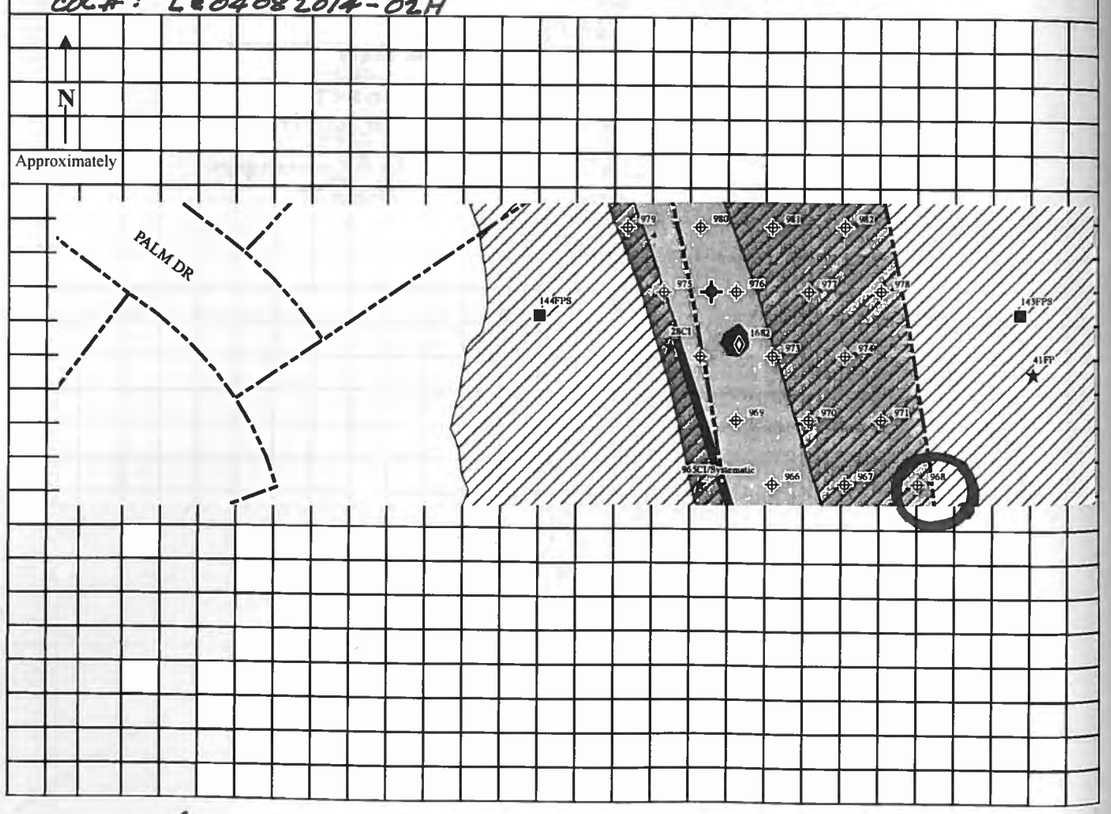
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP 161985	
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: #968 (systematic array) soil	
5. NAME OF DRILLER: Adam Queen / Antonio Martinez / 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	8. HOLE COORDINATES: GS 12-15-14 E 865173.65 N 1074087.4	
Meter - Background 44-9 F - 29 cpm 44-10 I - 6211 cpm	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 4/8/14	11. DATE COMPLETED: 4/8/14
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	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	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				
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/~~bentonite~~	N/A	N/A	G. Neutzling		

LOCATION SKETCH/COMMENTS: soil Gpm 4/8/14
COC#: LE04082014-02H

SCALE: None



Recorded By G. Neutzling Date 4/8/14 QA By Meyan Sherman Date 4-17-14

28

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP161985 968

PROJECT: Coldwater Creek | INSPECTOR: G. Neutzling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Silty CLAY, medium brown, trace v. fine sand, low plasticity, moist — CL	52 / 6613	—	—	SVP161985 0909 Iso Th gamma spec	—	
	0.5		48 / 6591	—	—	0910	—	
Gpm 4/8/14	1		61 / 6782	—	—	SVP161986 0912 Iso Th gamma spec	—	
	1.5		52 / 6326	—	—	Archive 0905 Iso Th gamma spec	—	
	2.0	Borehole terminated						Soil
	5							
	6							
	7	Gpm 4/8/14						
	8							
	9							
	10							

Recorded By G. Neutzling Date 4/8/14 QA By Meyan Sherman Date 4-17-14

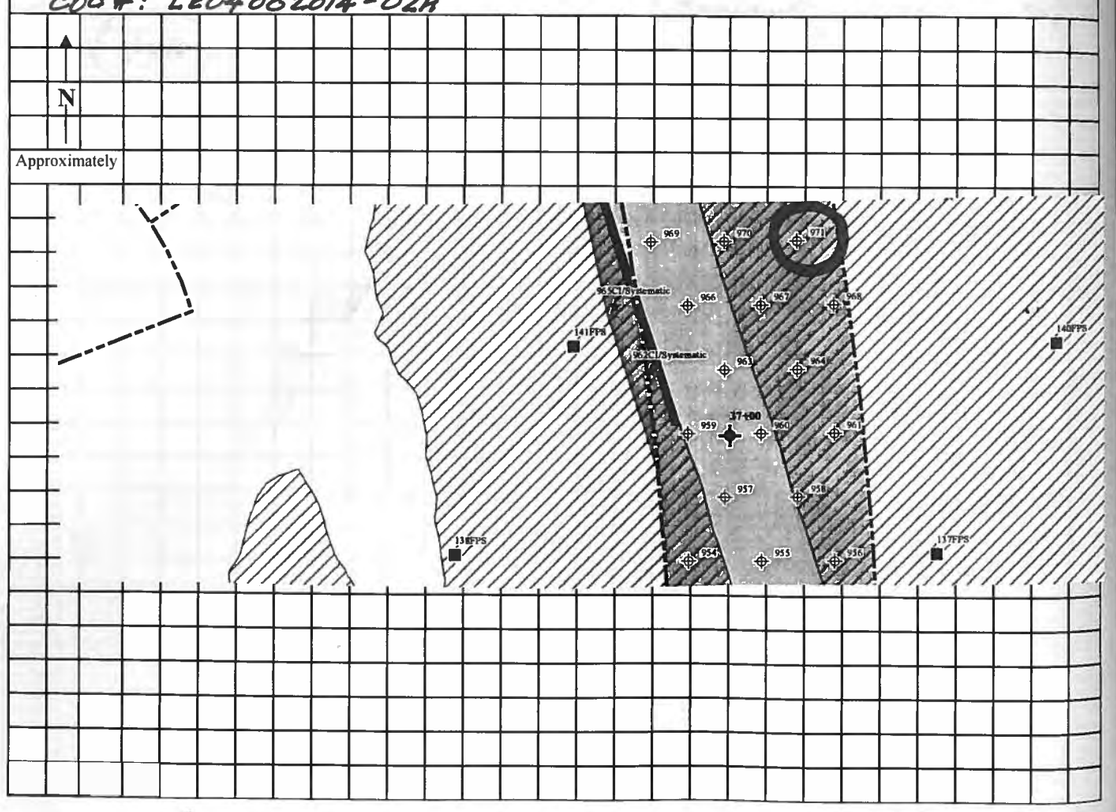
HTRW DRILLING LOG

1. COMPANY NAME: Leidos	2 DRILL SUBCONTRACTOR Leidos	HOLE NUMBER SVP 161990 / SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4 LOCATION # 971 (systematic anomaly soil)	
5. NAME OF DRILLER: Adam Queen/Antonio Martinez/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	8 HOLE COORDINATES QB 12-15-14 E 865155 N 1074148.05	
Meter - Background reran bkgnd ~1100	9 SURFACE ELEVATION N/A	
44-9 E - 29 cpm 35 cpm		
44-10 I - 6211 cpm 6331 cpm	10 DATE STARTED 4/8/14	11. DATE COMPLETED 4/8/14
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 7.5 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
N/A	N/A	N/A	5	0	1
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR	21. TOTAL CORE RECOVERY: N/A
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neutzling	

LOCATION SKETCH/COMMENTS SCALE: None

COC #: LE04082014-02H



Recorded By G. Neutzling Date 4/8/14 QA By Megan Sherman Date 4-17-14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 971 SVP 161990

PROJECT Coldwater Creek | INSPECTOR: G. Neutzling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Silty CLAY, med-brown, trace fine sand, moderate to low plasticity, moist —CL	53/6449	—	—	SVP161990 0939 IsoTh & gamma spec	—	
			51/6524	—	—	0941	—	
	1		72/6501	—	—	SVP161991 0942 IsoTh & gamma spec	—	
			57/6824	—	—	0944	—	
	1.8							
	2	Clayey SILT, grayish brown, little v. fine sand, low plasticity, moist	52/6855	—	—	0950	—	
			50/6605	—	—	0952	—	
	3		62/6856	—	—	SVP161992 1000 IsoTh & gamma spec	—	
		becomes slightly moist below approx 3½ ft	42/5988	—	—	1003	—	dry (damp)
	4		59/6751	—	—	1006	—	dry
			57/6824	—	—	1009	—	
	5		67/6974	—	—	SVP161993 1013 IsoTh & gamma spec	—	
			63/6918	—	—	0957	—	go deeper!
	6		81/6845	—	—	SVP169518 1023 IsoTh & gamma spec	—	damp
			71/7180	—	—	1043	—	
	7		60/6758	—	—	Archive 1100 IsoTh & gamma spec	—	60,71,69
	7.5	Borehole terminated						soil
	8							
	9							
	10							

4/8/14

Recorded By G. Neutzling Date 4/8/14 QA By Megan Sherman Date 4/17/14

HTRW DRILLING LOG

DISTRICT	St. Louis USACE
HOLE NUMBER	SVP 161996
1 COMPANY NAME	Leidos
2 DRILL SUBCONTRACTOR	Leidos
SHEET	1 OF 2
3 PROJECT	Coldwater Creek
4 LOCATION	# 974 (systematic array) soil
5 NAME OF DRILLER	Juan Alvarado/Antonio Martinez/Adam Owen
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
8 HOLE COORDINATES	@B 12-15-14 E 8651386 N1074142
Meter - Background	
44-9 F -	41 cpm
44-10 I -	5964 cpm
9 SURFACE ELEVATION	N/A
10 DATE STARTED	4/8/14
11 DATE COMPLETED	4/8/14
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	2.0 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

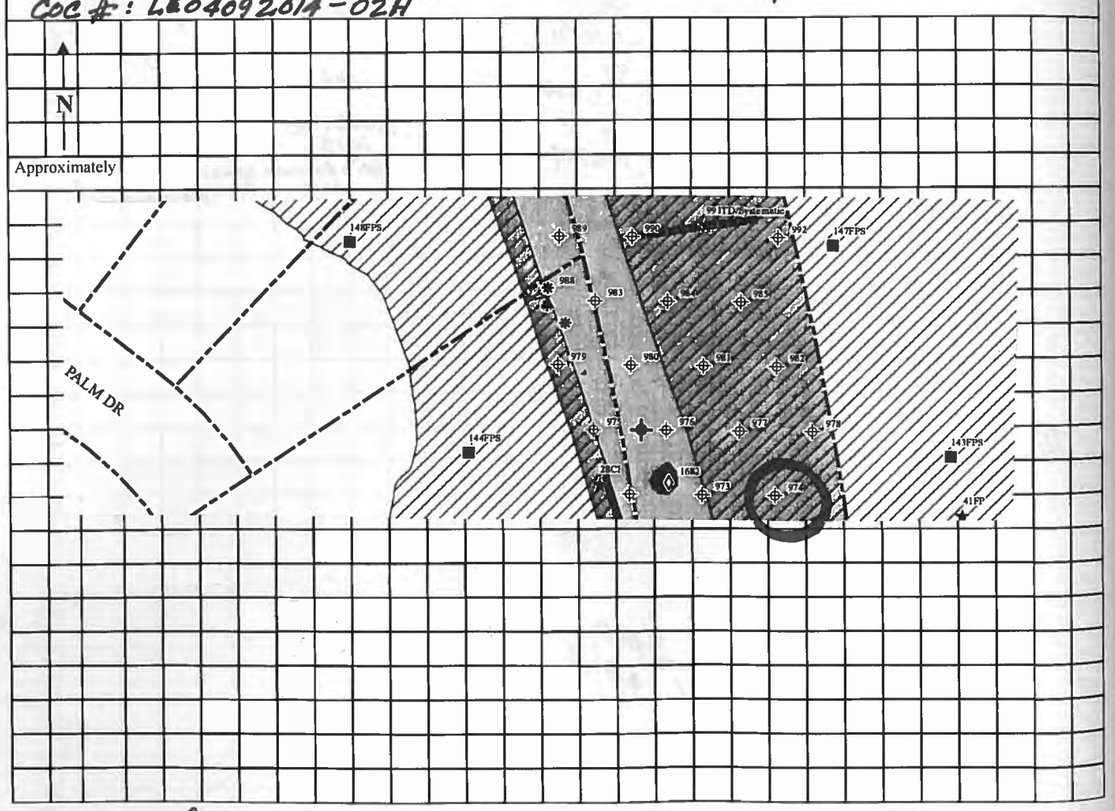
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21 TOTAL CORE RECOVERY
N/A	N/A	N/A	2	0	1	N/A

22 DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR
Backfill using bentonite	w/~~bentonite~~ soil	N/A	N/A	Gary Neustzling

LOCATION SKETCH/COMMENTS

COC #: LE04092014-02H

SCALE: None



Recorded By G. Neustzling Date 4/8/14 QA By Meyan Sherman Date 4/17/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP 161996 974

PROJECT Coldwater Creek | INSPECTOR: G. Neustzling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Silty CLAY, medium brown, trace v. fine sand, low plasticity, moist – CL	57/6465	—	—	SVP161996 1443 Iso Th gamma spec	—	
	0.5		66/6615	—	—	SVP161997 1445 Iso Th gamma spec	—	
	1		56/6687	—	—	1447	—	
	1.5		56/6565	—	—	Archive 1440 Iso Th gamma spec	—	
	2.0	Borehole terminated						soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neustzling Date_____ QA By Meyan Sherman Date 4/17/14

HTRW DRILLING LOG

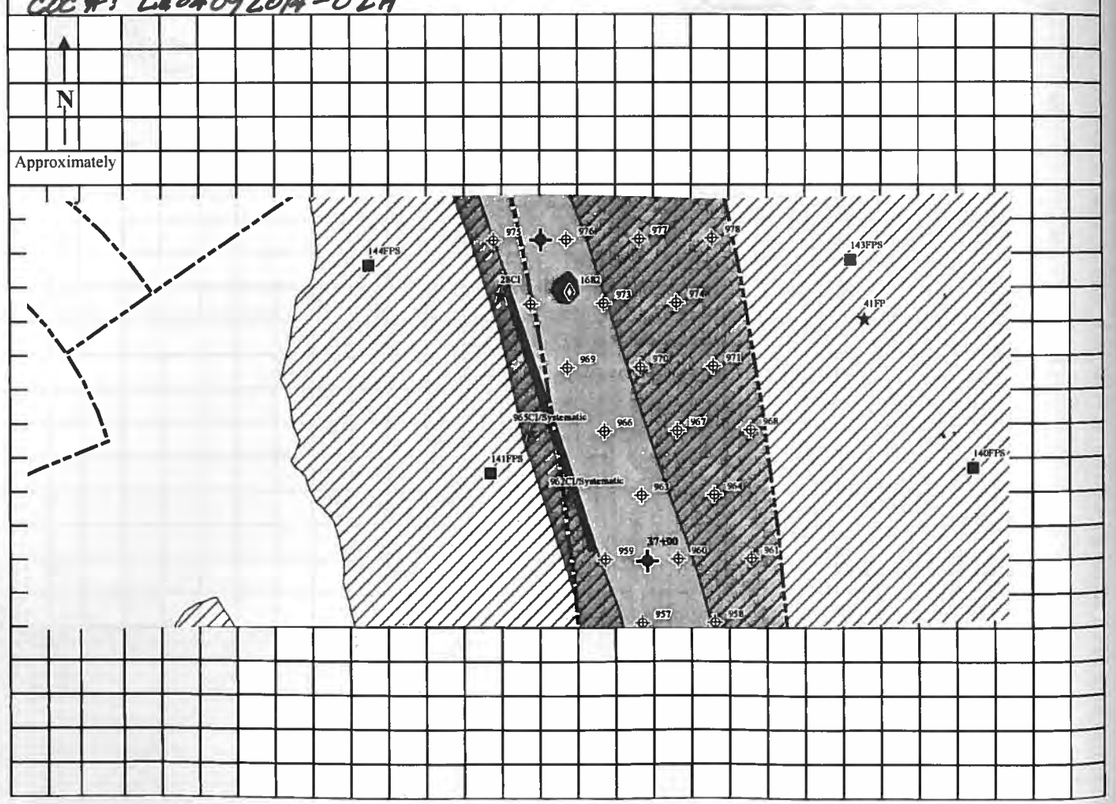
DISTRICT	St. Louis USACE
HOLE NUMBER	SVP162003
1. COMPANY NAME	Leidos
2. DRILL SUBCONTRACTOR	Leidos
SHEET	1 OF 2
3. PROJECT	Coldwater Creek
4. LOCATION	#978 (systematic among) soil
5. NAME OF DRILLER	Juan Alvarado/Antonio Martinez/Adam Queen
6. MANUFACTURERS DESIGNATION OF DRILL	N/A
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve
8. HOLE COORDINATES	GB 12-15-14 E 865155 N1074180.79
Meter - Background	
44-9 F - 41cpm	
44-10 I - 5964 cpm	
9. SURFACE ELEVATION	N/A
10. DATE STARTED	4/8/14
11. DATE COMPLETED	4/8/14
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	2.0 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	2	1 set of 2	1	N/A

