

FINAL

**PHASE II REMEDIAL
INVESTIGATION REPORT**

FOR THE

**LOAD LINE 1 AT THE RAVENNA ARMY
AMMUNITION PLANT, RAVENNA, OHIO**

VOLUME 2—APPENDICS A – S

PREPARED FOR



**US Army Corps
of Engineers®**

**U.S. Army Corps of Engineers – Louisville District
Contract No. DACA62-00-D-0001
Delivery Order CY09**

June 2003



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**Phase II
Remedial Investigation Report
for the
Load Line 1
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VOLUME 2 – APPENDICES A-S

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Prepared by

**Science Applications International Corporation
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Oak Ridge, Tennessee 37830**

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

contributed to the preparation of this document and should not
be considered an eligible contractor for its review.

APPENDIX A
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Soil Sampling Logs

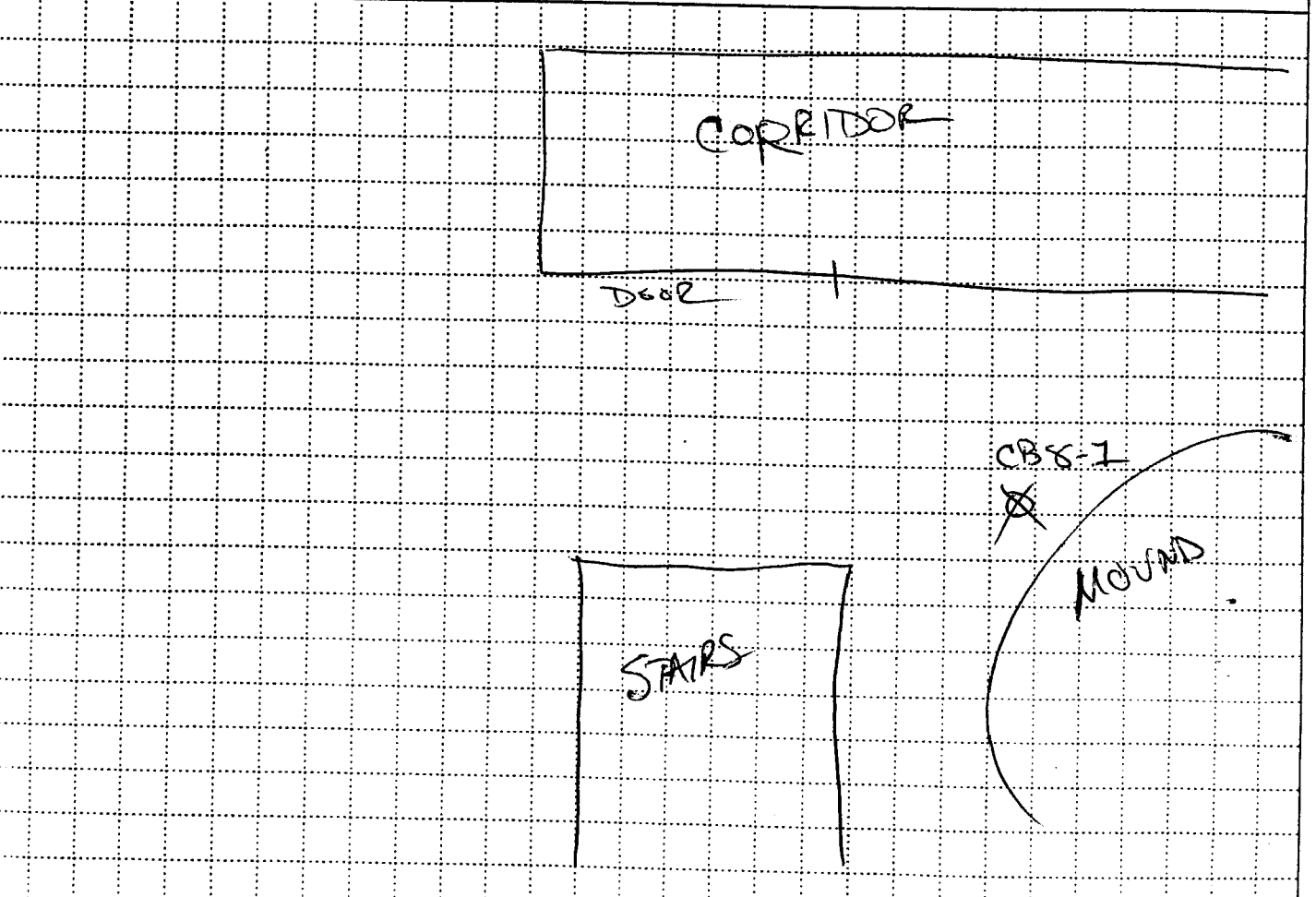
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**HTRW
Drilling Log – Maps**

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HTRW DRILLING LOG		DISTRICT LOUISVILLE		HOLE NUMBER CB 8-1	
1. COMPANY NAME SALC		2. DRILL SUBCONTRACTOR N/A		SHEET SHEETS 1 OF 2	
3. PROJECT LL1 - POTENTIAL DISPOSAL AREA			4. LOCATION CB-8-1		
5. NAME OF DRILLER SCOTT STROUD			6. MANUFACTURERS DESIGNATION OF DRILL N/A		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT STAINLESS STEEL BOWL & SPOON		8. HOLE LOCATION SEE MAP			
		9. SURFACE ELEVATION			
		10. DATE STARTED 11-4-99		11. DATE COMPLETED 11-4-99	
12. OVERBURDEN THICKNESS DNE INCH		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"		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES		DISTURBED N/A	UNDISTURBED N/A	19. TOTAL NUMBER OF CORE BOXES N/A	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC —	METALS CYANIDE	OTHER (SPECIFY) EXPLOSIVES	OTHER (SPECIFY) —
22. DISPOSITION OF HOLE		BACKFILLED —	MONITORING WELL N/A	OTHER (SPECIFY) N/A	21. TOTAL CORE RECOVERY NA
				23. SIGNATURE OF INSPECTOR Be... 2/11	

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE

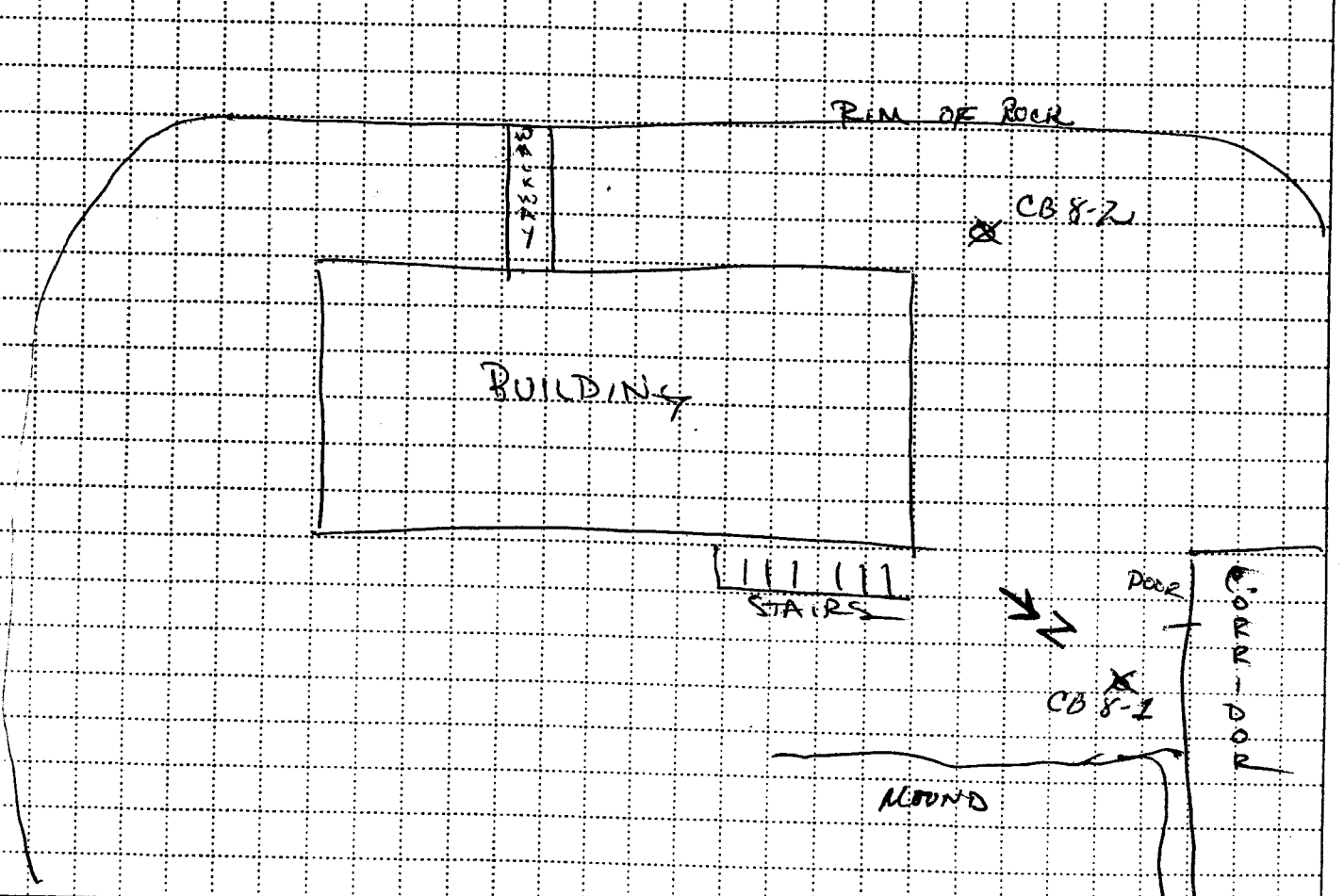


PROJECT LL1 - POTENTIAL DISPOSAL AREA	HOLE NO. CB 8-1
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HTRW DRILLING LOG		DISTRICT LOUISVILLE		HOLE NUMBER CB8-2	
1 COMPANY NAME SAIC		2 DRILL SUBCONTRACTOR N/A		SHEET SHEETS 1 OF 2	
3 PROJECT ROADLINE 1 POTENTIAL DISPOSAL AREA			4 LOCATION CB-8-2		
5 NAME OF DRILLER SCOTT STROUD			6 MANUFACTURERS DESIGNATION OF DRILL N/A		
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT STAINLESS STEEL BOWL SPOON		8 HOLE LOCATION SEE MAP			
12 OVERBURDEN THICKNESS		9 SURFACE ELEVATION			
13 DEPTH DRILLED INTO ROCK N/A		10 DATE STARTED 11-4-99		11 DATE COMPLETED 11-4-99	
14 TOTAL DEPTH OF HOLE		15 DEPTH GROUNDWATER ENCOUNTERED N/A			
18 GEOTECHNICAL SAMPLES		19 TOTAL NUMBER OF CORE BOXES		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A	
20 SAMPLES FOR CHEMICAL ANALYSIS		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A		21 TOTAL CORE RECOVERY NA	
22 DISPOSITION OF HOLE		DISTURBED N/A		UNDISTURBED N/A	
23 SIGNATURE OF INSPECTOR <i>Ben Silk</i>		VOC		METALS CYANIDE	
		OTHER (SPECIFY) EXPLOSIVE		OTHER (SPECIFY)	
		BACKFILLED		MONITORING WELL	
		OTHER (SPECIFY)		OTHER (SPECIFY)	

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE



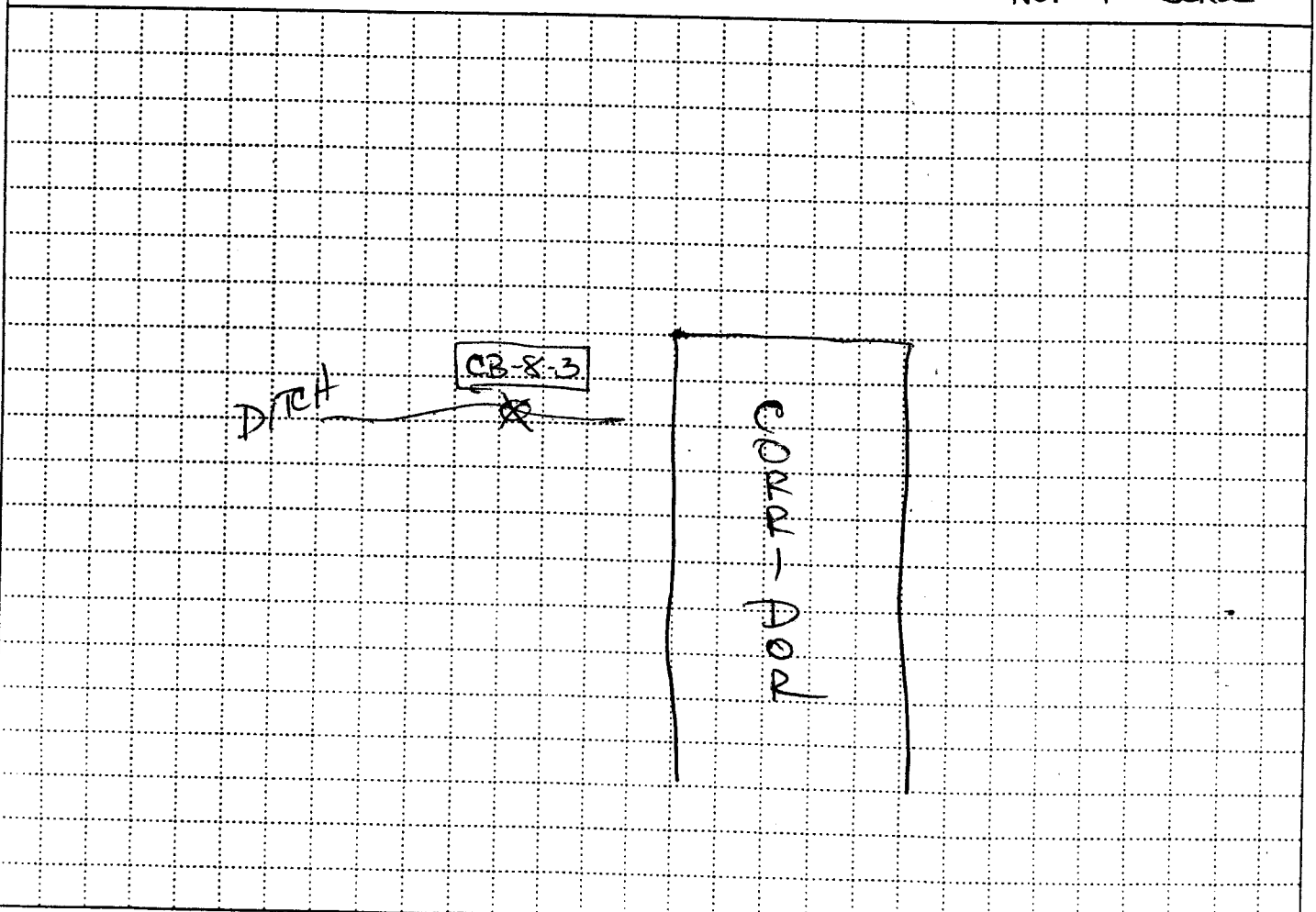
PROJECT HL1 - POTENTIAL DISPOSAL AREA	HOLE NO CB 8-2
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HTRW DRILLING LOG		DISTRICT LOUISVILLE		HOLE NUMBER CB-8-3		
1 COMPANY NAME SAIC		2 DRILL SUBCONTRACTOR N/A		SHEET SHEETS 1 OF 2		
3 PROJECT LL1 POTENTIAL DISPOSAL AREA			4 LOCATION CB-8-1 ^{Box 11-4-99} CB-8-3			
5 NAME OF DRILLER SCOTT STROUD			6 MANUFACTURERS DESIGNATION OF DRILL N/A			
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT STAINLESS STEEL BOWL & SPOON			8 HOLE LOCATION SEE MAP			
			9 SURFACE ELEVATION			
			10 DATE STARTED 11.4.99		11 DATE COMPLETED 11.4.99	
12 OVERBURDEN THICKNESS 2 INCHES			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 INCHES			17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A			
18 GEOTECHNICAL SAMPLES		DISTURBED N/A	UNDISTURBED N/A	19 TOTAL NUMBER OF CORE BOXES N/A		
20 SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)
22 DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY % N/A	
				23 SIGNATURE OF INSPECTOR <i>Beau Williams</i>		