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/~~bentonite~~ soil	N/A	N/A	Gary Neutzling

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LEO4092014-02H



Recorded By G. Neutzling Date 4/8/14 QA By Meyan Sherman Date 4/17/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP 162003 978

PROJECT Coldwater Creek — INSPECTOR G. Neutzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Silty CLAY, medium brown, trace v. fine sand low plasticity, moist – CL	57/6843	—	—	SVP162003 1509 Isotopic gamma spec	—	Collect QC/QA soil samples SVP162003-1 SVP162003-2
	0.5		57/6616	—	—	1511	—	
	1	Clayey SILT, medium brown to grayish brown, little v. fine sand, low plasticity, moist. – ML	68/6834	—	—	SVP162004 1513 Isotopic gamma spec	—	
	1.5		58/6701	—	—	Archive 1503 Isotopic gamma spec	—	
	2	Borehole terminated						soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neutzling Date 4/8/14 QA By Meyan Sherman Date 4/17/14

135

HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER: SVP162010
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos / SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: # 981
5. NAME OF DRILLER: Adam Queen / Antonio Martinez / 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	8. HOLE COORDINATES: QB 12-15-14 E 865163 N 1074244.07
Meter - Background: 44-9 F - 41 cpm; 44-10 I - 5964 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 4/8/14 / 11. DATE COMPLETED: 4/8/14
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	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

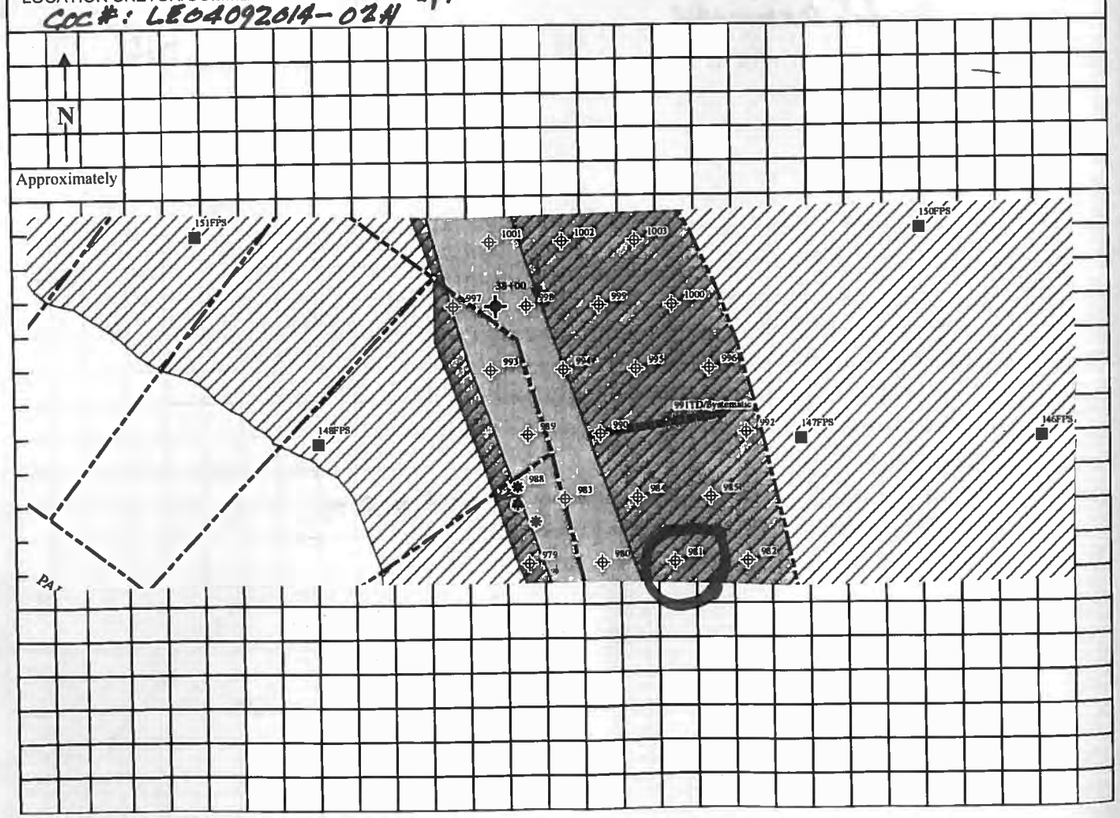
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N/A			N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY
N/A	N/A	N/A	2	0	1	N/A

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	~~w/bentonite~~	N/A	N/A	Gary Neustringer

LOCATION SKETCH/COMMENTS: Soil Dump 4/8/14
COC#: LE04092014-024

SCALE: None



Recorded By: G. Neustringer Date: 4/8/14 QA By: Meyan Sherman Date: 4/17/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: SVP162010 981

PROJECT: Coldwater Creek | INSPECTOR: G. Neustringer | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, med brown mottled by brown, little v. fine sand, low plasticity, very moist — ML	67 / 7094	—	—	SVP162010 1527 Iso Th Gamma Spec	—	Note: location is in natural drainage swale.
	0.5		55 / 6586	—	—	1530	—	slight rain
	1		60 / 7071	—	—	SVP162011 1533 Iso Th Gamma Spec	—	
	1.5		59 / 6965	—	—	~~Archive~~ 1524 Iso Th Gamma Spec	—	Archive submitted 4/8/14 SVP174310 9/20/15 RR
	2.0	Borehole terminated						Soil
	5							
	6							
	7							
	8							
	9							
	10							

Dump 4/8/14

Recorded By: G. Neustringer Date: 4/8/14 QA By: Meyan Sherman Date: 4/17/14

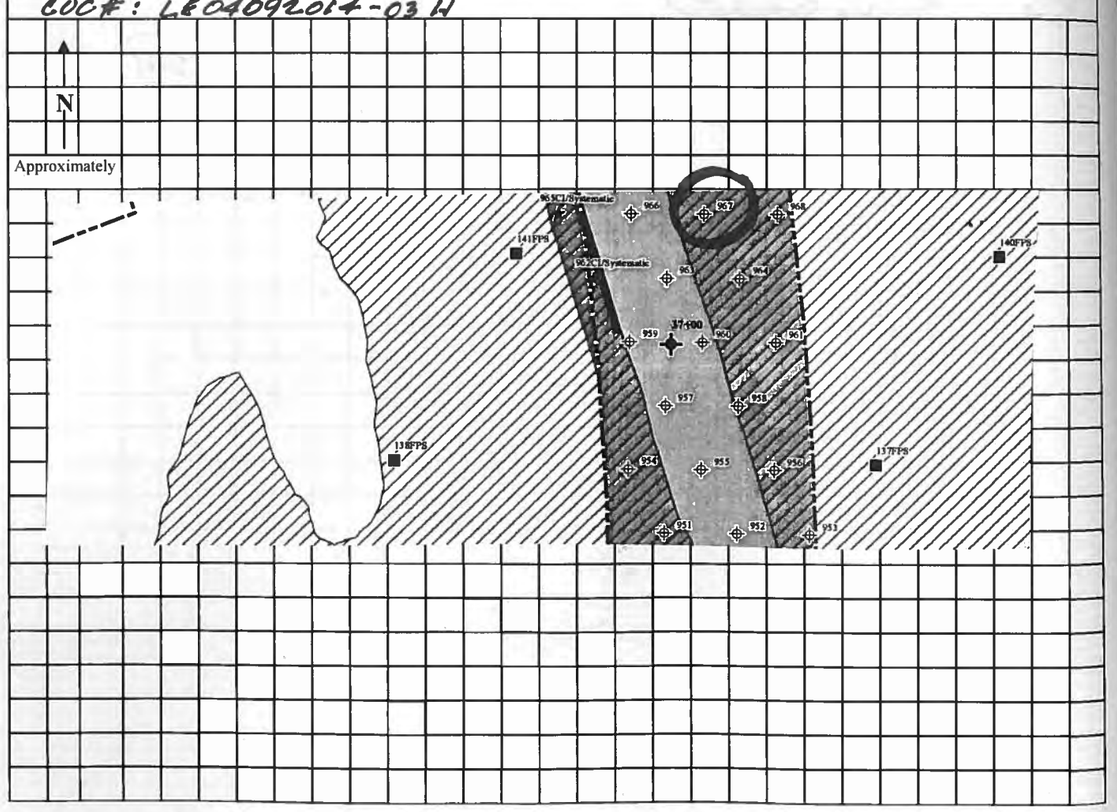
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP161983
1. COMPANY NAME Leidos	2. DRILL SUBCONTRACTOR Leidos / SHEET 1 OF 2
3. PROJECT Coldwater Creek	4. LOCATION #967 (systematic array) soil
5. NAME OF DRILLER Adam Queen/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	8. HOLE COORDINATES QB 12-15-14 E 865138.45 N 1074087.1
Meter - Background 44-9 L - 43 cpm 44-10 I - 8306 cpm	9. SURFACE ELEVATION N/A
	10. DATE STARTED 4/9/14 / 11. DATE COMPLETED 4/9/14
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	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		
Backfill using bentonite	w/~~bentonite~~ soil	N/A	N/A	Gary Neutzling		

LOCATION SKETCH/COMMENTS SCALE: None

COC#: LE04092014-03 H



Recorded By G. Neutzling Date 4/9/14 QA By Megan Sherman Date 4-17-14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP161983 967

PROJECT: Coldwater Creek | INSPECTOR: G. Neutzling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, medium grayish brown, little v. fine sand, low plasticity, moist — ML	55 / 8731	—	—	SVP161983 0830 Iso Th gamma spec	—	
	0.5		51 / 8521	—	—	0832	—	same
	1		52 / 8457	—	—	0834	—	
	1.5		79 / 8816	—	—	SVP161984 0828 Iso Th gamma spec	—	
	2	Borehole terminated						soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neutzling Date 4/9/14 QA By Megan Sherman Date 4/17/14

HTRW DRILLING LOG

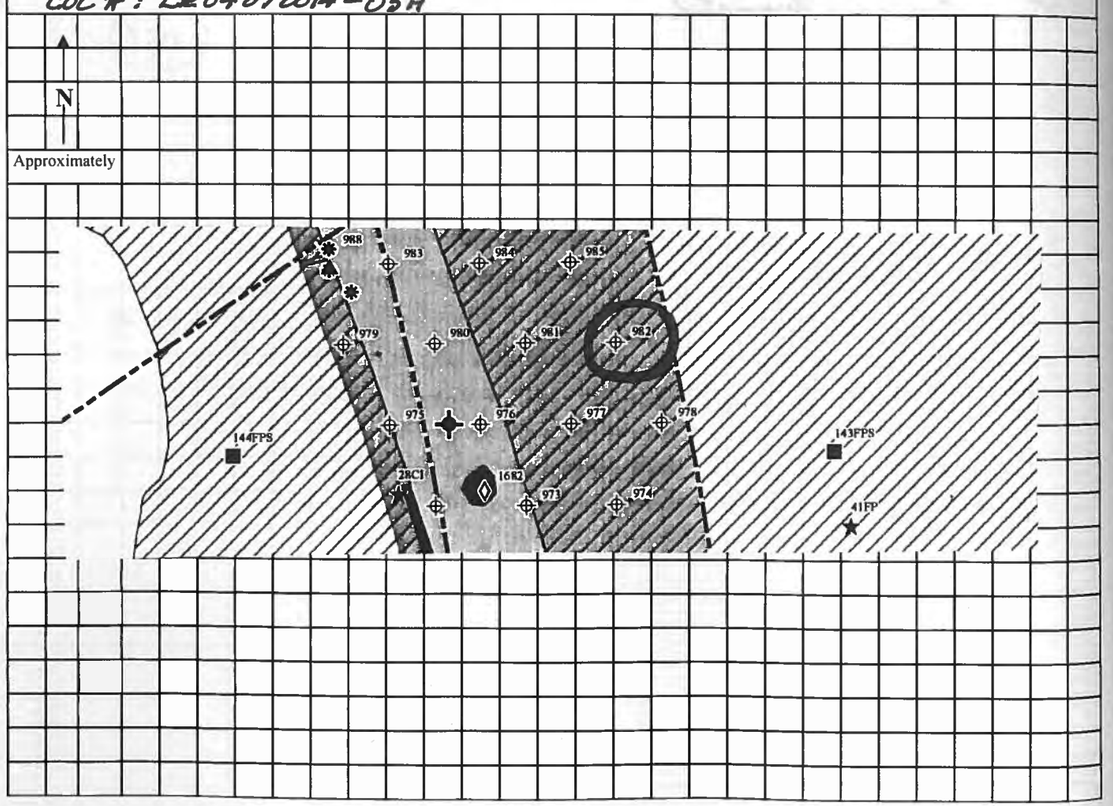
DISTRICT: St. Louis USACE		HOLE NUMBER SVP162012
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: # 982 (systematic array) soil	
5. NAME OF DRILLER: Adam Queen/ Antonio Martinez	6. MANUFACTURERS DESIGNATION OF DRILL: N/A	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve	8. HOLE COORDINATES: QB 12-15-14 E 865138.7 N 1074217	
Meter - Background 44-9 L - 43cpm 44-10 I - 8306 cpm	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 4/9/14	11. DATE COMPLETED: 4/9/14
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	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
Backfill using bentonite	w/~~bentonite~~	N/A	N/A	G. Neutzling

LOCATION SKETCH/COMMENTS: Soil GMM 4/9/14
COC #: LE04092014-03H

SCALE: None



Recorded By G. Neutzling Date 4/9/14 QA By Meyan Sherman Date 4/17/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP162012 982

PROJECT: Coldwater Creek — INSPECTOR: G. Neutzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, med, brown, little v. fine sand, low plasticity, moist - ML	70/8897	—	—	SVP162012 0937 Iso Th gamma spec	—	
	0.5		62/8901	—	—	0938	—	
	1		73/9032	—	—	0939	—	
	1.5		81/9134	—	—	SVP162013 0934 Iso Th gamma spec	—	
	2	Borehole terminated						Soil
	5							
	6							
	7							
	8							
	9							
	10							

GMM 4/9/14

Recorded By G. Neutzling Date 4/9/14 QA By Meyan Sherman Date 4/17/14

HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER: SVP 162017
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos
	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: # 985 (Systematic ammwg) soil
5. NAME OF DRILLER: Adam Queen / 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	8. HOLE COORDINATES: QB 12-15-14 E 8651283 N 1074242.36
Meter - Background 44-9 L - 43 cpm 44-10 I - 8306 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 4/9/14 — 11. DATE COMPLETED: 4/9/14
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	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N/A			N/A

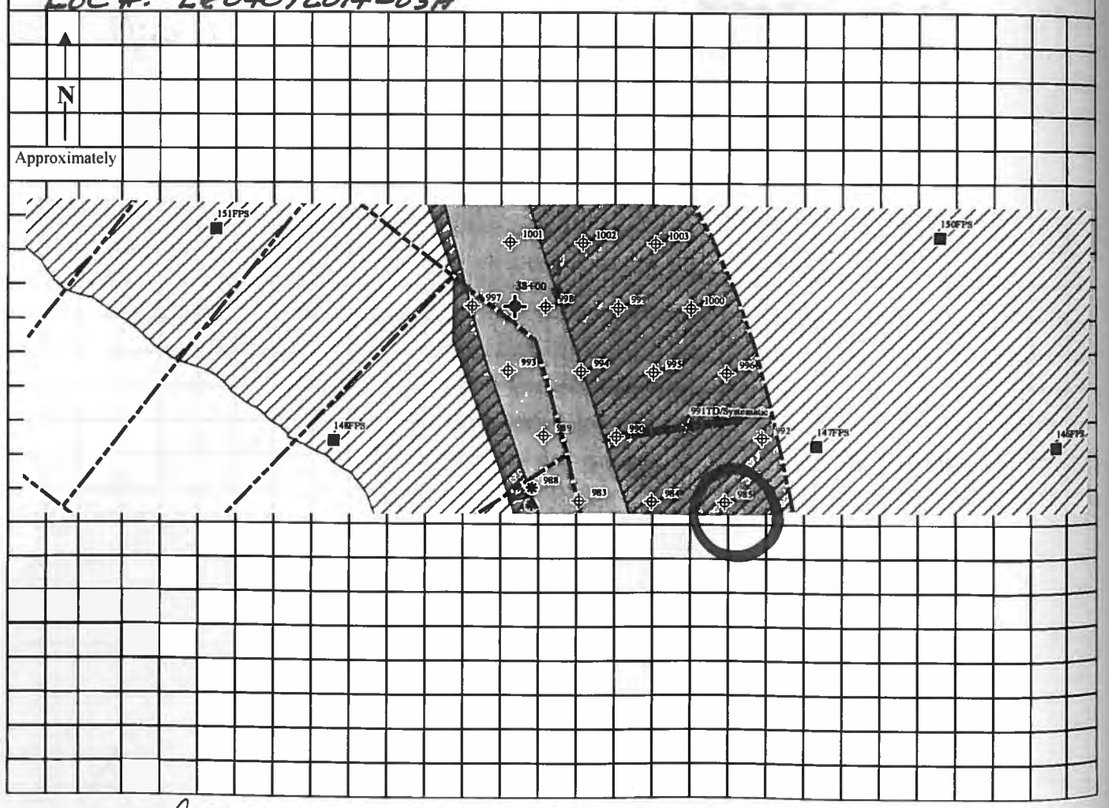
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A	N/A	N/A	2	0	0	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite	N/A	N/A	G. Neustling

LOCATION SKETCH/COMMENTS — SCALE: None

Soil 4/9/14

COC #: LE04092014-03H



Recorded By: G. Neustling — Date: 4/9/14 — QA By: Meyan Sherman — Date: 4/17/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: SVP 162017 985