LOCATION SKETCH/COMMENTS

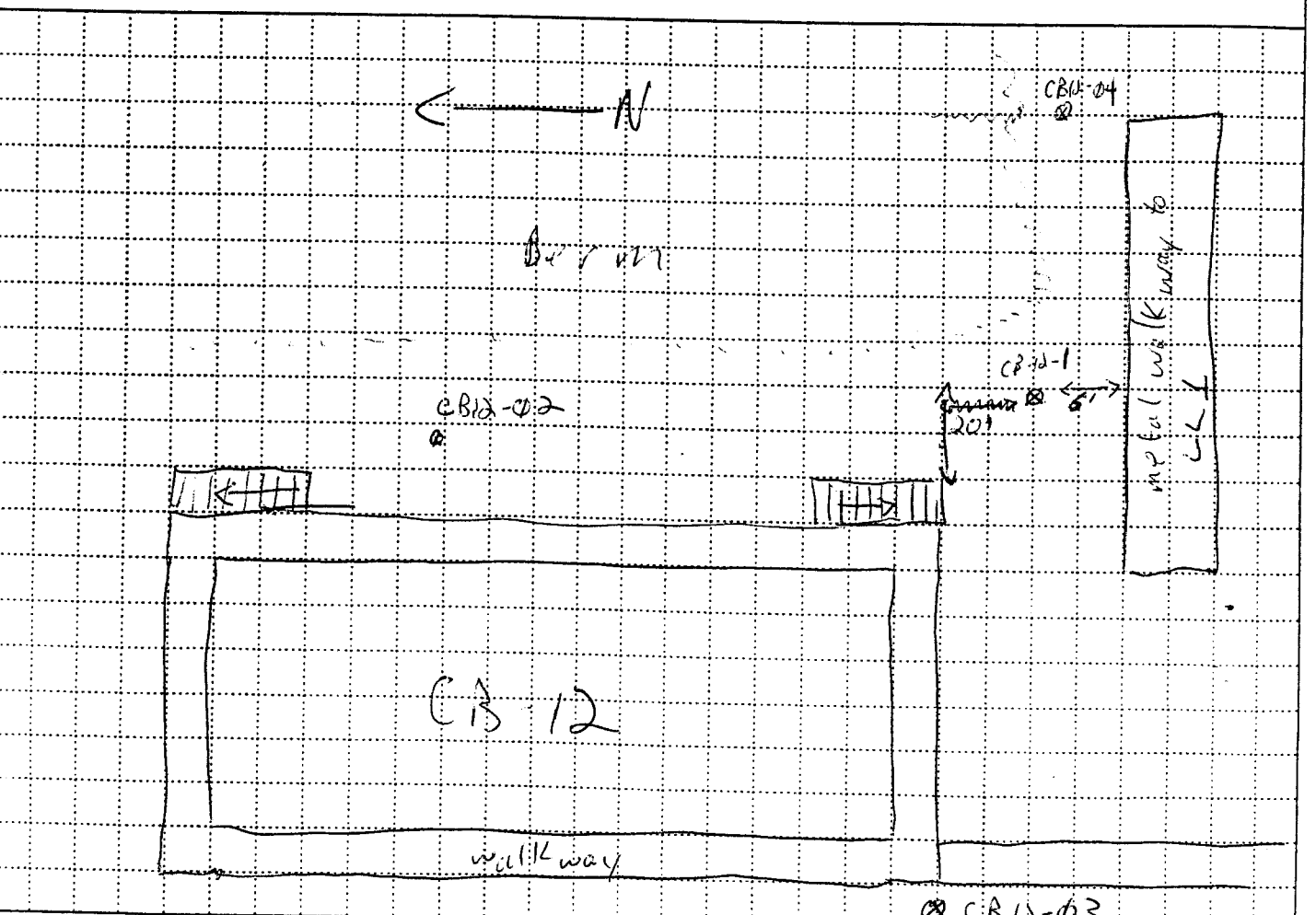
SCALE: NOT TO SCALE



PROJECT LOAD LINE 1 POTENTIAL DISPOSAL AREA	HOLE NO. LL1/CB-8-3
---	-------------------------------

HTRW DRILLING LOG		DISTRICT Louisville		HOLE NUMBER LL1/CB12-1	
1 COMPANY NAME SAIC		2 DRILL SUBCONTRACTOR SAIC		SHEET 1 OF 2	
3 PROJECT Load Line L Potential Disposal			4 LOCATION Burrman 11-4-99 N/A		
5 NAME OF DRILLER Scott Stroud			6 MANUFACTURER'S DESIGNATION OF DRILL S.S. Spoon		
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT S.S. Spoon		8 HOLE LOCATION see map		9 SURFACE ELEVATION	
12 OVERBURDEN THICKNESS 3"		10 DATE STARTED 11-4-99		11 DATE COMPLETED 11-4-99	
13 DEPTH DRILLED INTO ROCK N/A		15 DEPTH GROUNDWATER ENCOUNTERED N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A	
14 TOTAL DEPTH OF HOLE 3"		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A			
18 GEOTECHNICAL SAMPLES N/A		DISTURBED N/A	UNDISTURBED N/A	19 TOTAL NUMBER OF CORE BOXES N/A	
20 SAMPLES FOR CHEMICAL ANALYSIS N/A		VOC N/A	METALS X	OTHER (SPECIFY) Pyralosines	OTHER (SPECIFY) Cyanide
22 DISPOSITION OF HOLE N/A		BACKFILLED	MONITORING WELL	21 TOTAL CORE RECOVERY N/A	23 SIGNATURE OF INSPECTOR [Signature]

LOCATION SKETCH/COMMENTS SCALE:



PROJECT LL1 Potential Disposal Area		HOLE NO. CB12-1
--	--	--------------------

HTRW DRILLING LOG		DISTRICT Louisville		HOLE NUMBER CB12-02	
1 COMPANY NAME SAIC		2 DRILL SUBCONTRACTOR SAIC		SHEET SHEETS 1 of 2	
3 PROJECT LL1: Potential Disposal Area			4 LOCATION CB12-02		
5 NAME OF DRILLER Scott Stroud			6 MANUFACTURERS DESIGNATION OF DRILL S.S. spoon		
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS spoon and bowl			8 HOLE LOCATION see map		
			9 SURFACE ELEVATION		
			10 DATE STARTED 11/04/99		11 DATE COMPLETED 11/04/99
12 OVERBURDEN THICKNESS 3"			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"			17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A		
18 GEOTECHNICAL SAMPLES N/A		DISTURBED N/A	UNDISTURBED N/A	19 TOTAL NUMBER OF CORE BOXES	
20 SAMPLES FOR CHEMICAL ANALYSIS LL0726		VOC	METALS	OTHER (SPECIFY) cyanide	OTHER (SPECIFY) explosives
22 DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY N/A
				23. SIGNATURE OF INSPECTOR <i>[Signature]</i>	

LOCATION SKETCH/COMMENTS SCALE:

See map on
page 14. References all
locations at Building CB-12

PROJECT LL1-Potential Disposal Area	HOLE NO CB12-02
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HTRW DRILLING LOG		DISTRICT Louisville			HOLE NUMBER CB12-03	
1 COMPANY NAME SMIC		2 DRILL SUBCONTRACTOR SAIC			SHEET SHEETS 1 of 2	
3 PROJECT LL1 / CB ^{Amalgam} Potential Disposal Area			4 LOCATION CB12-03			
5 NAME OF DRILLER Scott Stroud			6 MANUFACTURERS DESIGNATION OF DRILL S.S. Spoon			
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT S.S. spoon and bowl		8 HOLE LOCATION see map			9 SURFACE ELEVATION	
12 OVERBURDEN THICKNESS 3"		10 DATE STARTED 11-04-99		11 DATE COMPLETED 11-04-99		
13 DEPTH DRILLED INTO ROCK N/A		15 DEPTH GROUNDWATER ENCOUNTERED N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A		
14 TOTAL DEPTH OF HOLE 3"		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A				
18 GEOTECHNICAL SAMPLES N/A		DISTURBED N/A	UNDISTURBED N/A	19 TOTAL NUMBER OF CORE BOXES N/A		
20 SAMPLES FOR CHEMICAL ANALYSIS LL0727		VOC	METALS	OTHER (SPECIFY) explosives	OTHER (SPECIFY) cyanide	21 TOTAL CORE RECOVERY N/A
22 DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR John. Newell	

LOCATION SKETCH/COMMENTS SCALE:

See map on page 14,
References all locations at
Building CB-12

PROJECT LL1-Potential Disposal Area	HOLE NO CB12-03
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HTRW DRILLING LOG		DISTRICT <i>Louisville</i>		HOLE NUMBER <i>CB12-04</i>	
1 COMPANY NAME <i>SAIC</i>		2 DRILL SUBCONTRACTOR <i>SAIC</i>		SHEET SHEETS <i>1 of 2</i>	
3 PROJECT <i>LL1 - Potential Disposal Area</i>			4 LOCATION <i>CB12-04</i>		
5 NAME OF DRILLER <i>Scott Stroud</i>			6 MANUFACTURERS DESIGNATION OF DRILL <i>S.S. spoon</i>		
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT <i>S.S. spoon and bowl</i>		8 HOLE LOCATION <i>see map</i>			
		9 SURFACE ELEVATION			
		10 DATE STARTED <i>11/04/99</i>		11 DATE COMPLETED <i>11/04/99</i>	
12 OVERBURDEN THICKNESS <i>4"</i>		15 DEPTH GROUNDWATER ENCOUNTERED <i>N/A</i>			
13 DEPTH DRILLED INTO ROCK <i>N/A</i>		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>N/A</i>			
14 TOTAL DEPTH OF HOLE <i>4"</i>		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <i>N/A</i>			
18 GEOTECHNICAL SAMPLES <i>N/A</i>		DISTURBED <i>N/A</i>	UNDISTURBED <i>N/A</i>	19 TOTAL NUMBER OF CORE BOXES	
20 SAMPLES FOR CHEMICAL ANALYSIS <i>LL0728</i>		VOC	METALS	OTHER (SPECIFY) <i>explosives</i>	OTHER (SPECIFY) <i>cyanide</i>
22 DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY <i>N/A</i>
					23. SIGNATURE OF INSPECTOR <i>Phil Hoover</i>

LOCATION SKETCH/COMMENTS SCALE:

See map on page 14.