PROJECT: Coldwater Creek — INSPECTOR: G. Neustling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, med brown, little v. fine sand, low plasticity, moist — ML	60 / 8764	—	—	SVP162017 0950 Iso Th gamma spec	—	
	0.5		62 / 8847	—	—	0952	—	Same
	1		59 / 8721	—	—	0954	—	
	1.5		61 / 8628	—	—	SVP162018 0956 Iso Th gamma spec	—	
	2.	Borehole terminated						Soil
	5							
	6							
	7							
	8							
	9							
	10							

GMN 4/9/14

Recorded By: G. Neustling — Date: 4/9/14 — QA By: Meyan Sherman — Date: 4/17/14

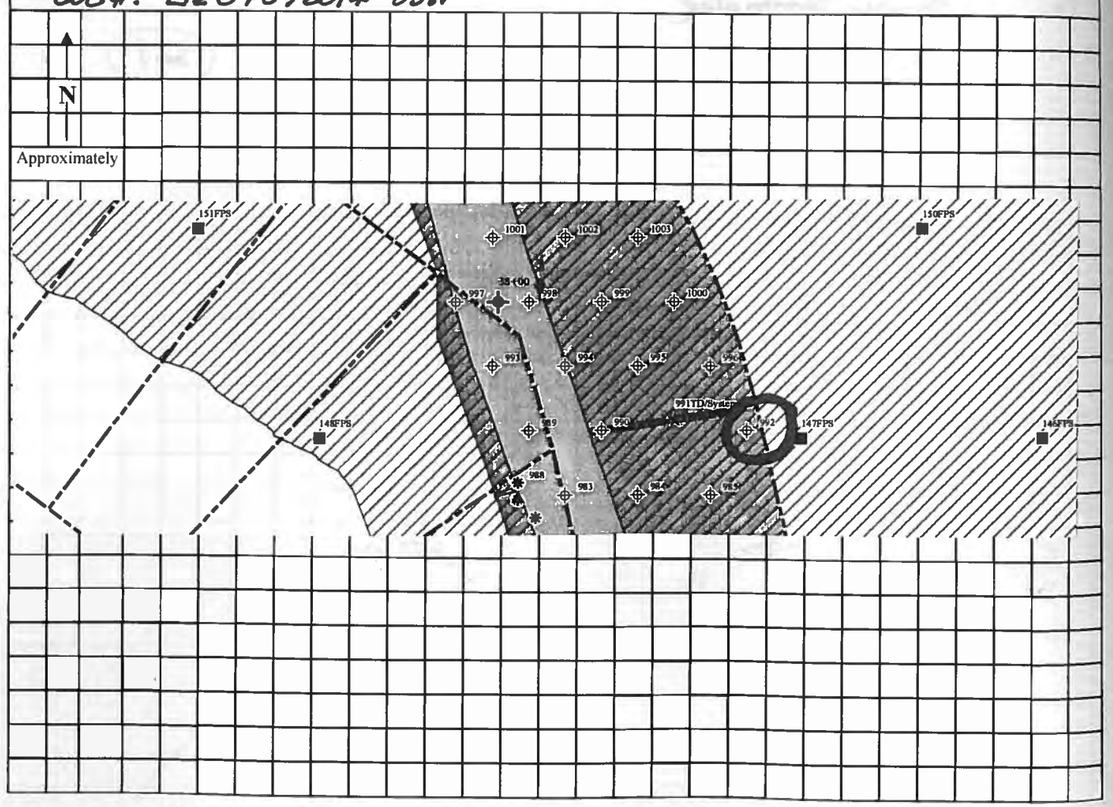
HTRW DRILLING LOG

DISTRICT St. Louis USACE	HOLE NUMBER SVP 162032	
1. COMPANY NAME: Leidos	2 DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4 LOCATION # 992 (systematic annwg) soil	
5. NAME OF DRILLER: Adam Queen/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	8 HOLE COORDINATES E 865138 N1074273	
Meter - Background 44-9 L - 43 cpm 44-10 I - 8306 cpm	9 SURFACE ELEVATION N/A	
	10 DATE STARTED: 4/9/14	11. DATE COMPLETED 4/9/14
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	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	1 set of 2	1	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/~~bentonite~~ soil GMW 4/9/14	N/A	N/A	Gary Neutzling		

LOCATION SKETCH/COMMENTS
COC#: LE04092014-03H

SCALE: None



Recorded By G. Neutzling Date 4/9/14 QA By Meyan Sherman Date 4/17/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP 162032 992

PROJECT Coldwater Creek | INSPECTOR G. Neutzling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, med brown, little v. fine sandy low plasticity, moist - ML	63/8776	—	—	SVP162032 1006 ~~Iso Th Gamma Spec~~	—	Collect QC/Arj Soil Samples SVP162032-1 SVP162032-2
	1 0.5	GMW 4/9/14	87/8768			SVP162033 1007 ~~Iso Th Gamma Spec~~		
	2 1		60/8617			1009		
	3 1.5		66/8638			Archive 1011 ~~Iso Th Gamma Spec~~		
	4 2.0	Borehole terminated						soil
	5							
	6							
	7							
	8							
	9							
	10							

GMW 4/9/14

Recorded By G. Neutzling Date 4/9/14 QA By Meyan Sherman Date 4/17/14

49

HTRW DRILLING LOG

DISTRICT St. Louis USACE	HOLE NUMBER SVP 162030
1. COMPANY NAME Leidos	2. DRILL SUBCONTRACTOR Leidos — SHEET 1 OF 2
3. PROJECT Coldwater Creek	4. LOCATION # 991 (Biased TD/Systematic coverage)
5. NAME OF DRILLER Todd Keeton/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	8. HOLE COORDINATES E865103 N1074279
Meter - Background 44-9 L - 422 cpm 44-10 I - 8358 cpm	9. SURFACE ELEVATION N/A
	10. DATE STARTED 4/9/14 — 11. DATE COMPLETED 4/9/14
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

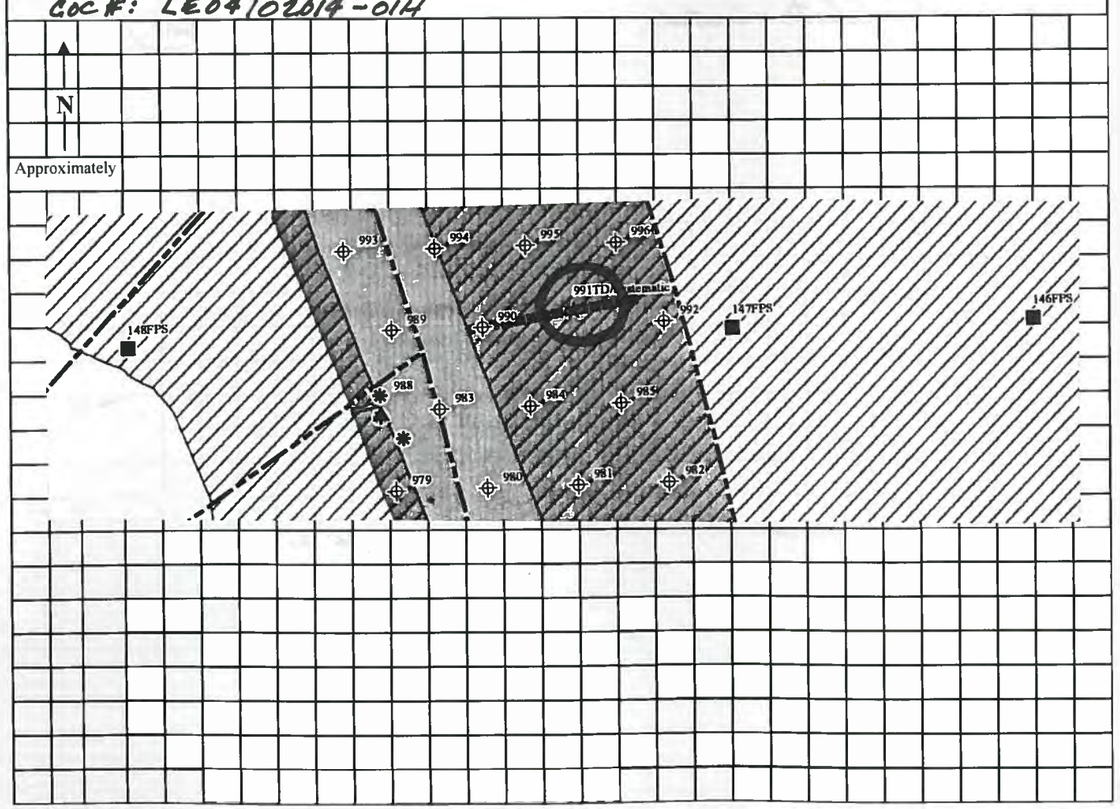
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N/A			N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY
N/A	N/A	N/A	0 2	1 set of 2	1	N/A

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	~~w/bentonite~~ Soil	N/A	N/A	Gary Neutzling

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE04102014-01H



Recorded By G. Neutzling Date 4/9/14 QA By _____ Date _____

51

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP 162030 991

PROJECT Coldwater Creek — INSPECTOR: GN — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, med brown, little v. fine sand, low plasticity, moist - ML	54/8779	—	—	SVP162030 1304 Isotopic gamma spec	—	Listed as TD but not suspect TD is location 991 Collect QC/QA soil samples SVP162030-1 SVP162030-2
	0.5		70/8547	—	—	SVP162031 1306 Isotopic gamma spec	—	Same
	1		61/8744	—	—	1307	—	
	1.5		67/8614	—	—	~~Archive~~ 1303 Isotopic gamma spec	—	Archive Submitted 4/9/14 SVP174764 3/24/15 RR
	2	Borehole Terminated						Soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neutzling Date 4/9/14 QA By Meyanni Sherman Date 4/17/14

51

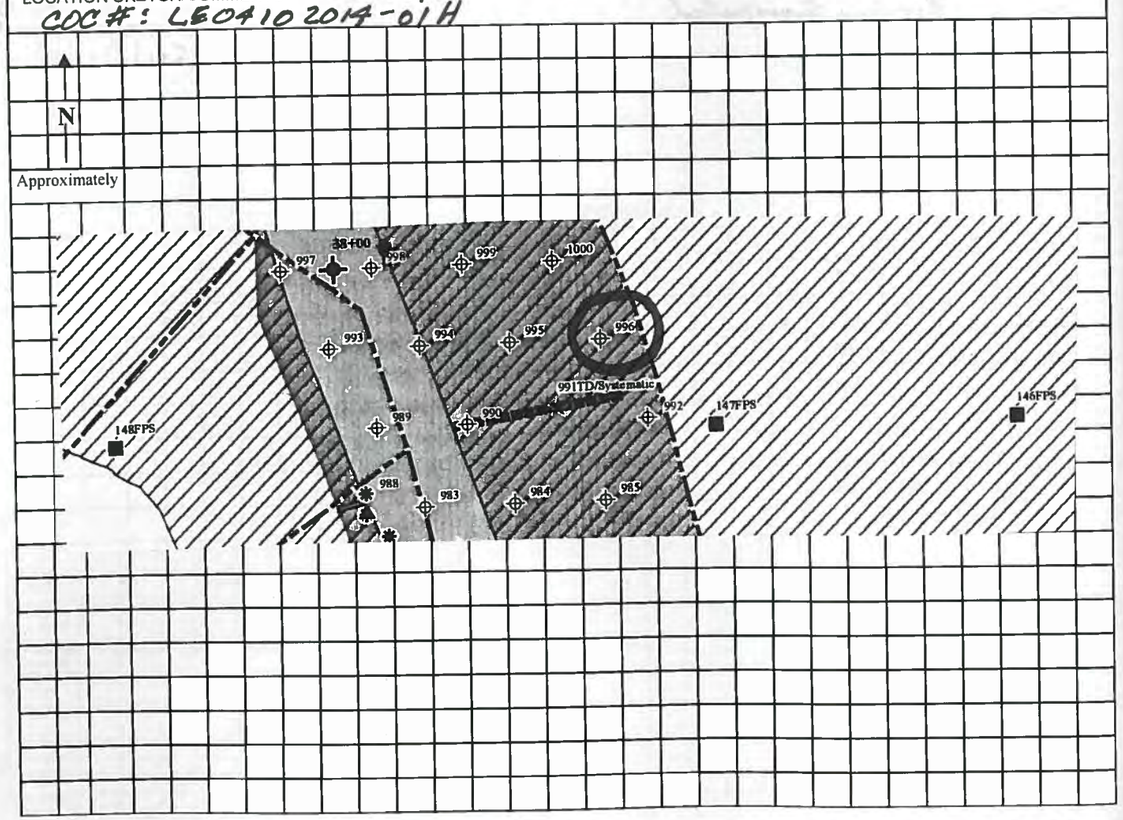
HTRW DRILLING LOG

DISTRICT	St. Louis USACE
HOLE NUMBER	SVP 162038
SHEET	1 OF 2
1. COMPANY NAME	Leidos
2. DRILL SUBCONTRACTOR	Leidos
3. PROJECT	Coldwater Creek
4. LOCATION	# 996 (systematic among) soil
5. NAME OF DRILLER	Todd Keeton/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
8. HOLE COORDINATES	E 865120 N1074304
Meter - Background	44-9 L - 42 cpm; 44-10 I - 8358 cpm
9. SURFACE ELEVATION	N/A
10. DATE STARTED	4/9/14
11. DATE COMPLETED	4/9/14
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~~ Soil
MONITORING WELL	N/A
OTHER (SPECIFY)	N/A
23. SIGNATURE OF INSPECTOR	G. Neustling 4/9/14

LOCATION SKETCH/COMMENTS

COC#: LE0410 2014-01H

SCALE: None



Recorded By G. Neustling Date 4/9/14 QA By Megan Sherman Date 4/17/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 996 SVP 162038

PROJECT: Coldwater Creek | INSPECTOR: G. Neustling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, med brown, little v. fine sand, low plasticity	61 / 8751	—	—	SVP162038 1315 Iso Th gamma spec	—	
	0.5		77 / 8488	—	—	SVP162039 1316 Iso Th gamma spec	—	
	1		61 / 8645	—	—	1317	—	
	1.5		63 / 8783	—	—	~~Archive~~ 1318 Iso Th gamma spec	—	Archive Submitted 4/9/14 SVP174765 3/24/15 RR
	2	Borehole terminated						Soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neustling Date 4/9/14 QA By Megan Sherman Date 4/17/14

53

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	4. LOCATION: # 995 (systematic array) Soil	
5. NAME OF DRILLER: Todd Keeton/Antonio Mart	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	8. HOLE COORDINATES: E 865085 N1074304	
Meter - Background	9. SURFACE ELEVATION: N/A	
44-9 L - 42 cpm		
44-10 I - ~~8358~~ cpm MS 4/9/14 8358	10. DATE STARTED: 4/9/14	11. DATE COMPLETED: 4/9/14
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	

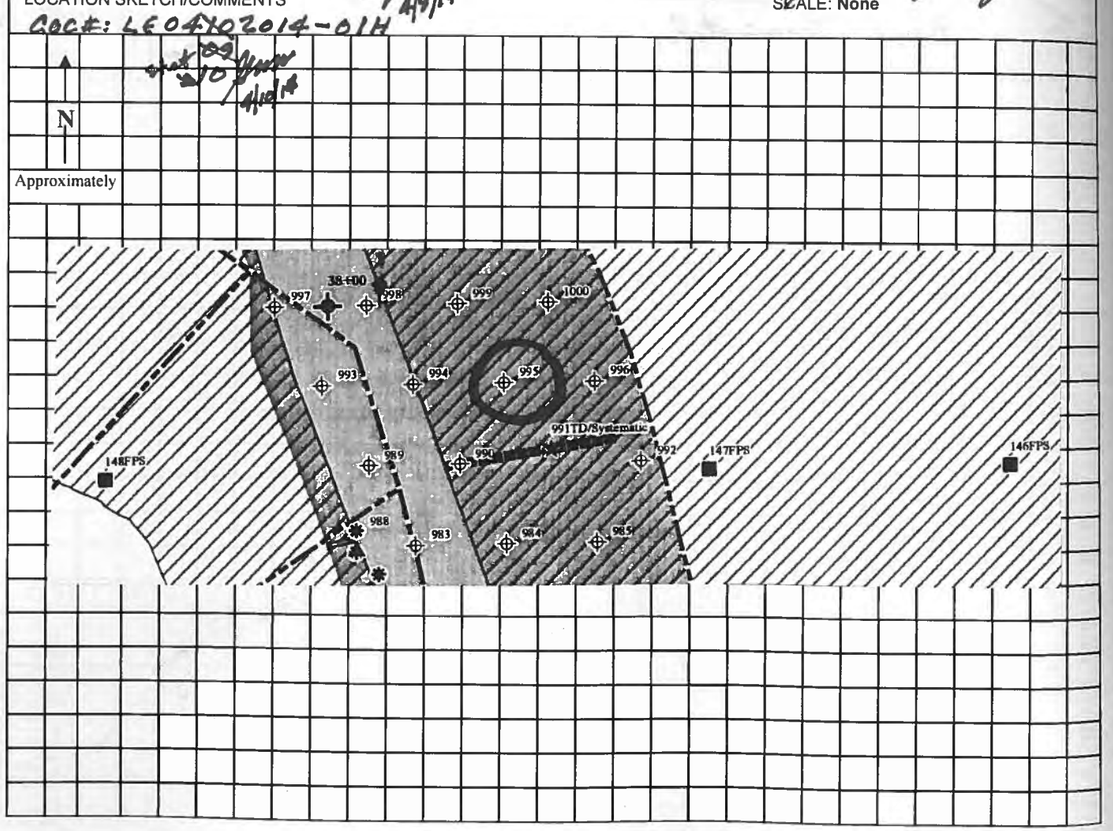
18. GEOTECHNICAL SAMPLES: N/A — DISTURBED: — UNDISTURBED: — 19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	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
Backfill using bentonite	w/~~bentonite~~ Soil Gamma 4/9/14	N/A	N/A	Gary Neutzling

LOCATION SKETCH/COMMENTS — SCALE: None

COC#: LE04402014-01H



Recorded By G. Neutzling Date 4/9/14 QA By Megan Sherman Date 4/17/14

54

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: SVP162036 995

PROJECT: Coldwater Creek — INSPECTOR: G. Neutzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, med brown, little v. fine sand, low plasticity, moist – ML	60/8495	—	—	SVP162036 1330 Iso Th gamma spec	—	
	0.5		58/8631	—	—	1331	—	
	1	Silty CLAY, med brown, trace sand, low plasticity, moist – CL	46/8603	—	—	1332	—	
	1.5		61/8729	—	—	SVP162037 1333 Iso Th gamma spec	—	
	2	Borehole terminated						Soil
	5							
	6							
	7							
	8							
	9							
	10							

Gamma 4/9/14

Recorded By G. Neutzling Date 4/9/14 QA By Megan Sherman Date 4/17/14

HTRW DRILLING LOG

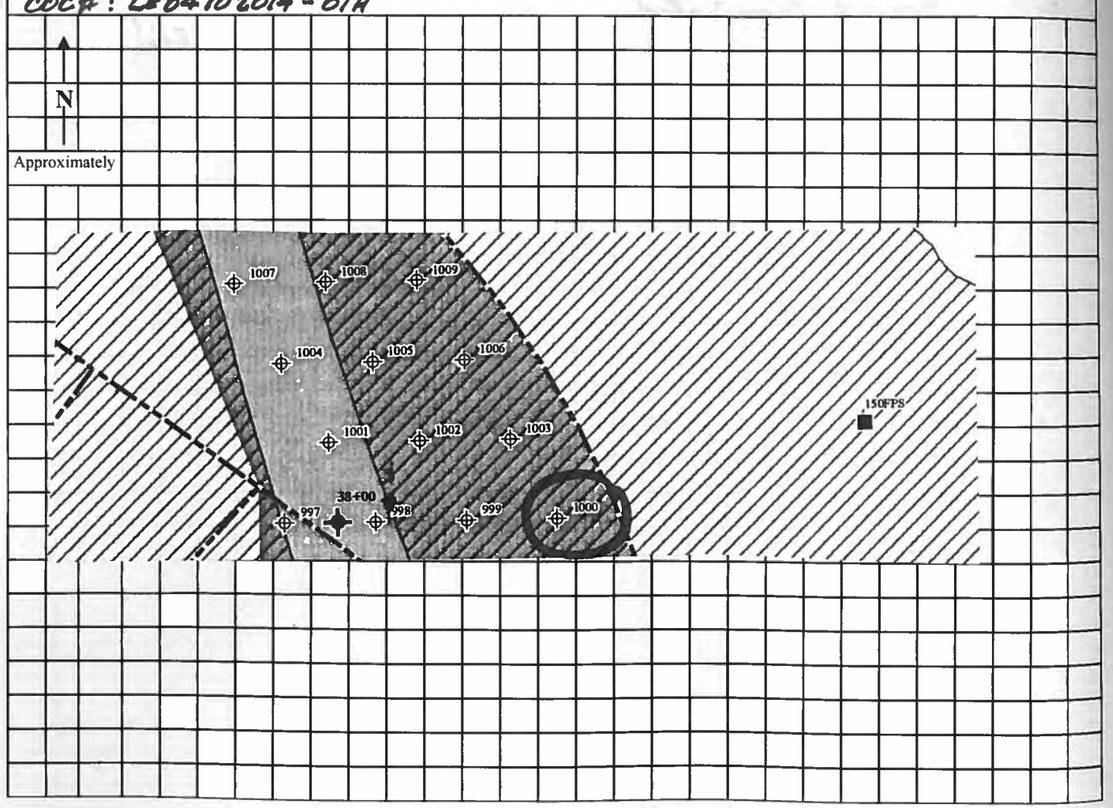
DISTRICT	St. Louis USACE
HOLE NUMBER	SVP 162046
1. COMPANY NAME:	Leidos
2. DRILL SUBCONTRACTOR	Leidos
SHEET	1 OF 2
3. PROJECT:	Coldwater Creek
4. LOCATION	# 1000 (systematic array) soil
5. NAME OF DRILLER:	Todd Keeton / Antonio Martinez
6. MANUFACTURERS DESIGNATION OF DRILL	N/A
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve
8. HOLE COORDINATES	E 865103 N 1074335
Meter - Background	
44-9 L - 42 cpm	
44-10 I - 8358 cpm	
9. SURFACE ELEVATION	N/A
10. DATE STARTED:	4/9/14
11. DATE COMPLETED	4/9/14
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	20 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	2	0	1	N/A

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neustzling

LOCATION SKETCH/COMMENTS soil 4/9/14
COC#: LE04102014-01H

SCALE: None



Recorded By G. Neustzling Date 4/9/14 QA By Megan Sherman Date 4/17/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1000
SVP 162046

PROJECT Coldwater Creek | INSPECTOR G. Neustzling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey Silt, medium brown, little v. fine sand, low plasticity, moist — ML	62 / 8620	—	—	SVP162046 1341 IsoTh gamma spec	—	
	0.5		73 / 8578	—	—	SVP162047 1342 IsoTh gamma spec	—	Same
	1		50 / 8398	—	—	1344	—	
	1.5		68 / 8637	—	—	Archive 1345 IsoTh Gamma spec	—	
	2	Borehole terminated						Soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neustzling Date 4/9/14 QA By Megan Sherman Date 4/17/14

HTRW DRILLING LOG

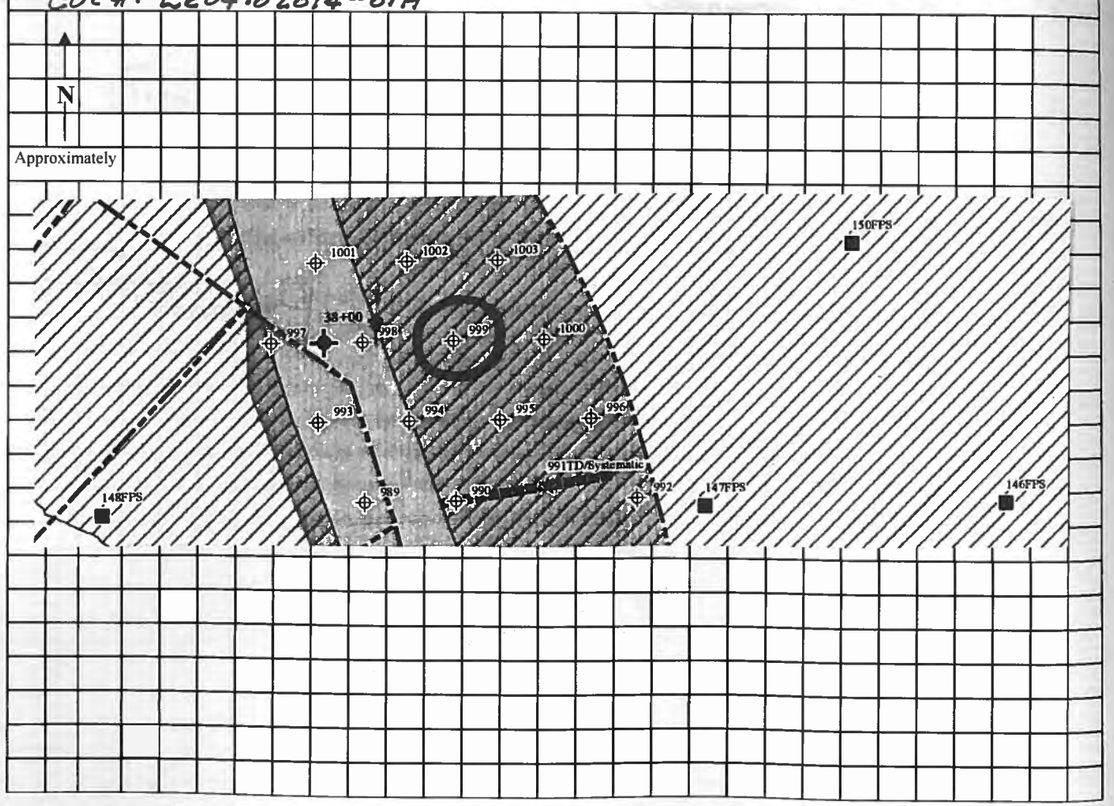
DISTRICT: St. Louis USACE	HOLE NUMBER: SVP
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos / SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: #999 (systematic amwg) sd
5. NAME OF DRILLER: Todd Keeton/Antonio Martinez	6. MANUFACTURERS DESIGNATION OF DRILL: N/A
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Stainless Steel (ss) bowl, ss trowel, with ss hand auger 3in ID or ss sediment sampler with plastic sleeve	8. HOLE COORDINATES: QB 12-15-14 E 8650683 N 1074335
Meter - Background 44-9 L - 42 cpm 44-10 I - 8358 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 4/9/14 / 11. DATE COMPLETED: 4/9/14
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: 6.0 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	4	0	1	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite ✓	N/A	N/A	Gary Neustzling

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE04102014-01H



Recorded By G. Neustzling Date 4/9/14 QA By Megan Sherman Date 4/17/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: SVP 162042 999

PROJECT: Coldwater Creek — INSPECTOR: G. Neustzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, medium brown, little v. fine sand, low plasticity, moist — ML	74/8669	—	—	SVP162042 1418 IsoTh & gamma spec	—	
			74/8638	—	—	SVP162043 1419 IsoTh & gamma spec	—	
	1		67/8513	—	—	1421	—	
			70/8634	—	—	1422	—	
	2		57/8625	—	—	1428	—	
		Silty CLAY, medium brown, trace v. fine sand, moderately plastic, moist — CL	59/8615	—	—	1430	—	LL mid to upper 40's
	3		63/8811	—	—	1431	—	
			64/8909	—	—	SVP162044 1433 IsoTh	—	
	4		54/8806	—	—	1438	—	
			61/8557	—	—	1439	—	
	5		71/8826	—	—	SVP162045 1440 IsoTh & gamma spec	—	
			67/8786	—	—	Archive 1441 IsoTh & gamma spec.	—	
	6.0	Borehole terminated						(soil)
	7							
	8							
	9							
	10							

G. Neustzling 4/9/14

Recorded By G. Neustzling Date 4/9/14 QA By Megan Sherman Date 4/17/14

HTRW DRILLING LOG

DISTRICT St. Louis USACE	HOLE NUMBER SVP 162051
1. COMPANY NAME Leidos	2. DRILL SUBCONTRACTOR Leidos — SHEET 1 OF 2
3. PROJECT Coldwater Creek	4. LOCATION # 1003 (systematic among) soil
5. NAME OF DRILLER Todd Keeton / 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	8. HOLE COORDINATES E 865085 N1074366
Meter - Background: 44-9 L - 42 cpm; 44-10 I - 8358 cpm	9. SURFACE ELEVATION N/A
	10. DATE STARTED 4/9/14 — 11. DATE COMPLETED 4/9/14
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

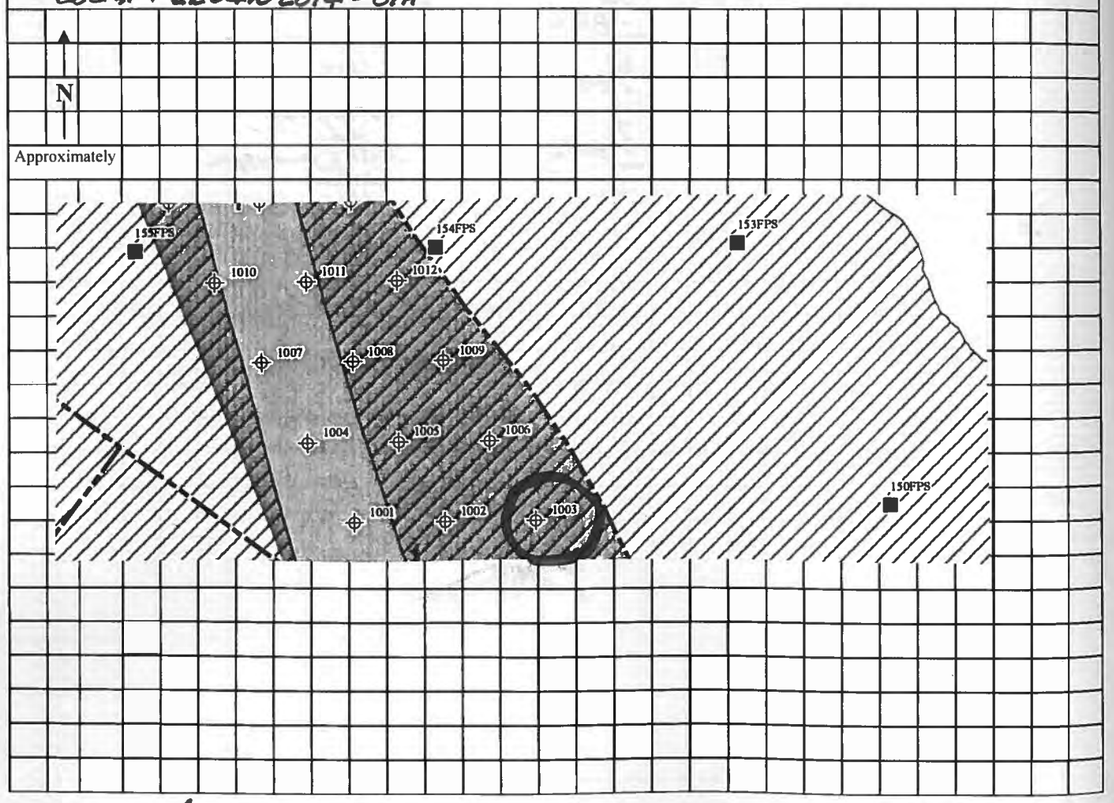
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N/A			N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY
N/A	N/A	N/A	2	0	1	N/A

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neutzling

LOCATION SKETCH/COMMENTS Soil GMN 4/9/14
COC #: LE04102014-01H

SCALE: None



Recorded By G. Neutzling Date 4/9/14 QA By Megan Sherman Date 4/17/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1003 SVP 162051

PROJECT Coldwater Creek — INSPECTOR G. Neutzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, med brown, little v. fine sandy low plasticity, moist - ML	60 / 8880	—	—	SVP162051 1449 Isotopic gamma spec	—	
GMN 4/9/14	0.5		73 / 8678	—	—	SVP162052 1450 Isotopic gamma spec	—	
	1		52 / 8622	—	—	1451	—	
	1.5		54 / 8921	—	—	Archive 1452 Isotopic gamma spec	—	
	2	Borehole terminated						soil
	5							
	6							
	7							
	8							
	9							
	10							

GMN 4/9/14

Recorded By G. Neutzling Date 4/9/14 QA By Megan Sherman Date 4/17/14

61

HTRW DRILLING LOG

DISTRICT	St. Louis USACE
HOLE NUMBER	SVP162056
1. COMPANY NAME	Leidos
2. DRILL SUBCONTRACTOR	Leidos
SHEET	1 OF 2
3. PROJECT	Coldwater Creek
4. LOCATION	# 1006 (systematic among) soil
5. NAME OF DRILLER	Todd Keeton/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
8. HOLE COORDINATES	E 865068 N1074397
Meter - Background	
44-9 L - 42cpm	
44-10 I - 8358cpm	
9. SURFACE ELEVATION	N/A
10. DATE STARTED	4/9/14
11. DATE COMPLETED	4/9/14
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	6.0 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

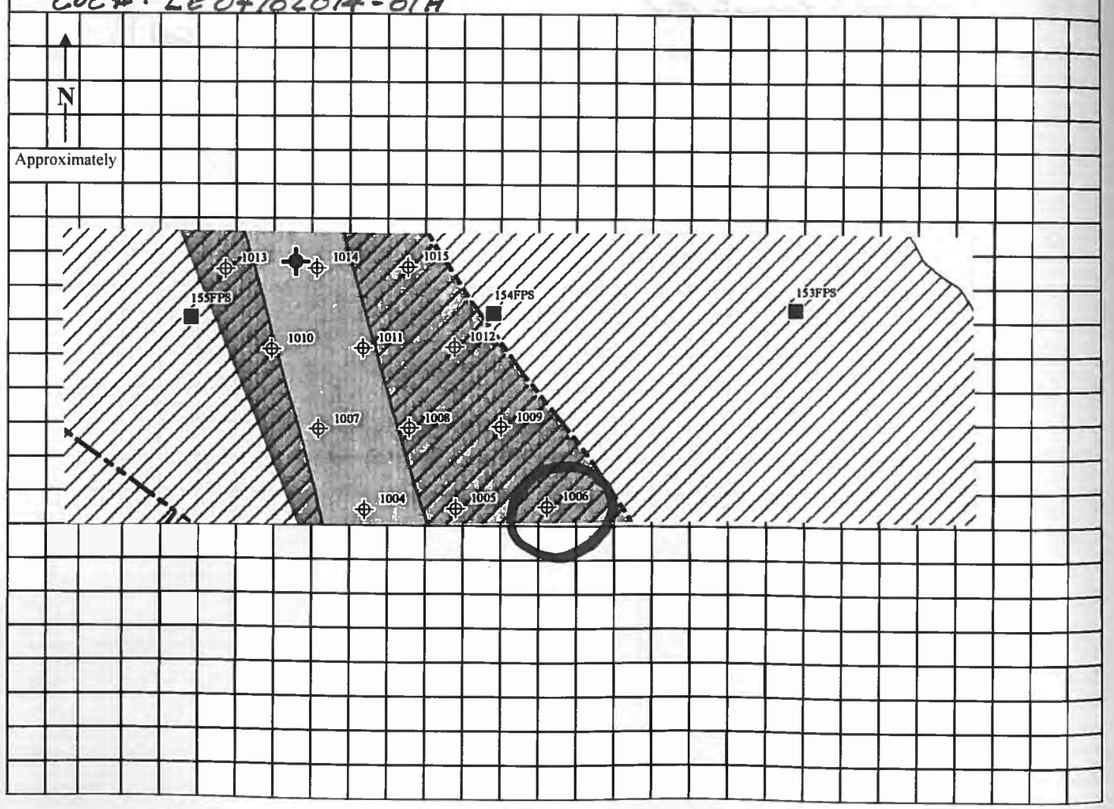
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY
N/A	N/A	N/A	4	1 set of 2	1	N/A