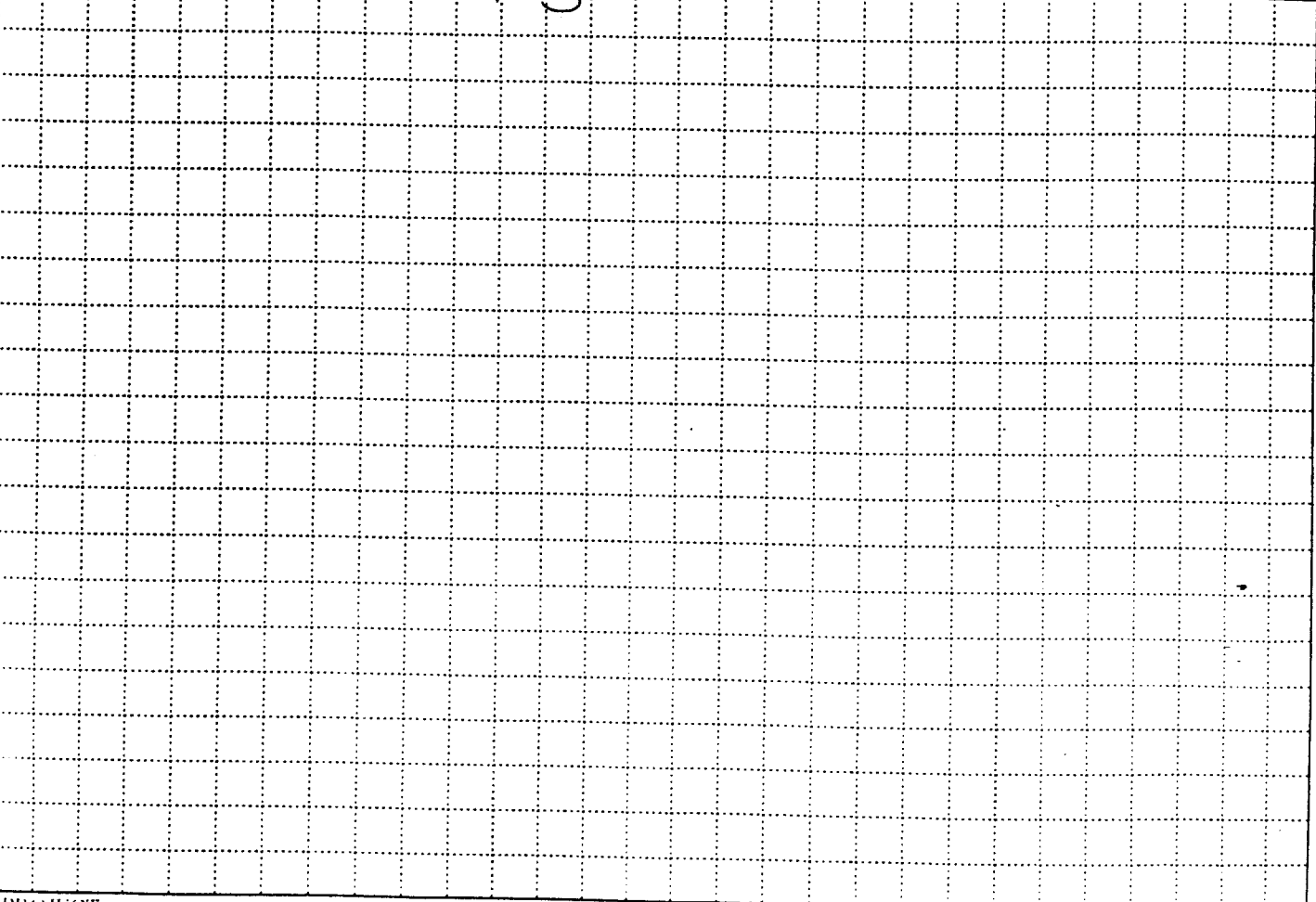
References all locations at Building CB12.

PROJECT <i>LL1 - Potential Disposal Area</i>	HOLE NO. <i>CB12-04</i>
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23
vjb
11/9/99

HTRW DRILLING LOG		DISTRICT Louisville		HOLE NUMBER LL1-CB22-1	
1. COMPANY NAME SATC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT LL2			4. LOCATION CB-22		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL Bucket Auger		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 3" dia. stainless steel bucket auger. Stainless steel bowls and spoons			8. HOLE LOCATION Southwest corner of the ditch		
			9. SURFACE ELEVATION NA		
			10. DATE STARTED 11/4/99		11. DATE COMPLETED 11/4/99
12. OVERBURDEN THICKNESS NA			15. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH DRILLED INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE 0.4'			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS LL0729		VOC —	METALS ✓	OTHER (SPECIFY) Cyanide	OTHER (SPECIFY) Explosives
22. DISPOSITION OF HOLE Bentonite		BACKFILLED —	MONITORING WELL —	OTHER (SPECIFY) —	21. TOTAL CORE RECOVERY 100%
				23. SIGNATURE OF INSPECTOR <i>Paul [Signature]</i>	

LOCATION SKETCH/COMMENTS **See page # 17** SCALE:



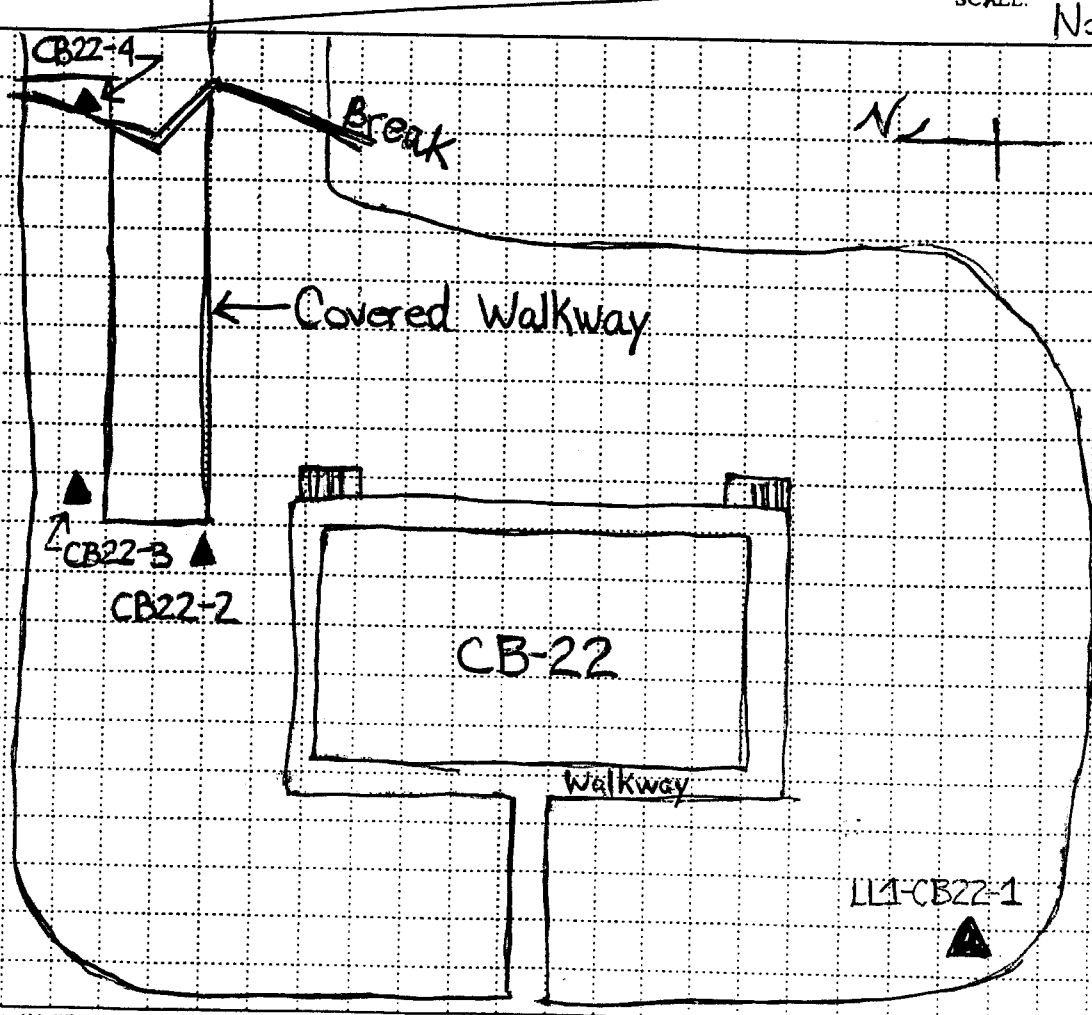
PROJECT LL1	HOLE NO. LL1-CB22-1
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17
vjb
11/9/99

HTRW DRILLING LOG		DISTRICT Housesville	HOLE NUMBER LL1-CB22-2
1. COMPANY NAME SATEC		2. DRILL SUBCONTRACTOR NA	SHEET 1 of 2
3. PROJECT LL1		4. LOCATION CB22	
5. NAME OF DRILLER NA		6. MANUFACTURER'S DESIGNATION OF DRILL Parker Aerial	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT See page #3		8. HOLE LOCATION Right by the walkway	
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 11/7/99 11/4/99	
13. DEPTH DRILLED INTO ROCK NA		11. DATE COMPLETED 11/7/99 11/4/99	
14. TOTAL DEPTH OF HOLE 0.5		15. DEPTH GROUNDWATER ENCOUNTERED None	
18. GEOTECHNICAL SAMPLES NA		19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS LLCB22		21. TOTAL CORE RECOVERY 100	
22. DISPOSITION OF HOLE Backfilled		23. SIGNATURE OF INSPECTOR Paul [Signature]	

LOCATION SKETCH/COMMENTS

SCALE: Not to scale

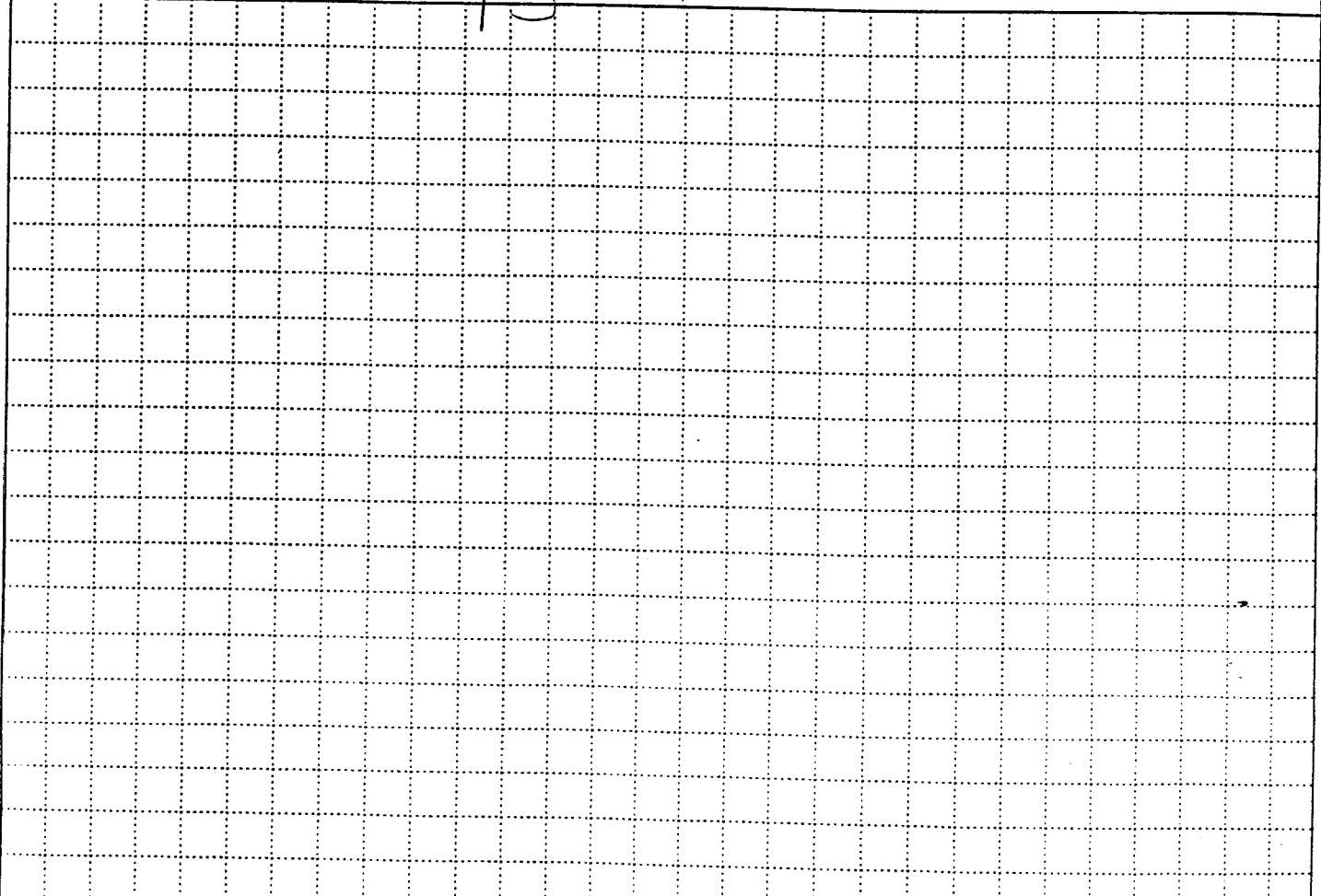


PROJECT LL1	HOLE NO. LL1-CB22-02
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20
vjb
11/9/99

HTRW DRILLING LOG		DISTRICT Louisville		HOLE NUMBER LL1-CB22-3	
1 COMPANY NAME SAIC		2 DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3 PROJECT LL1		4 LOCATION Outside			
5 NAME OF DRILLER NA		6 MANUFACTURERS DESIGNATION OF DRILL Bucket Auger			
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT see page #3		8 HOLE LOCATION On the ground			
		9 SURFACE ELEVATION NA			
		10 DATE STARTED 11/4/99		11 DATE COMPLETED 11/4/99	
12 OVERBURDEN THICKNESS NA		15 DEPTH GROUNDWATER ENCOUNTERED NA			
13 DEPTH DRILLED INTO ROCK NA		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14 TOTAL DEPTH OF HOLE 17 0.3'		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18 GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19 TOTAL NUMBER OF CORE BOXES NA	
20 SAMPLES FOR CHEMICAL ANALYSIS LL0731		VOC —	METALS V	OTHER (SPECIFY) Cyanide	OTHER (SPECIFY) Explosives
22 DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	23 SIGNATURE OF INSPECTOR <i>[Signature]</i>	

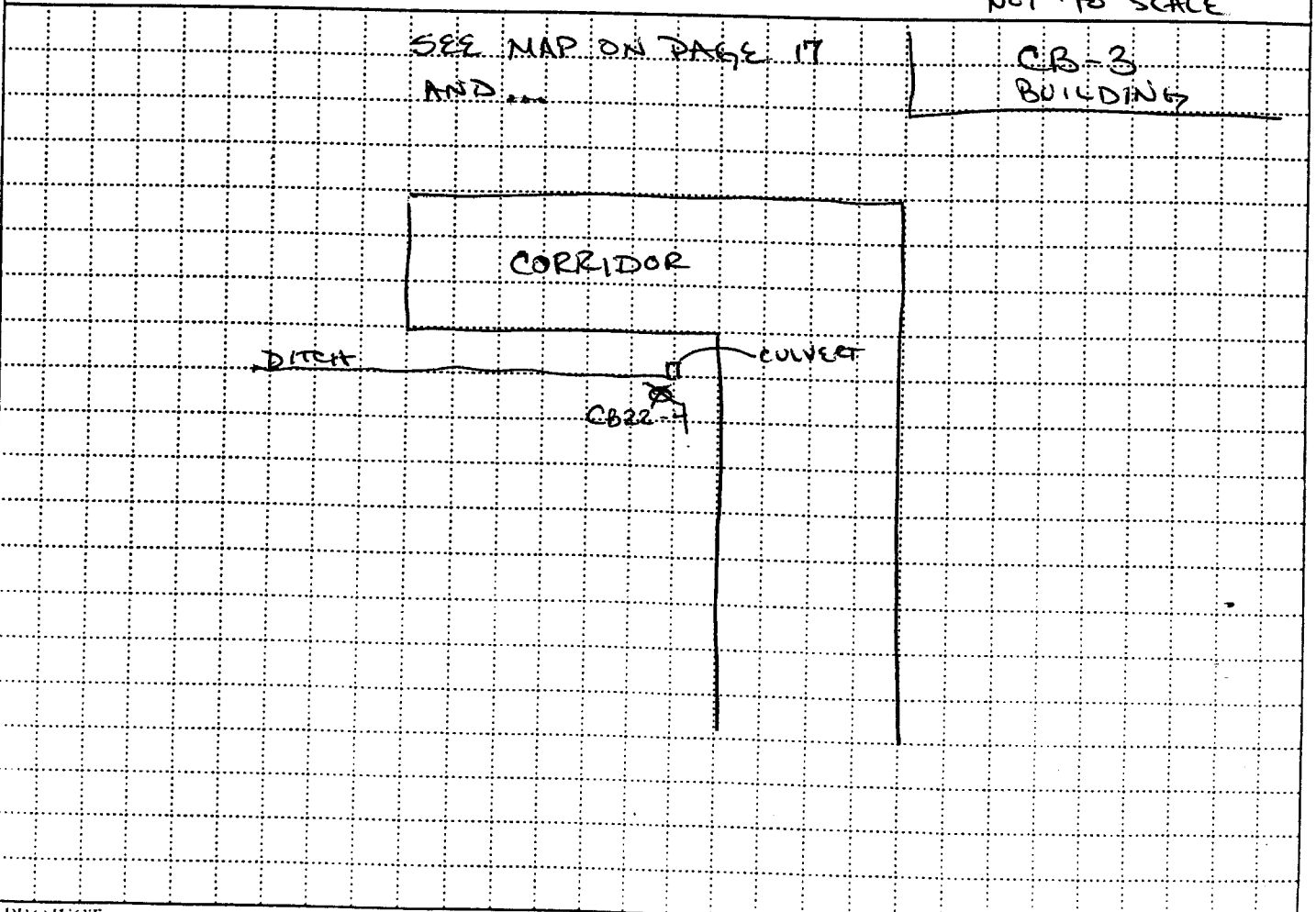
LOCATION SKETCH/COMMENTS See page # 17 SCALE: 1/4"



PROJECT LL1	HOLE NO. LL1-CB22-3
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HTRW DRILLING LOG		DISTRICT LOUISVILLE		HOLE NUMBER LL1/CB22-4	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR N/A		SHEET SHEETS 1 OF 2	
3. PROJECT LL1/CB22-4			4. LOCATION LL1/CB22-4		
5. NAME OF DRILLER SCOTT STROUD			6. MANUFACTURER'S DESIGNATION OF DRILL N/A		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT STAINLESS STEEL BOWL & SPOON		8. HOLE LOCATION SEE MAP			
		9. SURFACE ELEVATION			
		10. DATE STARTED 11-4-99		11. DATE COMPLETED 11-4-99	
12. OVERBURDEN THICKNESS 4"		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"		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A			
18. GEOTECHNICAL SAMPLES		DISTURBED N/A	UNDISTURBED N/A	19. TOTAL NUMBER OF CORE BOXES N/A	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC N/A	METALS N/A	OTHER (SPECIFY) N/A	OTHER (SPECIFY) N/A
		OTHER (SPECIFY) N/A	OTHER (SPECIFY) N/A	OTHER (SPECIFY) N/A	21. TOTAL CORE RECOVERY % N/A
22. DISPOSITION OF HOLE		SUOC	PCB	CYANIDE	PESTICIDES
		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	EXPLOSIVES
					PROPELLANTS
					23. SIGNATURE OF INSPECTOR <i>Boan J. Williams</i>