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite ✓	N/A	N/A	Gary Neutzling

LOCATION SKETCH/COMMENTS

COC#: LE04102014-01H

SCALE: None



Recorded By G. Neutzling Date 4/9/14 QA By Megan Shuman Date 4/17/14

68

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER	1006 SVP162056
PROJECT	Coldwater Creek
INSPECTOR	G. Neutzling
SHEET	2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, med brown, little v. fine sand, low plasticity, moist — ML	63/8742	—	—	SVP162056 1457 Isotopic/gamma spec	—	Collect QC/QA soil samples SVP 162056-1 SVP 162056-2
	1		50/8472	—	—	1458	—	
			63/8403	—	—	1459	—	
			67/8572	—	—	SVP162057 1500 Isotopic/gamma spec	—	
	2.0	Silty CLAY, med brown, trace v. fine sand, moderate plasticity, moist - CL	66/8482	—	—	1505	—	
	3		72/8613	—	—	1507	—	
			73/8583	—	—	1508	—	
	4		96/8682	—	—	SVP162058 1511 Isotopic/gamma spec	—	2x
			70/8544	—	—	1518	—	
	5		84/8886	—	—	1521	—	2x
			87/8768	—	—	SVP162059 1522	—	2x
	6.0		59/8816	—	—	Archive 1519 Isotopic/gamma spec	—	
		Borehole terminated						soil
	7							
	8							
	9							
	10							

Gmm 4/9/14

Recorded By G. Neutzling Date 4/9/14 QA By Megan Shuman Date 4/17/14

63

HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER: SVP 162063
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos
	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: # 1009 (systematic array) soil
5. NAME OF DRILLER: ~~Alex Dostal~~ David Gruyaert / Juan Alvarado / Rick Whitney	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	8. HOLE COORDINATES: QB12-15-14 E 8650502 N 1074428.19
Meter - Background: 44-9 F - 45 cpm; 44-10 I - 8367 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 4/10/14 — 11. DATE COMPLETED: 4/10/~~14~~ 4/17/14
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

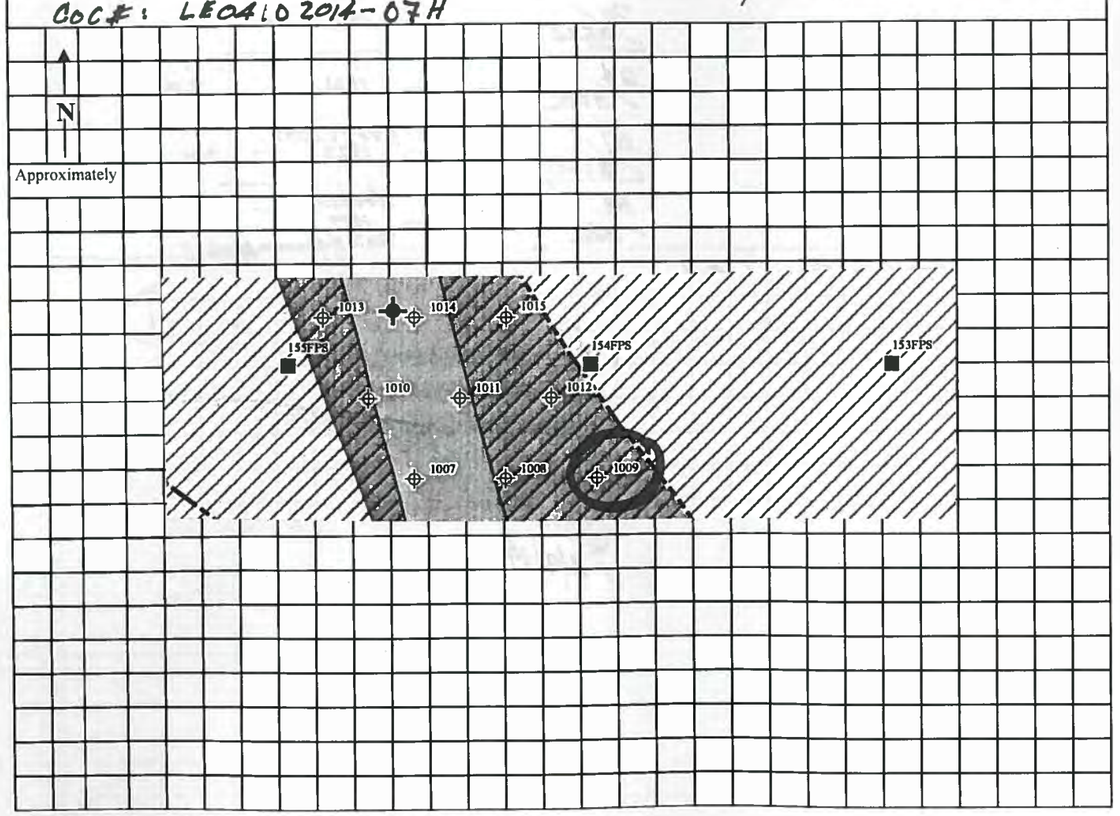
18. GEOTECHNICAL SAMPLES: N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	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
Backfill using bentonite	w/~~bentonite~~ soil	N/A	N/A	Gary Neustlenz

LOCATION SKETCH/COMMENTS: soil 4/17/14
COC#: LE0410 2014-07H

SCALE: None



Recorded By G. Neustlenz Date 4/10/14 QA By Megan Sherman Date 4/17/14

64

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: 1009 SVP 162063

PROJECT: Coldwater Creek — INSPECTOR: G. Neustlenz — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, medium brown, little v. fine sand, low plasticity, moist. — ML	86 / 8542	—	—	SVP162063 0742 Iso Gamma Spec	—	
	0.5		66 / 8644	—	—	0744	—	
	1		69 / 8428	—	—	0747	—	
	1.5		75 / 8648	—	—	~~SVP162063~~ SVP162063 0749 Iso Gamma Spec	—	
	2.0	Borehole terminated						soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neustlenz Date 4/10/14 QA By Megan Sherman Date 4/17/14

HTRW DRILLING LOG

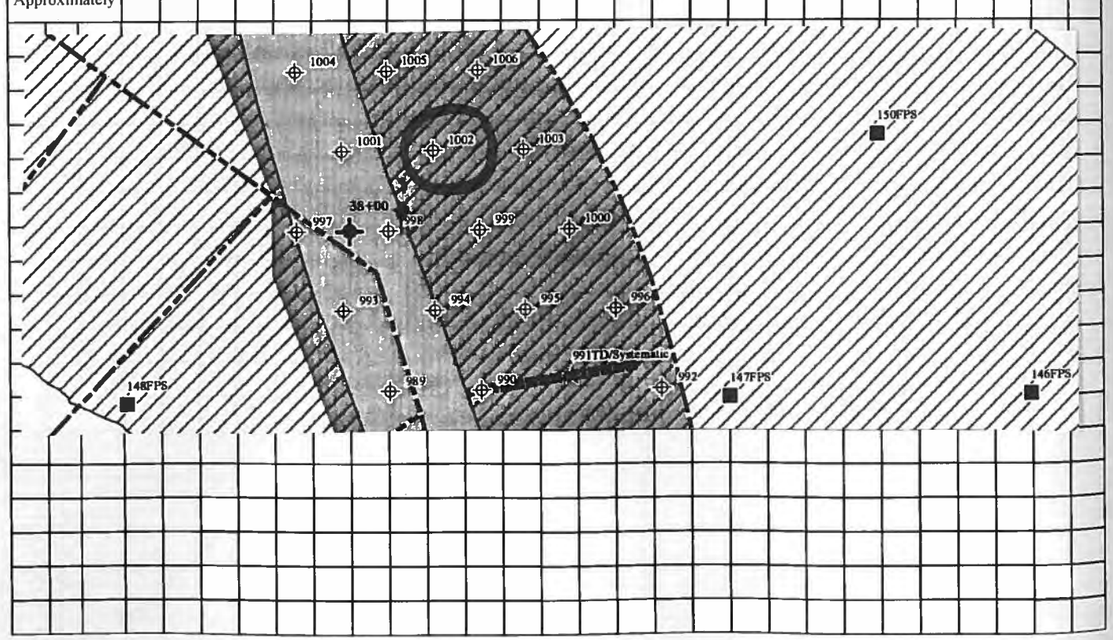
DISTRICT	St. Louis USACE
HOLE NUMBER	SVP 162049
1. COMPANY NAME:	Leidos
2. DRILL SUBCONTRACTOR:	Leidos
SHEET	1 OF 2
3. PROJECT:	Coldwater Creek
4. LOCATION	# 1002 (systematic array) soil
5. NAME OF DRILLER:	David Guyan/Juan Alvarado/Rick Whitney
6. MANUFACTURERS DESIGNATION OF DRILL:	N/A
7. SIZES AND 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
8. HOLE COORDINATES	E 865050 N1074366
Meter - Background	
44-9 F - 45 cpm	
44-10 I - 8367 cpm	
9. SURFACE ELEVATION:	N/A
10. DATE STARTED	4/10/14
11. DATE COMPLETED	4/10/14
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	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY:
N/A	N/A	N/A	2	0	0	N/A

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/~~bentonite~~	N/A	N/A	Gary Neutzling

LOCATION SKETCH/COMMENTS Soil 4/10/14 SCALE: None

COC #: LE 04102014-07H



Recorded By G. Neutzling Date 4/10/14 QA By Megan Shumer Date 4/17/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1002 SVP 162049

PROJECT Coldwater Creek | INSPECTOR G. Neutzling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, med brown, little v. fine sand, low plasticity, moist – ML	71/8318	—	—	SVP162049 0810 Iso Th gamma spec	—	
	0.5	Silty CLAY, medium brown, trace v. fine sand, moderate plasticity, moist – CL	54/8427	—	—	0811	—	LL mid to upper 40s
	1.0		57/8531	—	—	0812	—	
	1.5		68/8621	—	—	SVP162050 0813 Iso Th gamma spec	—	
	2.0	Borehole terminated						soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neutzling Date 4/10/14 QA By Megan Shumer Date 4/17/14

HTRW DRILLING LOG

DISTRICT St. Louis USACE		HOLE NUMBER SVP162068
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION # 1012 (systematic array) soil	
5. NAME OF DRILLER: David Guyan/Juan Alvarado/Rick Whitney	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	8. HOLE COORDINATES: QS 12-15-14 E 8650337 N 1074459.4	
Meter - Background 44-9 E - 45 cpm 44-10 I - 8367 cpm	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 4/10/14	11. DATE COMPLETED: 4/10/14
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	

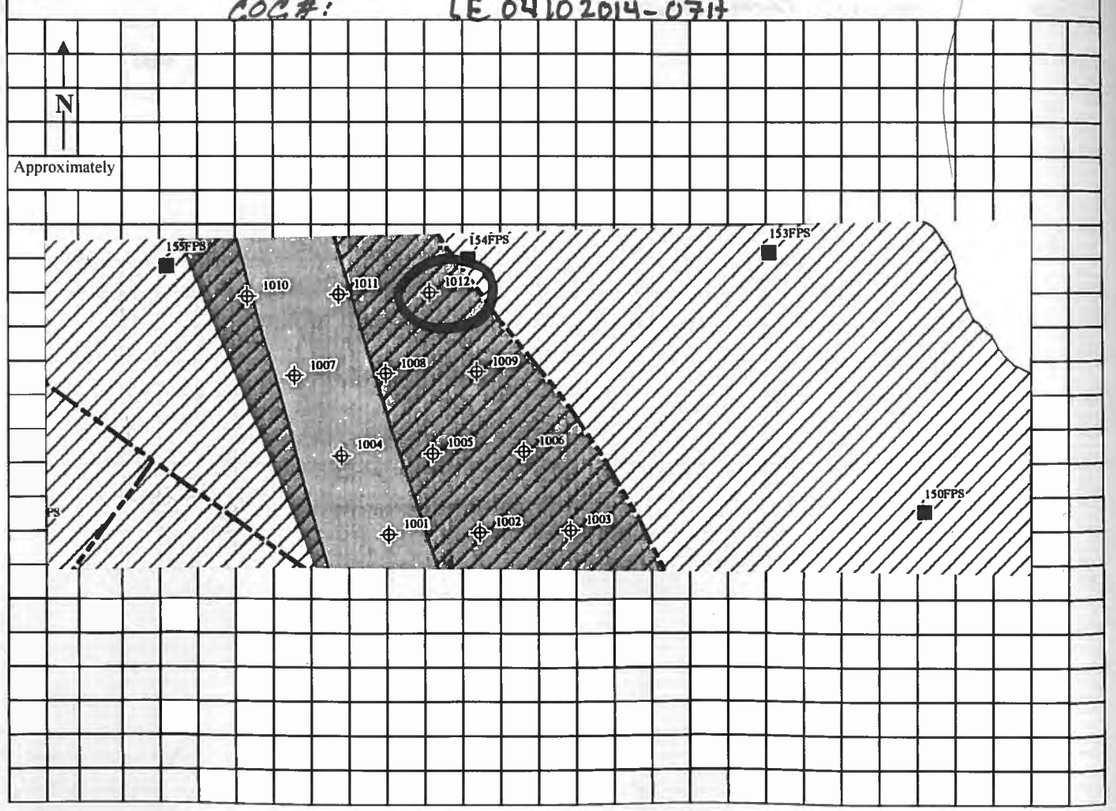
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A
N/A			

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	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/~~bentonite~~ soil Gary 4/10/14	N/A	N/A	Gary Neustling

LOCATION SKETCH/COMMENTS COC#: LE 04102014-0717

SCALE: None



Recorded By G. Neustling Date 4/10/14 QA By Megan Sherman Date 4/17/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1012 SVP 162068

PROJECT: Coldwater Creek | INSPECTOR: G. Neustling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, med brown, little v. fine sand, low plasticity, moist – ML	66/8527	—	—	SVP162068 0824 Iso Th gamma spec	—	
	0.5		62/8776	—	—	0826	—	
MS 4/17/14	1		67/8485	—	—	SVP162069 0833 Iso Th gamma spec	—	
MS 4/17/14	1.5		46/8716	—	—	Archive 0835 Iso Th gamma spec	—	
	2.0	Borehole terminated						soil
	5							
	6							
	7							
	8							
	9							
	10							

G. Neustling 4/10/14

Recorded By G. Neustling Date 4/10/14 QA By Megan Sherman Date 4/17/14

15

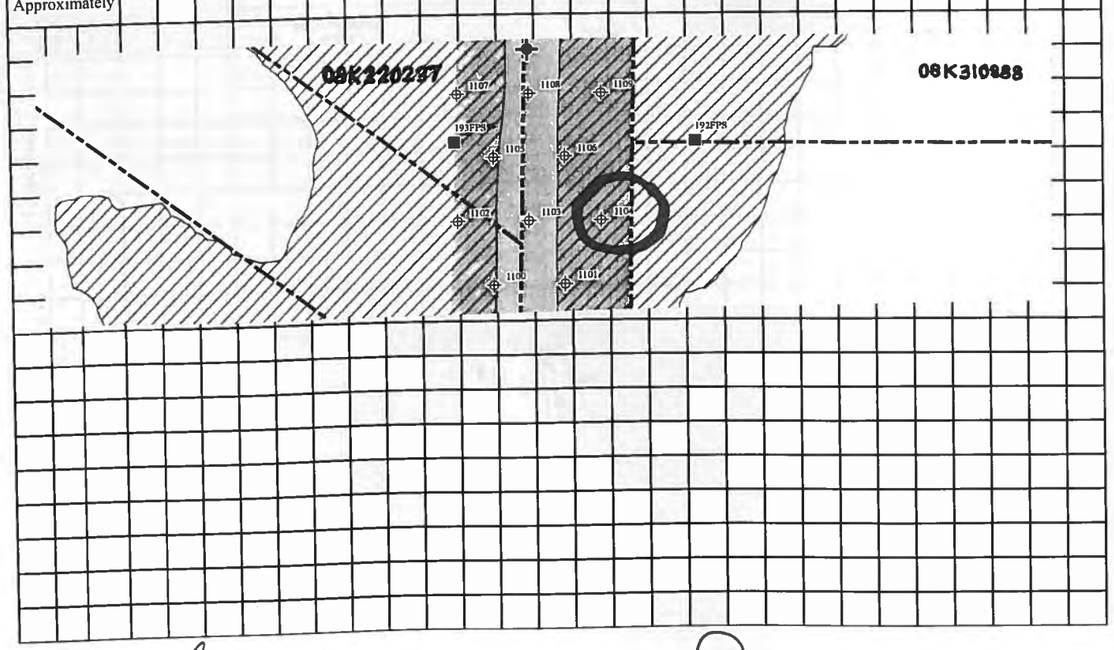
HTRW DRILLING LOG

DISTRICT	St. Louis USACE
HOLE NUMBER	SVP162307
SHEET	1 OF 2
1. COMPANY NAME	Leidos
2. DRILL SUBCONTRACTOR	Leidos
3. PROJECT	Coldwater Creek
4. LOCATION	# 1104 (systematic array) soil
5. NAME OF DRILLER	Matt Dostal/Antonio Martinez/Brad Whitney/David Grayson
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
8. HOLE COORDINATES	QS 12-15-14 E 864945 N 1075544.35
Meter - Background	
44-9 A - 43 cpm	
44-10 I - 7561 cpm	
9. SURFACE ELEVATION	N/A
10. DATE STARTED	4/17/14
11. DATE COMPLETED	4/17/14
12. OVERBURDEN THICKNESS	N/A
13. DEPTH DRILLED INTO ROCK	N/A
14. TOTAL DEPTH OF HOLE	2.0 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	
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	G. Neutzling

LOCATION SKETCH/COMMENTS

COC#: LE04172014-02H

SCALE: None



Recorded By G. Neutzling Date 4/17/14 QA By [signature] Date 5/5/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER	1104 SVP162307
PROJECT	Coldwater Creek
INSPECTOR	G. Neutzling
SHEET	2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, med brown, little v. fine sand, low plasticity, moist – ML	73/7801	—	—	SVP162307 0757 Iso Th Gamma Spec	—	
	0.5		67/7697	—	—	SVP162308 0758 Iso Th Gamma Spec	—	
	1		56/7662	—	—	0800	—	
	1.5		60/7735	—	—	~~Archive~~ 0801 Iso Th Gamma Spec	—	Archive Submitted 4/17/14 SVP174883 3/26/15 PR
	2	Borehole terminated						soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neutzling Date 4/17/14 QA By [signature] Date 5/5/14

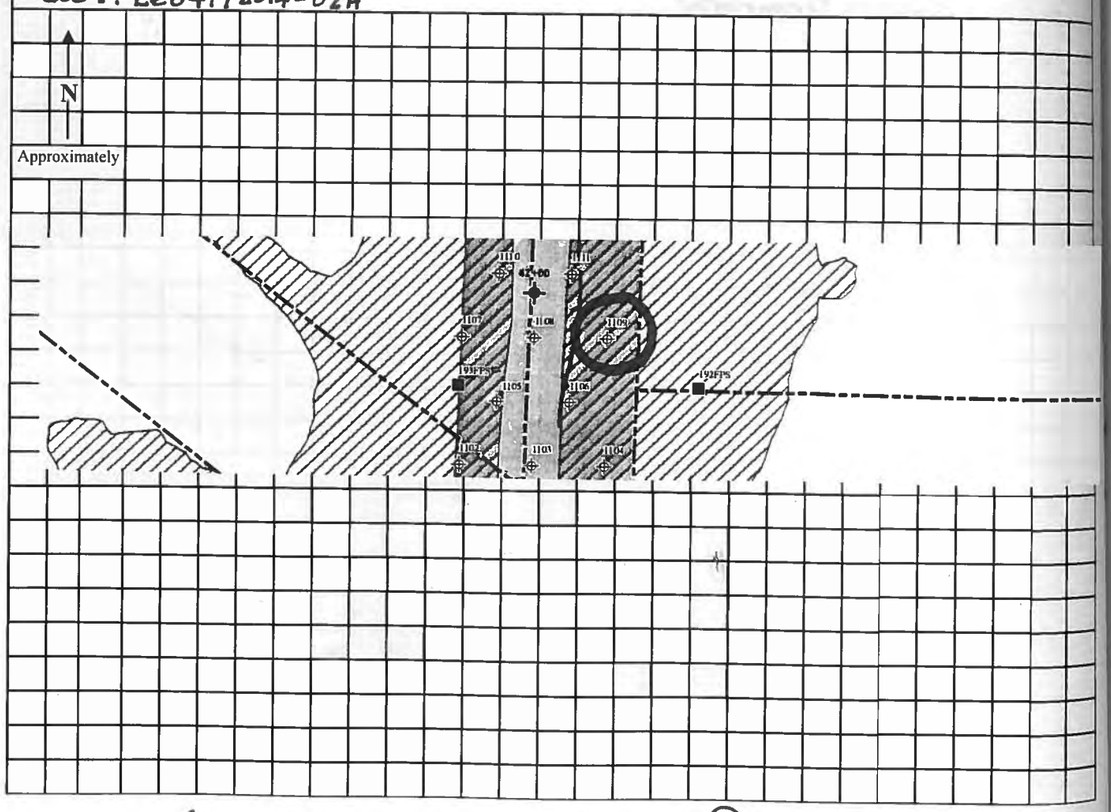
HTRW DRILLING LOG

DISTRICT St. Louis USACE		HOLE NUMBER SVP162318
1. COMPANY NAME Leidos	2. DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2
3. PROJECT Coldwater Creek	4. LOCATION # 1109 (systematic array) soil	
5. NAME OF DRILLER Adam Queen / Antonio Martinez / David Simpson	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	8. HOLE COORDINATES QB 12-15-14 E 864945.6 N 1075606.595	
Meter - Background 44-9 A - 43 cpm 44-10 I - 7561 cpm	9. SURFACE ELEVATION N/A	
	10. DATE STARTED 4/17/14	11. DATE COMPLETED 4/17/14
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	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		
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neustifling		

LOCATION SKETCH/COMMENTS soil G. 4/17/14
COC #: LE84172014-02H

SCALE: None



Recorded By G. Neustifling Date 4/17/14 QA By [signature] Date 5/5/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER SVP 162318 1109
SHEET 2 of 2
PROJECT Coldwater Creek
INSPECTOR

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, med brown, little v. fine sand, low plasticity, moist — ML	48 / 7858	—	—	SVP162318 OBGB IsoTk Gamma Spec	—	
	0.5		66 / 7528	—	—	0811	—	
	1	Silty CLAY, med brown, little v. fine sand, low plasticity, moist — CL	59 / 7622	—	—	0814	—	Clay
	1.5		66 / 7414	—	—	SVP162319 0812 IsoTk Gamma Spec	—	
	2	Borehole terminated						Soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neustifling Date 4/17/14 QA By [signature] Date 5/5/14

HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP 162325
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos — SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: # 1113 (Systematic array) soil
5. NAME OF DRILLER: Adam Queen / Antonio Martinez / David Guyse	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	8. HOLE COORDINATES: S1 QS 12-15-14 E 864945 N 1075668.52
Meter - Background: 44-9 A - 43 cpm; 44-10 I - 7561 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 4/17/14 — 11. DATE COMPLETED: 4/17/14
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: 6.0 ft bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

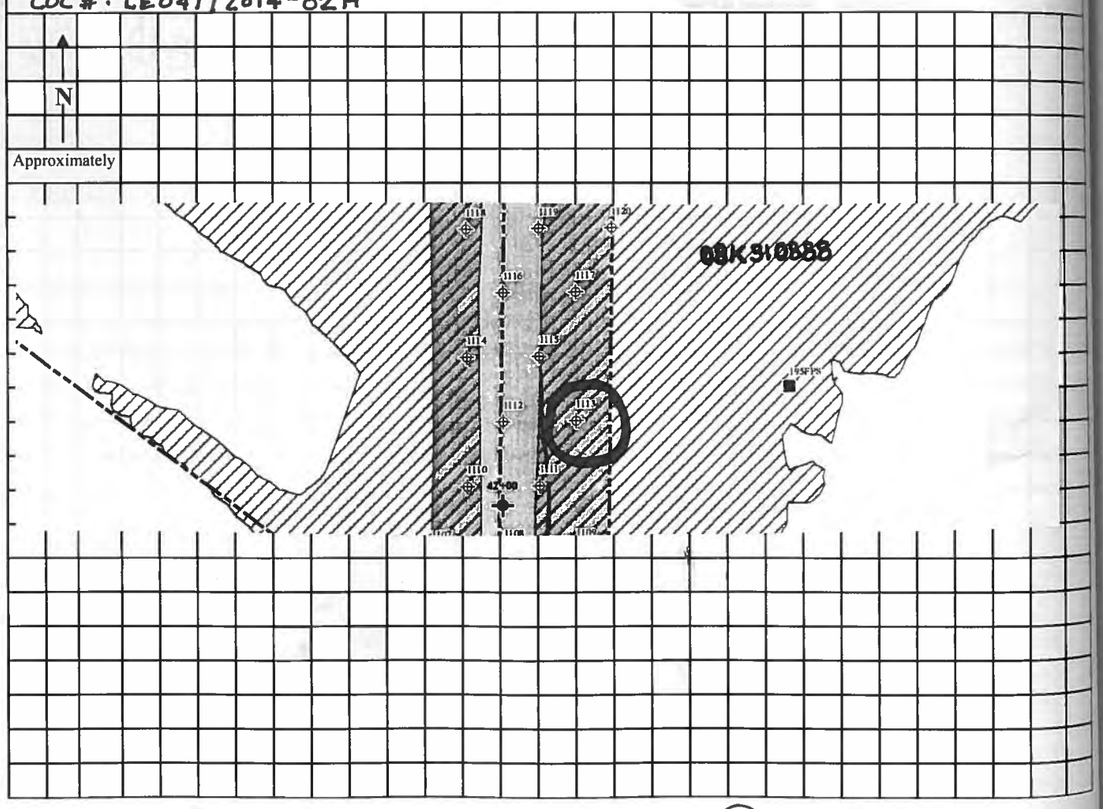
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N/A			N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY
N/A	N/A	N/A	4	1 set of 2	0	N/A

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neutzling

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE04172014-02H



Recorded By G. Neutzling Date 4/17/14 QA By [signature] Date 5/5/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1113 SVP162325 — SHEET 2 of 2

PROJECT: Coldwater Creek — INSPECTOR: G. Neutzling

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
		Clayey SILT, medium brown, little v. fine sand, low plastic, moist — ML	51/7594	—	—	SVP162325 0821 Isoth & gamma spec	—	Collect QC/QA soil samples SVP162325-1 SVP162325-2
			52/7544	—	—	SVP162326 0823 Isoth & gamma spec	—	
	1		52/7100	—	—	0825	—	
	1.5	Silty CLAY, medium brown, little to trace v. fine sand, low plasticity, moist — CL; becomes mottled by light brown below about 2 ft	52/7303	—	—	0828	—	CLAY
	2		55/7417	—	—	0835	—	
			62/7406	—	—	0837	—	
	3		62/7461	—	—	SVP162327 0838 Isoth & gamma spec	—	
			51/7486	—	—	0839	—	
	4		61/7784	—	—	0842	—	
	4.7	Clayey SILT, mottled brown & light brown, little v. fine sand, low plasticity, slightly moist — ML	56/7248	—	—	0845	—	
	5		58/7465	—	—	0847	—	
			67/7420	—	—	SVP162328 0844 Isoth & gamma spec	—	
	6.0	Borehole terminated						soil
	7							
	8							
	9							
	10							

[signature] 4/17/14

Recorded By G. Neutzling Date 4/17/14 QA By [signature] Date 5/5/14

21

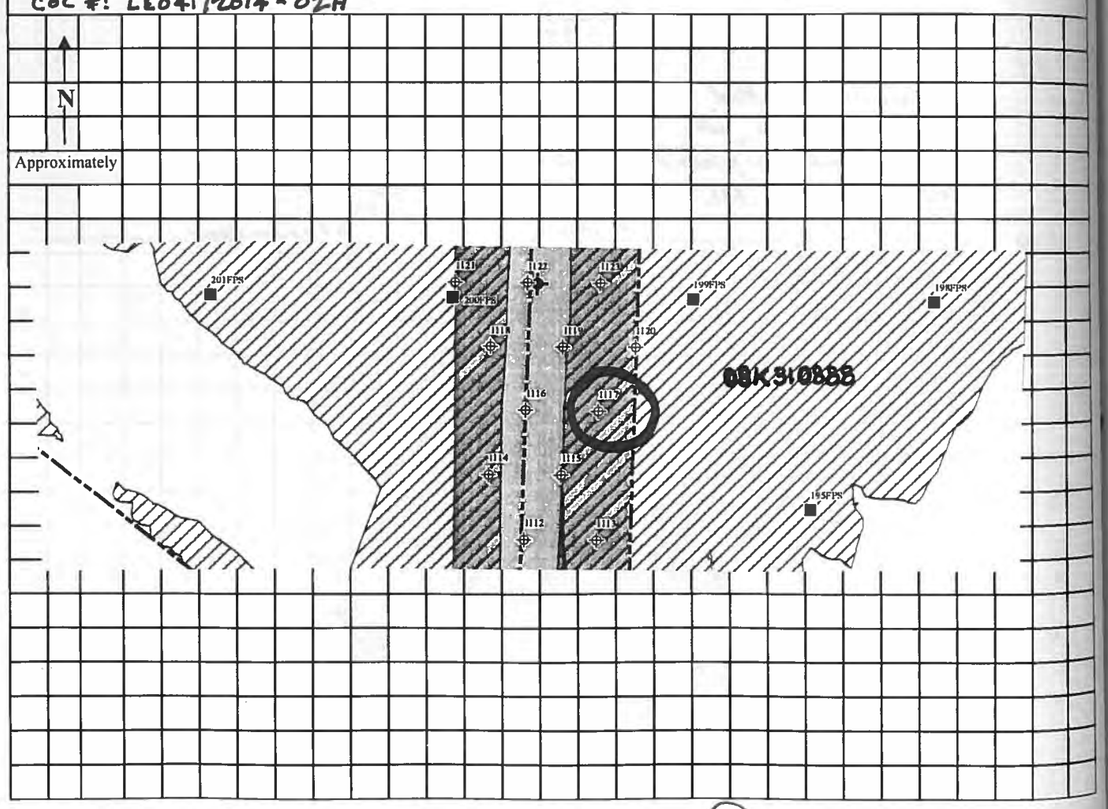
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP162333	
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION # 1117 (systematic array)	
5. NAME OF DRILLER: Adam Queen / Antonio Martinez / David Guyan	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	8. HOLE COORDINATES GB 12-15-14 E 864945 N 1075730.19	
Meter - Background 44-9 A - 43 cpm 44-10 I - 7561 cpm	9. SURFACE ELEVATION N/A	
	10. DATE STARTED: 4/17/14	11. DATE COMPLETED 4/17/14
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	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A	N/A	N/A	2	1 set of 2	1	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/~~bentonite~~	N/A	N/A	Gary Neustling		

LOCATION SKETCH/COMMENTS Soil Gamma 4/17/14
COC #: LE04172014-02H

SCALE: None



Recorded By G. Neustling Date 4/17/14 QA By [illegible] Date 5/5/14

22

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1117 SVP 162333

PROJECT Coldwater Creek | INSPECTOR G. Neustling | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, med brown, some clay, little to some v. fine sand, low plasticity, slightly moist – ML	51 / 7622	—	—	SVP162333 0855 Iso Th gamma spec	—	Collect QC/QA soil samples SVP162333-1 SVP162333-2
	0.5		55 / 7513	—	—	0857	—	
	1		62 / 7561	—	—	SVP162334 0859 Iso Th gamma spec Archive	—	Refusal @ 1½ ft & offset 1 ft N.
	1.5		55 / 7303	—	—	0901 Iso Th gamma spec	—	
	2	Borehole terminated						Soil
	5							
	6							
	7							
	8							
	9							
	10							

Gamma 4/17/14

Recorded By G. Neustling Date 4/17/14 QA By [illegible] Date 5/5/14

HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP162355
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos — SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: # 1129 (systematic array) Soil
5. NAME OF DRILLER: Adam Queen / Antonio Martinez / David Gayen	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	8. HOLE COORDINATES: E 864945 N1075854
Meter - Background 44-9 A - 43cpm 44-10 I - 7561 cpm	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 4/17/14 — 11. DATE COMPLETED: 4/17/14
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: 6.0 ft bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

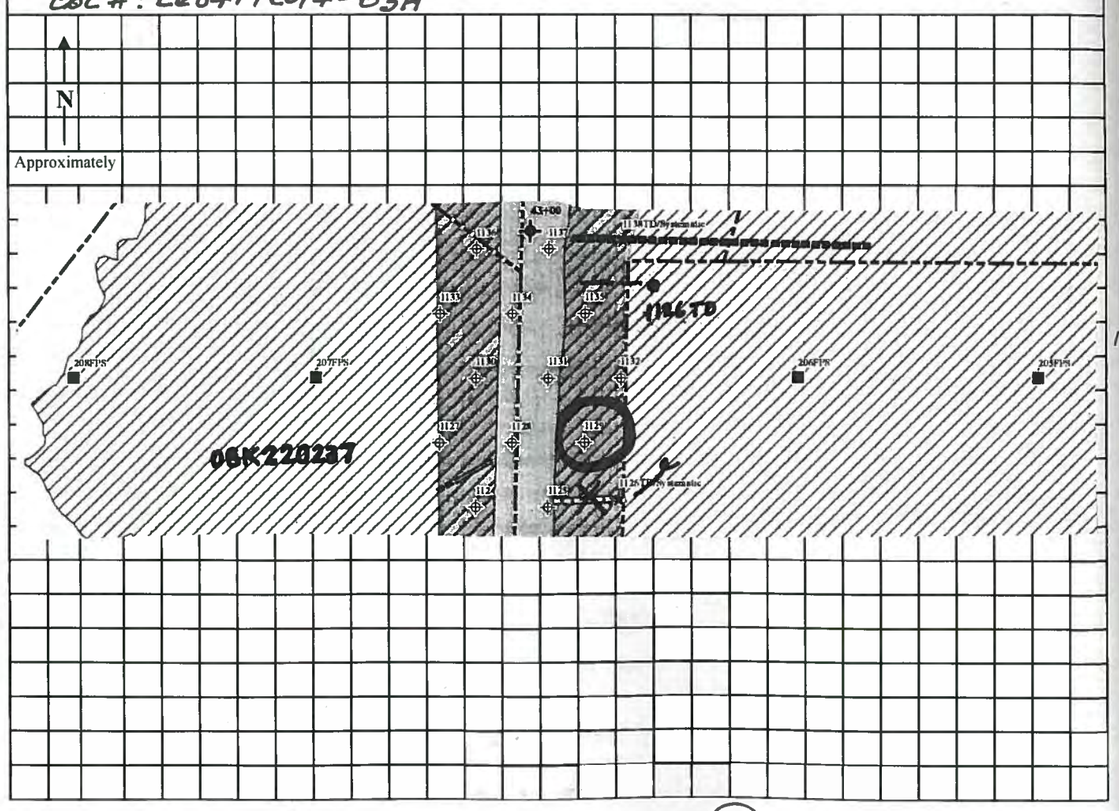
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N/A			N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY
N/A	N/A	N/A	4	0	1	N/A