LOCATION SKETCH/COMMENTS SCALE: **NOT TO SCALE**



PROJECT LL1/CB22-4 Load Line 1 Potential Disposal Areas	HOLE NO. LL1/CB22-4
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HTRW DRILLING LOG		DISTRICT <i>Louisville</i>		HOLE NUMBER <i>CB23-01</i>	
1. COMPANY NAME <i>SHIC</i>		2. DRILL SUBCONTRACTOR <i>SHIC</i>		SHEET SHEETS <i>1 OF 2</i>	
3. PROJECT <i>LL1-Potential Disposal Area</i>			4. LOCATION <i>CB23-01</i>		
5. NAME OF DRILLER <i>Scott + Stroud</i>			6. MANUFACTURER'S DESIGNATION OF DRILL <i>SS. spoon</i>		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT <i>SS. spoon and bowl</i>		8. HOLE LOCATION <i>see map</i>			
		9. SURFACE ELEVATION			
		10. DATE STARTED <i>11/04/99</i>		11. DATE COMPLETED <i>11/04/99</i>	
12. OVERBURDEN THICKNESS <i>1"</i>		15. DEPTH GROUND WATER ENCOUNTERED <i>N/A</i>			
13. DEPTH DRILLED INTO ROCK <i>N/A</i>		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>N/A</i>			
14. TOTAL DEPTH OF HOLE <i>1"</i>		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <i>N/A</i>			
18. GEOTECHNICAL SAMPLES <i>N/A</i>		DISTURBED <i>N/A</i>	UNDISTURBED <i>N/A</i>	19. TOTAL NUMBER OF CORE BOXES <i>N/A</i>	
20. SAMPLES FOR CHEMICAL ANALYSIS <i>LL0733</i>		VOC <i>-</i>	METALS <i>x</i>	OTHER (SPECIFY) <i>explosives</i>	OTHER (SPECIFY) <i>cyanide</i>
22. DISPOSITION OF HOLE <i>-</i>		BACK-FILLED <i>-</i>	MONITORING WELL <i>-</i>	OTHER (SPECIFY) <i>-</i>	21. TOTAL CORE RECOVERY % <i>N/A</i>
				23. SIGNATURE OF INSPECTOR <i>[Signature]</i>	

LOCATION SKETCH/COMMENTS SCALE:

See Map on page 26

References all locations at Building CB-23

PROJECT <i>LL1 Potential Disposal Area</i>	HOLE NO <i>CB23-01</i>
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HTRW DRILLING LOG		DISTRICT Louisville		HOLE NUMBER CB23-02	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR SAIC		SHEET SHEETS 1 of 2	
3. PROJECT LL1 - Potential Disposal Area			4. LOCATION CB23-02		
5. NAME OF DRILLER Scott Stroud			6. MANUFACTURERS DESIGNATION OF DRILL S.S. spoon		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8. HOLE LOCATION see map			
S.S. spoon and bowl		9. SURFACE ELEVATION N/A			
12. OVERBURDEN THICKNESS 2"		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"		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A			
18. GEOTECHNICAL SAMPLES N/A		DISTURBED N/A	UNDISTURBED N/A	19. TOTAL NUMBER OF CORE BOXES N/A	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
LL-0734		—	X	cyanide	explosives
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY % N/A
—		—	—	—	23. SIGNATURE OF INSPECTOR John L. Lauer

LOCATION SKETCH/COMMENTS SCALE:

See Map on page 26.
References all locations at
Building CB23.

PROJECT LL1 - Potential Disposal Area	HOLE NO CB23-02
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HTRW DRILLING LOG		DISTRICT Louisville		HOLE NUMBER CB23-03	
1 COMPANY NAME SAIC		2 DRILL SUBCONTRACTOR SAIC		SHEET SHEETS 1 OF 2	
3 PROJECT LL1 - Potential Disposal Area			4 LOCATION CB23-03		
5 NAME OF DRILLER Scott Stroud			6 MANUFACTURER'S DESIGNATION OF DRILL S.S. spoon		
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT S.S. spoon and bowl		8 HOLE LOCATION see map		9 SURFACE ELEVATION	
12 OVERBURDEN THICKNESS 5"		10 DATE STARTED 11/04/99		11 DATE COMPLETED 11/04/99	
13 DEPTH DRILLED INTO ROCK N/A		15 DEPTH GROUNDWATER ENCOUNTERED N/A		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A	
14 TOTAL DEPTH OF HOLE 5"		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A			
18 GEOTECHNICAL SAMPLES N/A		DISTURBED N/A	UNDISTURBED N/A	19 TOTAL NUMBER OF CORE BOXES N/A	
20 SAMPLES FOR CHEMICAL ANALYSIS LL0735		VOC —	METALS X	OTHER (SPECIFY) explosives	OTHER (SPECIFY) cyanide
22 DISPOSITION OF HOLE —		BACKFILLED —	MONITORING WELL —	OTHER (SPECIFY) —	21 TOTAL CORE RECOVERY N/A
LOCATION SKETCH/COMMENTS				23 SIGNATURE OF INSPECTOR <i>John Moore</i>	

SCALE:

See map on page 26.

References all locations at Building CB23.

PROJECT LL1 - Potential Disposal Area	HOLE NO CB23-03
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HTRW DRILLING LOG		DISTRICT Louisville		HOLE NUMBER CB23-04	
1 COMPANY NAME SAIC		2 DRILL SUBCONTRACTOR SAIC		SHEET SHEETS 1 OF 2	
3 PROJECT LLI - Potential Disposal Area			4 LOCATION CB23-04		
5 NAME OF DRILLER Scott Stroud			6 MANUFACTURERS DESIGNATION OF DRILL SS. spoon		
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT S.S. spoon		8 HOLE LOCATION see map			
		9 SURFACE ELEVATION			
		10 DATE STARTED 11/04/99		11 DATE COMPLETED 11/04/99	
12 OVERBURDEN THICKNESS 3"		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"		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A			
18 GEOTECHNICAL SAMPLES N/A		DISTURBED N/A	UNDISTURBED N/A	19 TOTAL NUMBER OF CORE BOXES N/A	
20. SAMPLES FOR CHEMICAL ANALYSIS LL# 736, 0744, 0746		VOC X	METALS X	OTHER (SPECIFY) exp. propellants	OTHER (SPECIFY) SPOCs cyanide
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	OTHER (SPECIFY) PCBs, pesticides
					21 TOTAL CORE RECOVERY N/A
					23. SIGNATURE OF INSPECTOR W.D. Moore

LOCATION SKETCH/COMMENTS SCALE:

See map on page 26.

References all locations at
Building CB23.

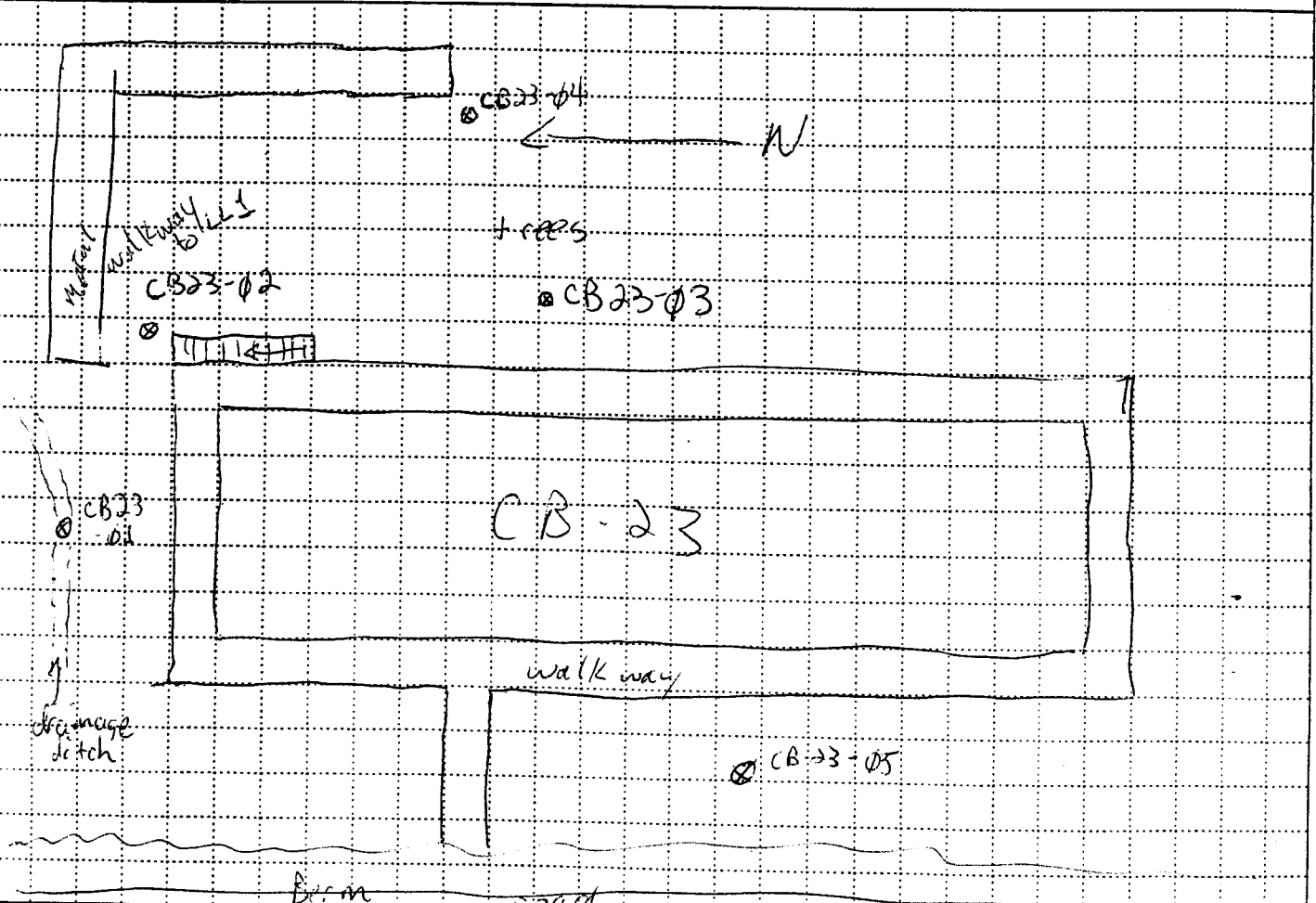
PROJECT LLI - Potential Disposal Area	HOLE NO CB23-04
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26

HTRW DRILLING LOG		DISTRICT <i>Louisville</i>		HOLE NUMBER <i>CB23-05</i>	
1. COMPANY NAME <i>SAIC</i>		2. DRILL SUBCONTRACTOR <i>SAIC</i>		SHEET SHEETS <i>1 of 2</i>	
3. PROJECT <i>LL1 - Potential Disposal Area</i>			4. LOCATION <i>CB23-05</i>		
5. NAME OF DRILLER <i>Scott Stroud</i>			6. MANUFACTURER'S DESIGNATION OF DRILL <i>SS. SPDR 17</i>		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT <i>S.S. spoon and bowl</i>		8. HOLE LOCATION <i>see map</i>		9. SURFACE ELEVATION	
12. OVERBURDEN THICKNESS <i>1"</i>		10. DATE STARTED <i>11/04/99</i>		11. DATE COMPLETED <i>11/04/99</i>	
13. DEPTH DRILLED INTO ROCK <i>N/A</i>		15. DEPTH GROUNDWATER ENCOUNTERED <i>N/A</i>		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>N/A</i>	
14. TOTAL DEPTH OF HOLE <i>1"</i>		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <i>N/A</i>			
18. GEOTECHNICAL SAMPLES <i>N/A</i>		DISTURBED <i>N/A</i>	UNDISTURBED <i>N/A</i>	19. TOTAL NUMBER OF CORE BOXES <i>N/A</i>	
20. SAMPLES FOR CHEMICAL ANALYSIS <i>LL0742</i>		VOC	METALS	OTHER (SPECIFY) <i>explosives</i>	OTHER (SPECIFY) <i>cyanide</i>
22. DISPOSITION OF HOLE <i>---</i>		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY <i>N/A</i>
				23. SIGNATURE OF INSPECTOR <i>Phil. Wood</i>	

LOCATION SKETCH/COMMENTS

SCALE:



PROJECT <i>LL1 - Potential Disposal Area</i>		HOLE NO <i>CB23-05</i>	
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LLI-144, LLI-145, LLI-146, LLI-001

3

HTRW DRILLING LOG		DISTRICT Louisville COE		HOLE NUMBER	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR		SHEET 1 OF 5	
3. PROJECT RVAAP LLI/ Phase II RI			4. LOCATION CB-4		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS Geopods and bucket Auger		8. HOLE LOCATION see map		9. SURFACE ELEVATION SPA 318/01	
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 9/12/00		11. DATE COMPLETED 9/19/00	
13. DEPTH DRILLED INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14. TOTAL DEPTH OF HOLE see p. 4-7		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
15. GEOTECHNICAL SAMPLES LLI-001		DISTURBED X 3/12/01		UNDISTURBED	
19. TOTAL NUMBER OF CORE BOXES NA		20. SAMPLES FOR CHEMICAL ANALYSIS VOC X METALS X OTHER (SPECIFY) EADISIVES OTHER (SPECIFY) PAXILLANTS		21. TOTAL CORE RECOVERY NA	
22. DISPOSITION OF HOLE BACKFILLED YES		MONITORING WELL X		23. SIGNATURE OF INSPECTOR J. DeLong	

LOCATION SKETCH/COMMENTS: SPA 3-8-01

SCALE: Not to scale

ENG FORM 5056-R, AUG 94

(Proponent CFCW-EG)

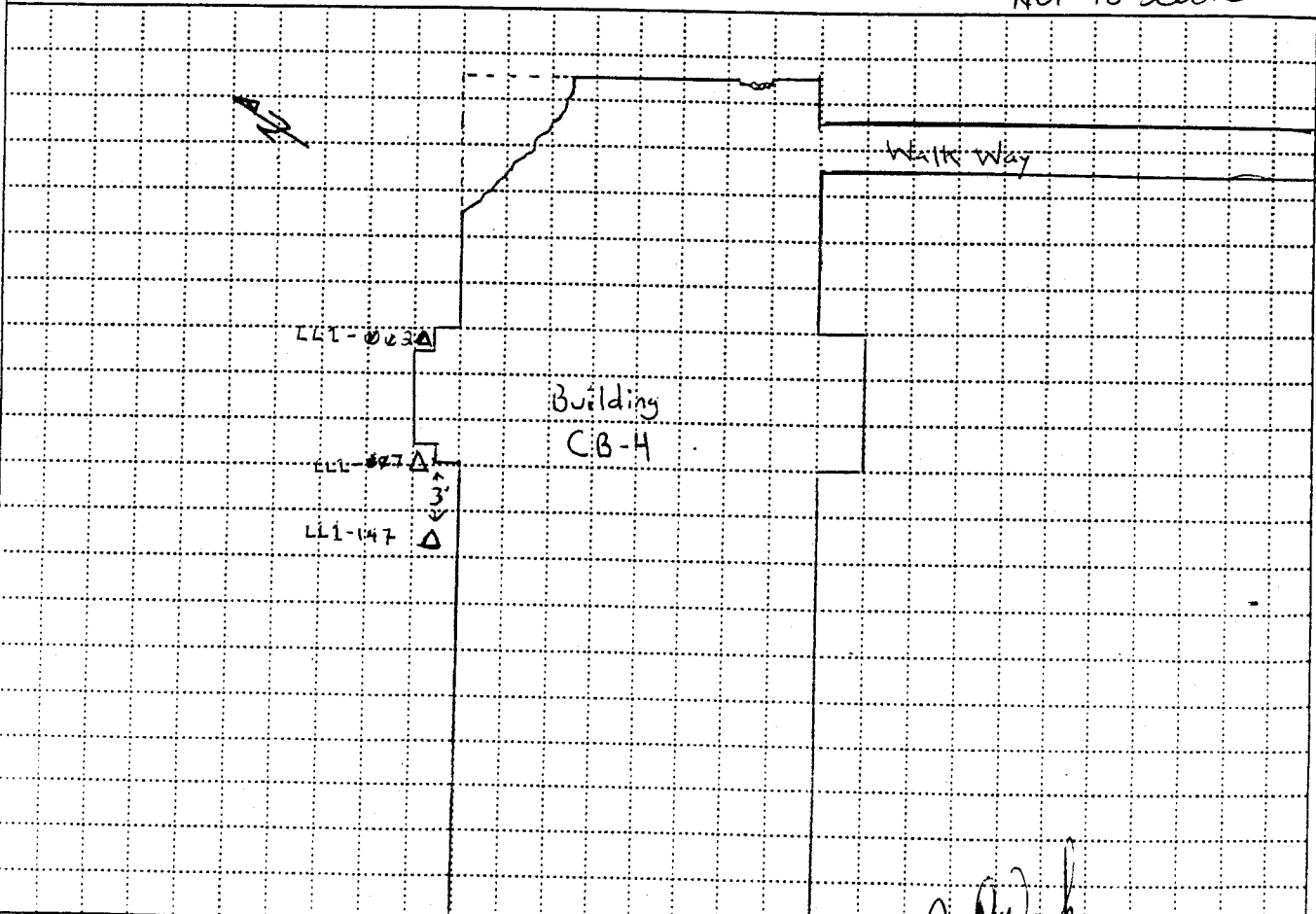
10

LLI-002, LLI-007, LLI-147

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER 7
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR		SHEET 7 SHEETS OF
3. PROJECT BVAAP LLI Phase II RI		4. LOCATION CB-4		
5. NAME OF DRILLER NA		6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 55 SCOOTERS & bucket auger		8. HOLE LOCATION see map		SPA 3/8/01
		9. SURFACE ELEVATION		
		10. DATE STARTED 9-12-00	11. DATE COMPLETED 9-19-00	
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE see pgs. 11-13		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES NA	DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
	NA	X	EXPLOSIVES	PROPAGANTS
21. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY NA
				22. SIGNATURE OF INSPECTOR