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite	N/A	N/A	Gary Neutzling

LOCATION SKETCH/COMMENTS — SCALE: None

COC #: LE04172014-03H



Recorded By G. Neutzling Date 4/17/14 QA By [signature] Date 5/5/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1129 SVP162355

PROJECT: Coldwater Creek — INSPECTOR: G. Neutzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	Clayey SILT, medium brown, little v. fine sand, low plasticity, moist — ML	59/7409	—	—	SVP162355 0919 Iso Th & gamma spec	—	
			60/7551	—	—	SVP162356 0921 Iso Th & gamma spec	—	
	1		55/7390	—	—	0923	—	
			56/7500	—	—	0924	—	
	2		59/7562	—	—	0930	—	
			60/7389	—	—	0931	—	
	3		54/7463	—	—	0933	—	
	3.3	SILT, brown mottled by light brown, some clay, little v. fine sand, low plasticity, slightly moist — ML	63/7631	—	—	SVP162357 0935 Iso Th & gamma spec	—	
	4		60/7604	—	—	0937	—	
			59/7590	—	—	0939	—	
	5		69/7481	—	—	SVP162358 0940 Iso Th & gamma spec	—	
			60/7526	—	—	Archive 0941 Iso Th & gamma spec	—	
	6.0	Borehole terminated						Soil
	7							
	8							
	9							
	10							

GMN 4/17/14

Recorded By G. Neutzling Date 4/17/14 QA By [signature] Date 5/5/14

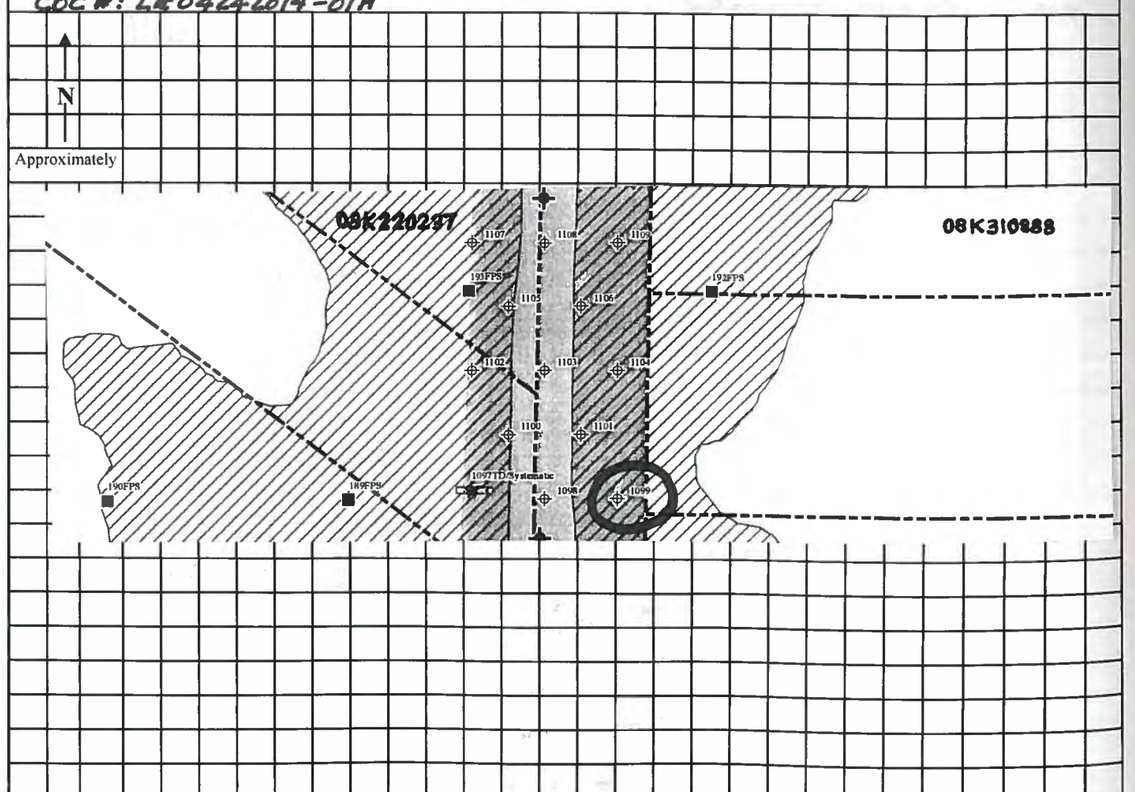
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER SVP 162296	
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: # 1099 (systematic array) soil	
5. NAME OF DRILLER: Adam Queen/Matt Dostal	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	8. HOLE COORDINATES: E 864945 N1075482	
Meter - Background 44-9 F - 45 cpm 44-10 E - 8084 cpm	9. SURFACE ELEVATION: N/A	
	10. DATE STARTED: 4/23/14	11. DATE COMPLETED: 4/23/14
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	VOC	METALS	RAD SAMPLES	QA/QC SAMPLES	ARCHIVE SAMPLE	21. TOTAL CORE RECOVERY: N/A
N/A	N/A	N/A	2	1 set of 2	0	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite	~~w/bentonite~~ soil	N/A	N/A	Gary Neutzling		

LOCATION SKETCH/COMMENTS: COC #: LE04242014-01H

SCALE: None



Recorded By G. Neutzling Date 4/23/14 QA By [signature] Date 5/5/14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1099 SVP 162296

PROJECT: Coldwater Creek — INSPECTOR: G. Neutzling — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	0	SILT, med brown, little clay, little v. fine sand, low plasticity, moist — ML (FILL)	55/8372	—	—	SVP162296 1436 Iso Th Gamma spec	—	Collect QC/QA soil samples SVP162296-1 SVP162296-2
	0.5		50/8328	—	—	1437	—	
	1		57/8304	—	—	1439	—	
	1.5	SILT, brown, little clay, little fine sand, trace of asphalt piece, trace gravel, low plasticity, slightly moist — ML (FILL)	64/8102	—	—	SVP162297 1434 Iso Th Gamma spec	—	somewhat dry asphalt piece & rock
	2.0	Borehole terminated						soil
	5							
	6							
	7							
	8							
	9							
	10							

Recorded By G. Neutzling Date 4/23/14 QA By [signature] Date 5/5/14

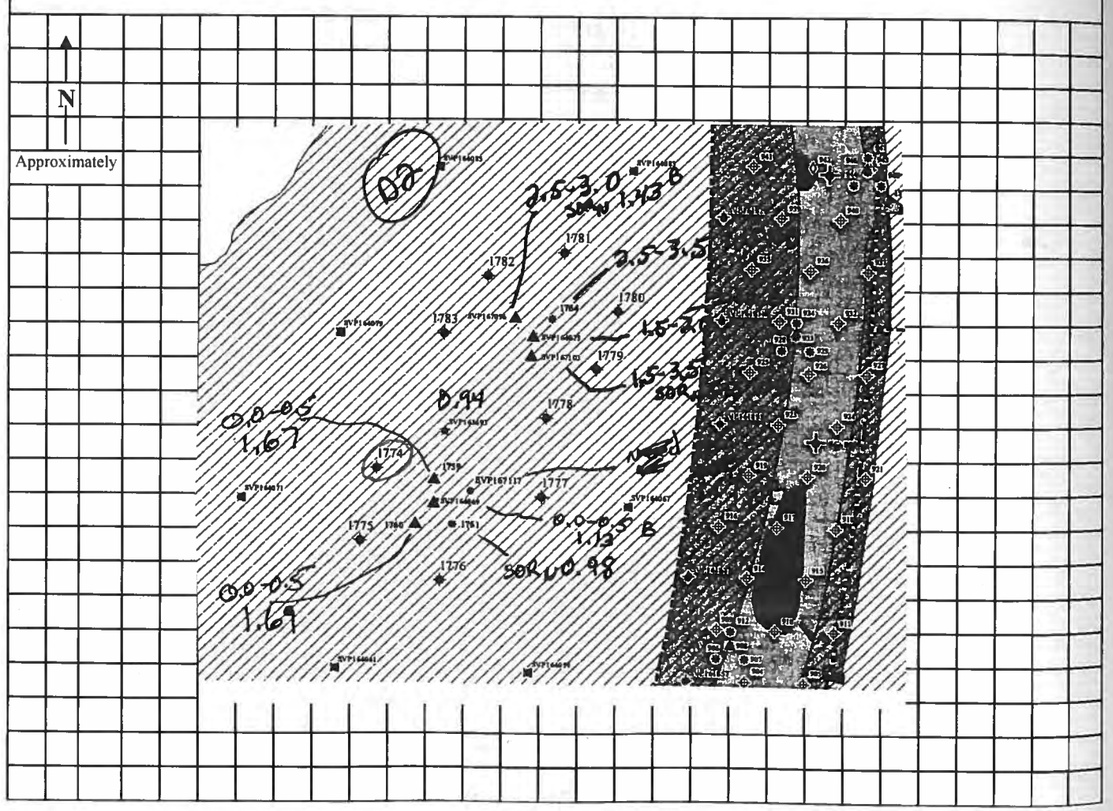
HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER 1774 SVP171301
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos — SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION # 1774 (bounding loc.)
5. NAME OF DRILLER: T. Keeton	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	8. HOLE COORDINATES N: 1073683 E: 864897
Meter Background 44-9 ~~43F~~ 40 44-10 I - 7690	9. SURFACE ELEVATION N/A
	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 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		
Backfill using bentonite	w/bentonite	N/A	N/A			

LOCATION SKETCH/COMMENTS COC#: LE05072014-014 SCALE: None



Recorded By [signature] Date 5-6-14 QA By [signature] Date 5-12-14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1774 SVP171301

PROJECT: Coldwater Creek — INSPECTOR: [signature] — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
		Brown clayey silt, Low plasticity, Soft, Moist Trace V.F. sand (ML)	64 / 8092			SVP171306	301	0-0.5
			60 / 7960			SVP171307	302	0.5-1.0'
	1	Borehole Terminated						Soil
	2							
	3							
	4							
	5		ND 5-6-14					
	6							
	7							
	8							
	9							
	10							

COC#: LE05072014-014

Recorded By [signature] Date 5-6-14 QA By [signature] Date 5-12-14

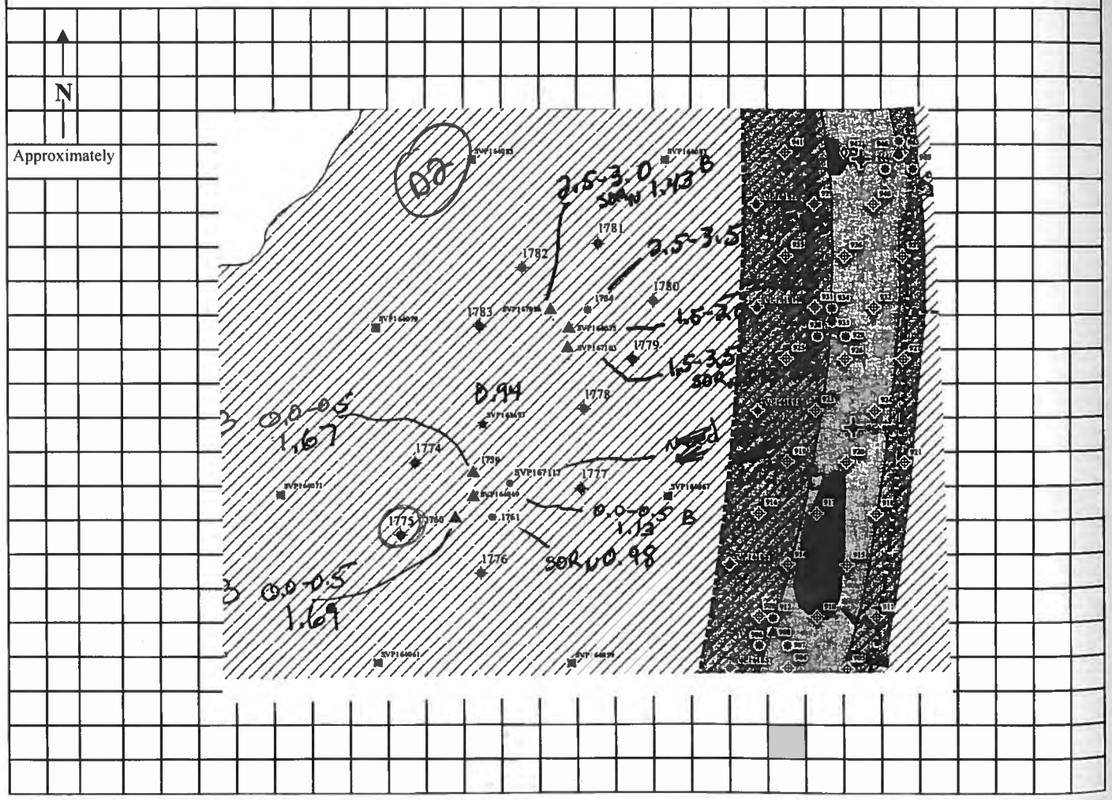
65

HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER 1775 SVP 171303	
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION: # 1775 (bounding lea)	
5. NAME OF DRILLER: T. Keeton	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	8. HOLE COORDINATES: N: 1073640 E: 864888	
Meter - Background 44-9 F - 40 44-10 I - 7690	9. SURFACE ELEVATION: N/A	
	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: 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		
Backfill using bentonite	w/bentonite	N/A	N/A			

LOCATION SKETCH/COMMENTS COC#: LE05072014-01H SCALE: None



Recorded By [signature] Date 5-6-14 QA By [signature] Date 5-12-14

66

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1775 SVP 171303

PROJECT: Coldwater Creek | INSPECTOR: [signature] | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
		Brown to dark brown clayey silt; low plasticity, Moist, Some gravel (ML) Trace V.F. sand	59 / 7948			SVP171303 1312		0-0.5'
			63 / 8041			SVP171304 1314		0.5-1.0'
	1	Borehole Terminated						Soil
	2							
	3							
	4							
	5		TD 5-6-14					
	6							
	7							
	8							
	9							
	10							

COC#: LE05072014-01H

Recorded By [signature] Date 5-6-14 QA By [signature] Date 5-12-14

67

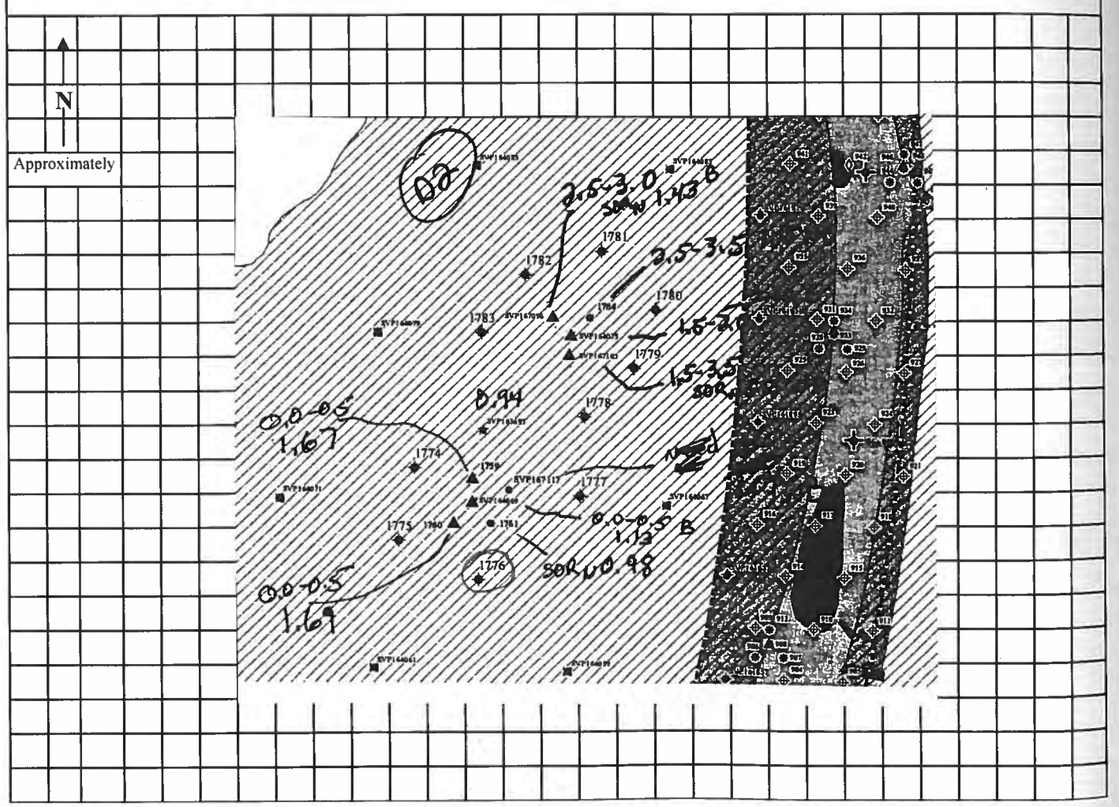
HTRW DRILLING LOG

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	4. LOCATION # 1776 (boundingloc)	
5. NAME OF DRILLER: T. Keeton	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	8. HOLE COORDINATES N: 1073617 E: 864936	
Meter - Background 44-9 E - 40 44-10 I - 7690	9. SURFACE ELEVATION: N/A	
	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: 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	Ø	Ø	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfill using bentonite	w/bentonite	N/A	N/A	

LOCATION SKETCH/COMMENTS COC#: LE05072014-014 SCALE: None



Recorded By [signature] Date 5-6-14 QA By [signature] Date 5-12-14

68

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1776 SVP 171305

PROJECT: Coldwater Creek — INSPECTOR: [signature] — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
		Brown clayey silt, Low plasticity, Moist, Trace V.F. Sand, Trace roots (ML)	68 / 8012			SVP171305 1319		0-0.5'
			6858 / 8261			SVP171306 1320		0.5-1.0'
	1	Borehole Terminated						Soil
	2							
	3							
	4							
	5							
	6	MD 5-6-14						
	7							
	8							
	9							
	10							

COC#: LE05072014-014

Recorded By [signature] Date 5-6-14 QA By [signature] Date 5-12-14

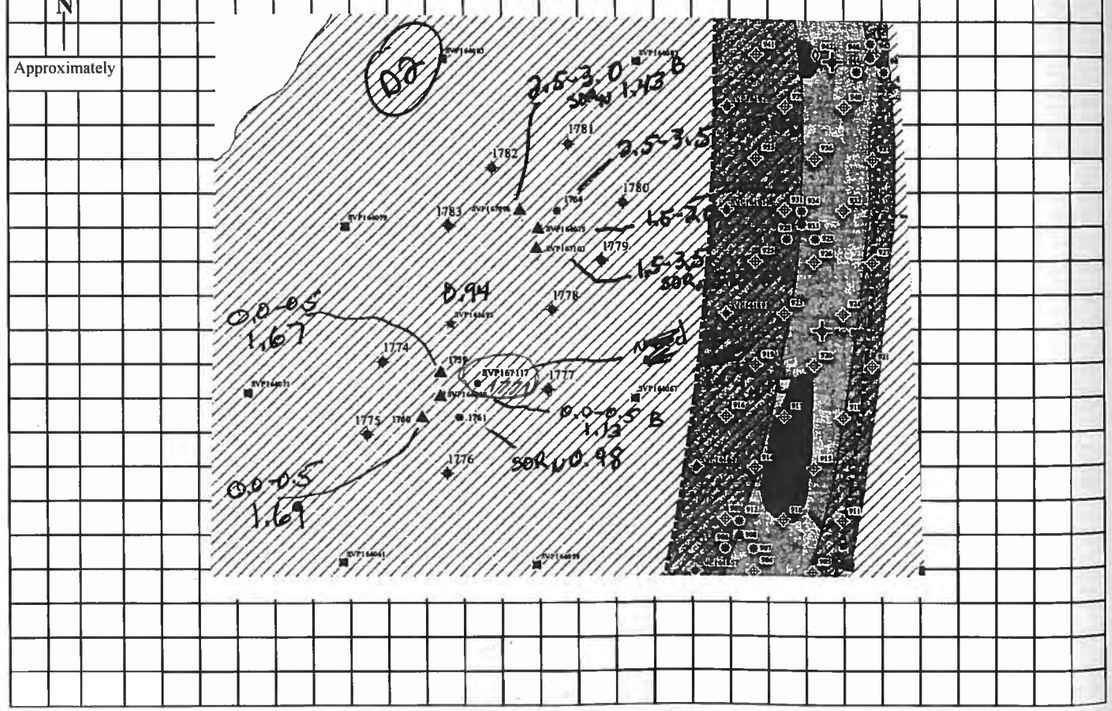
69

HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER 1771 SVP 167117	
1. COMPANY NAME: Leidos	2 DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4 LOCATION # 1771 (bounding loc)	
5. NAME OF DRILLER: T. Keeton	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	8 HOLE COORDINATES N:1073671 E:864954	
Meter - Background 44-9 F - 46 44-10 I - 7690	9 SURFACE ELEVATION N/A	
	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 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	1	1	1	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/bentonite	N/A	N/A			

LOCATION SKETCH/COMMENTS COC#: LE05072014-014 SCALE: None



Recorded By [signature] Date 5-6-14 QA By [signature] Date 5-12-14

70

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1771 SVP 167117

PROJECT: Coldwater Creek | INSPECTOR: [signature] | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
		~~Med. brown clay~~ MD 5-6-14 DISCARDED						
	1	Med. brown clayey silt, low plasticity, Moist, Trace V.F. Sand, Trace roots (ML)	66 / 8195			SVP171336 1327		0.5-1.0'
			59 / 8178			ARCHIVE 1328		1.0-1.5'
		Borehole Terminated						Soil
	2							
	3							
	4							
	5							
	6	MD 5-6-14						
	7							
	8							
	9							
	10							

COC#: LE05072014-014

Recorded By [signature] Date 5-6-14 QA By [signature] Date 5-12-14

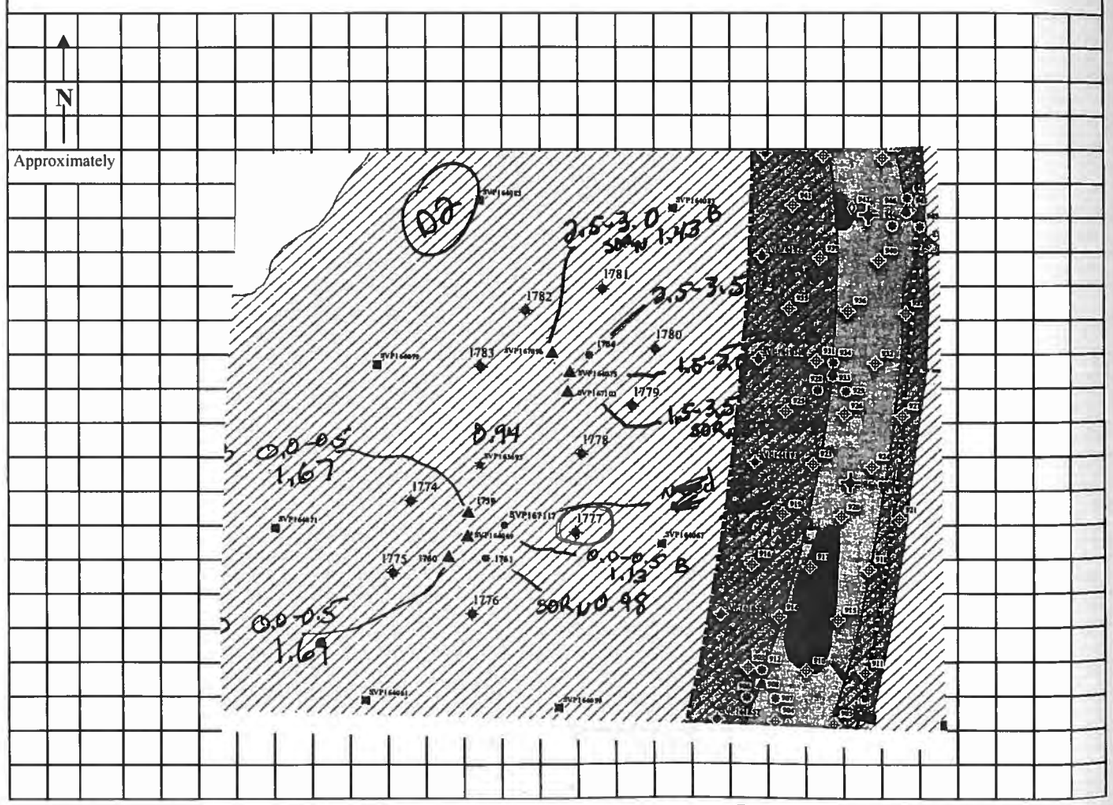
71

HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER 1777 SVP171307	
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR: Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4 LOCATION: # 1777 (bounding loc.)	
5 NAME OF DRILLER: T. Keeton	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	8 HOLE COORDINATES N:1073668 E:864996	
Meter - Background 44-9 E - 40 44-10 I - 7690	9 SURFACE ELEVATION: N/A	
	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: 1.6 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	Ø	Ø	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/bentonite	N/A	N/A			

LOCATION SKETCH/COMMENTS COC#: LE05072014-01H SCALE: None



Recorded By [signature] Date 5-6-14 QA By [signature] Date 5-12-14

72

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1777 SVP171307

PROJECT: Coldwater Creek | INSPECTOR: [signature] | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
		Light brown clayey silt Low plasticity; Some V.F. sand, Trace roots, Moist (ML)	59 / 8168			SVP171307 1333		0-0.5'
			67 / 8092			SVP171308 1334		0.5-1.0'
	1	Borehole Terminated						(soil)
	2							
	3							
	4							
	5		MD 5-6-14					
	6							
	7							
	8							
	9							
	10							

COC#: LE05072014-01H

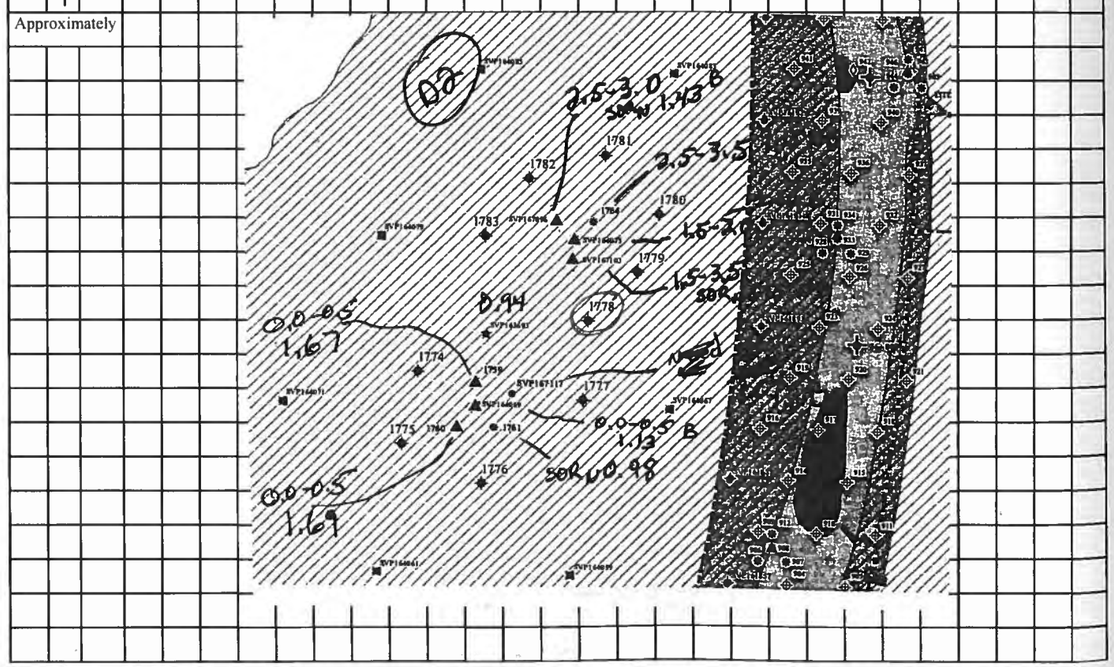
Recorded By [signature] Date 5-6-14 QA By [signature] Date 5-12-14

HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER 1778 SVP 171309
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR Leidos — SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4 LOCATION # 1778 (bounding loc.)
5. NAME OF DRILLER: T. Keeton	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	8 HOLE COORDINATES N: 1073716 E: 864999
Meter - Background; 44-9 E - 40; 44-10 I - 7690	9 SURFACE ELEVATION N/A
	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 4.0 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	6	1 QA/QC	Ø	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/bentonite	N/A	N/A			

LOCATION SKETCH/COMMENTS COC#: LE05012014-01H SCALE: None



Recorded By [signature] Date 5-6-14 QA By [signature] Date 5-12-14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1778 SVP 171309

PROJECT Coldwater Creek — INSPECTOR: [signature] — SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
		Brown clayey silt, Low plasticity, Moist, Trace V.F. sand, trace roots (ML)	59 / 8185			SVP171309 1345	-1-2	QA/QC 0-0.5'
	1	DISCARDED						
		Darker brown clayey silt Low plasticity, Moist, Some V.F. sand (ML)	81 / 8002			SVP171310 1347		1.5-2.0'
	2	MD 5-6-14	56 / 7833			SVP171311 1350		2.0-2.5'
			59 / 7885			SVP171312 1352		2.5-3.0'
	3	Trace more clay content	57 / 7818			SVP171313 1356		3.0-3.5'
			65 / 8158			SVP171314 1358		3.5-4.0'
	4	Borehole Terminated						Soil
	5							
	6							
	7							
	8	MD 5-6-14						
	9							
	10							

COC#: LE05012014-01H

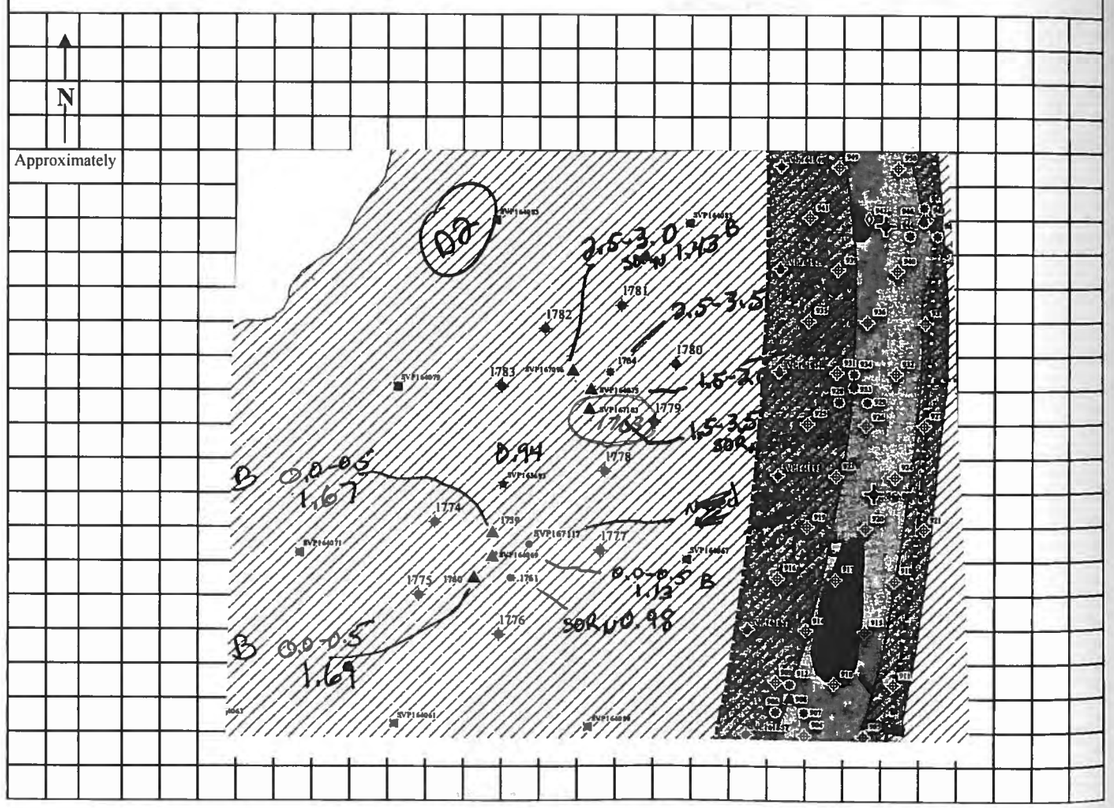
Recorded By [signature] Date 5-6-14 QA By [signature] Date 5-12-14

HTRW DRILLING LOG

DISTRICT: St. Louis USACE	HOLE NUMBER 1763 SVP 167103	
1. COMPANY NAME: Leidos	2. DRILL SUBCONTRACTOR Leidos	SHEET 1 OF 2
3. PROJECT: Coldwater Creek	4. LOCATION #1763 (boundary loc.)	
5. NAME OF DRILLER: T. Keeton	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	8. HOLE COORDINATES N: 1073753 E: 864989	
Meter - Background; 44-9 F - 40; 44-10 I - 7690	9. SURFACE ELEVATION N/A	
	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	2	Ø	Ø	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
Backfill using bentonite	w/bentonite	N/A	N/A			

LOCATION SKETCH/COMMENTS COC#: LE0507 2014-01H SCALE: None



Recorded By [signature] Date 5-6-14 QA By [signature] Date 5-12-14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER 1763 SVP 167103

PROJECT Coldwater Creek | INSPECTOR: [signature] | SHEET 2 of 2

USCS	Depth (ft bgs)	Description of Materials	449 / NAI	PID	Recovery	Analytical Sample	Blow Counts	Remarks
	1	DISCARDED						
	2							
	3							
	4	Brown clayey silt low plasticity, Moist Some V.F. Sand (ML)	75 / 8119			SVP171334 1403		3.5-4.0'
			71 / 8062			SVP171335 1405		4.0-4.5'
	5	Borehole Terminated						Soil
	6							
	7							
	8							
	9							
	10							

MD 5-6-14

COC#: LE0507 2014-01H

Recorded By [signature] Date 5-6-14 QA By [signature] Date 5-12-14