LOCATION SKETCH/COMMENTS

SCALE: Not to scale

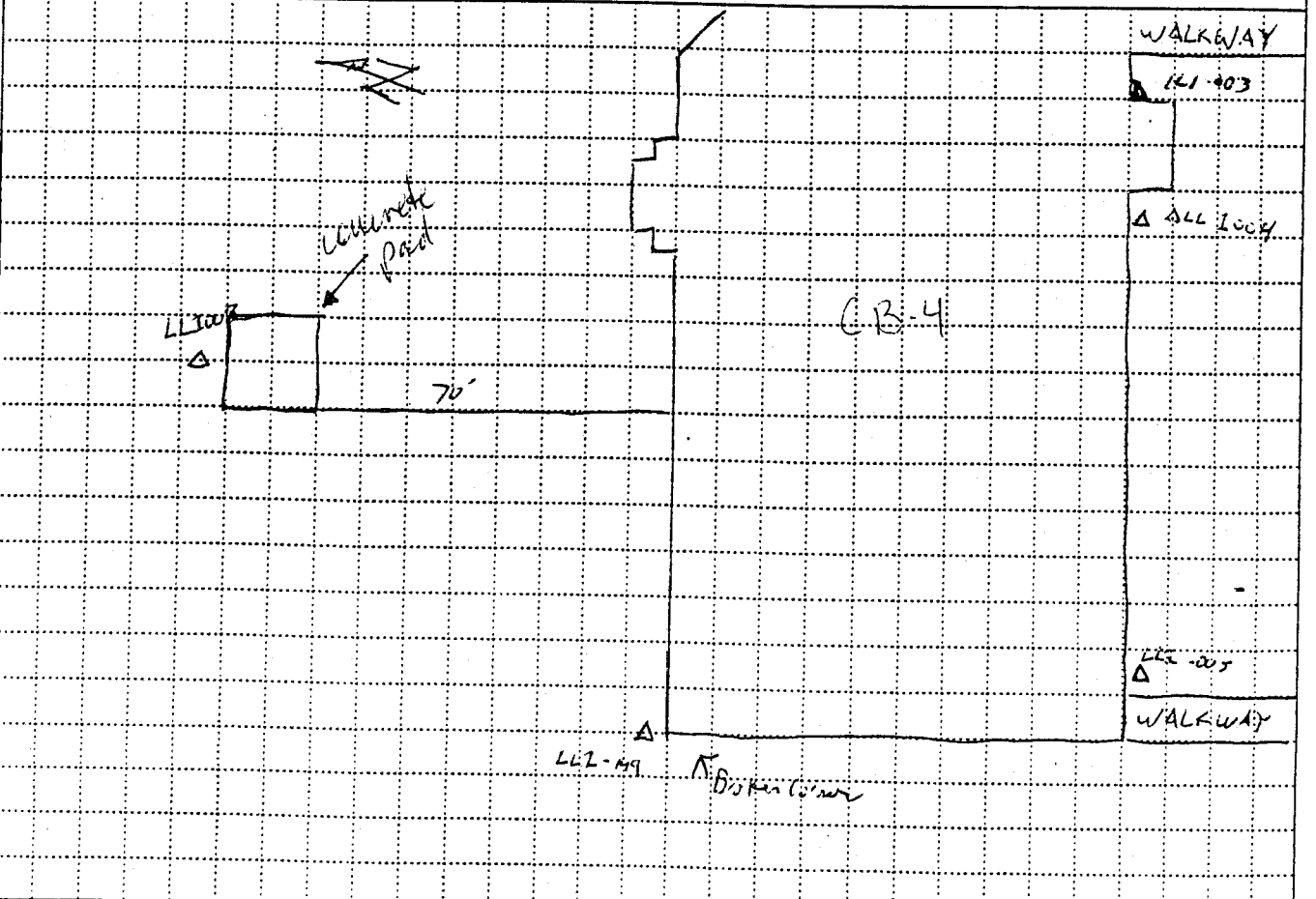


PROJECT BVAAP Phase II RI	HOLE NO LLI-002, 007, 147
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24

HTRW DRILLING LOG		DISTRICT <u>LLL-005, 004, 003</u>		HOLE NUMBER
1. COMPANY NAME <u>SAIC</u>		2. DRILL SUBCONTRACTOR <u>NA</u>		SHEET <u>24</u> OF <u>24</u>
3. PROJECT <u>BVAAP Loadline I Phase II RI</u>		4. LOCATION <u>Building CB-4</u>		
5. NAME OF DRILLER <u>NA</u>		6. MANUFACTURER'S DESIGNATION OF DRILL <u>NA</u>		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT <u>55 SCOP, DUCKET</u> <u>auger</u>		8. HOLE LOCATION <u>see map</u>		9. SURFACE ELEVATION <u>SEA</u> <u>315/01</u>
12. OVERBURDEN THICKNESS		10. DATE STARTED <u>9/13/00</u>		11. DATE COMPLETED <u>9/13/00</u>
13. DEPTH DRILLED INTO ROCK		15. DEPTH GROUNDWATER ENCOUNTERED <u>NA</u>		
14. TOTAL DEPTH OF HOLE <u>Sec p. 25-27</u>		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <u>NA</u>		
18. GEOTECHNICAL SAMPLES <u>NA</u>		DISTURBED <u>NA</u>	UNDISTURBED <u>NA</u>	19. TOTAL NUMBER OF CORE BOXES <u>NA</u>
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC <u>—</u>	METALS <u>X</u>	OTHER (SPECIFY) <u>EXPLOSIVES</u>
22. DISPOSITION OF HOLE		BACKFILLED <u>—</u>	MONITORING WELL <u>—</u>	OTHER (SPECIFY) <u>PROXIMITY</u>
				21. TOTAL CORE RECOVERY <u>NA</u>
				23. SIGNATURE OF INSPECTOR

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



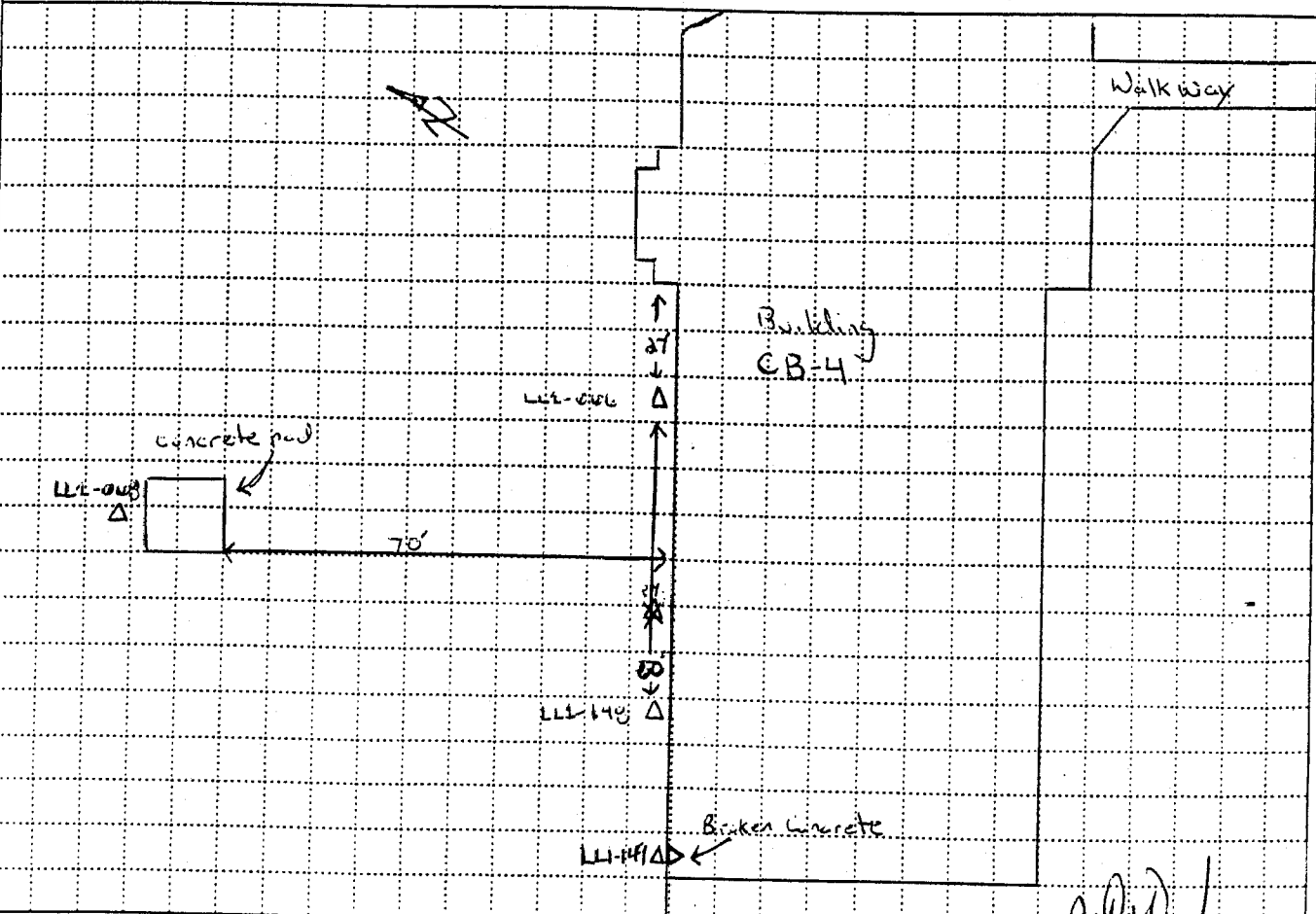
PROJECT <u>BVAAP Phase II RI</u>	HOLE NO. <u>LLL-005, 004, 003</u>
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LLI-006, LLI-148, LLI-008, LLI-149

HTRW DRILLING LOG		DISTRICT Louisville COE		HOLE NUMBER	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS OF	
3. PROJECT RVAAP Woodline I Phase II RI			4. LOCATION Bldg. CB-4		
5. NAME OF DRILLER			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS SCOOP, bucket auger		8. HOLE LOCATION see map		9. SURFACE ELEVATION 281.01	
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		11. DATE COMPLETED 9/19/00	
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		10. DATE STARTED 9/13/00	
14. TOTAL DEPTH OF HOLE see p. 18-21		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC X	METALS X	OTHER (SPECIFY) Explosives	OTHER (SPECIFY) PROD/AMTS
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY NA
					23. SIGNATURE OF INSPECTOR

LOCATION SKETCH/COMMENTS

SCALE: Not to Scale



PROJECT RVAAP Phase II RI		HOLE NO. NA	
ENG FORM 5056-R, AUG 94		LLI-006, 148, 008, 149	

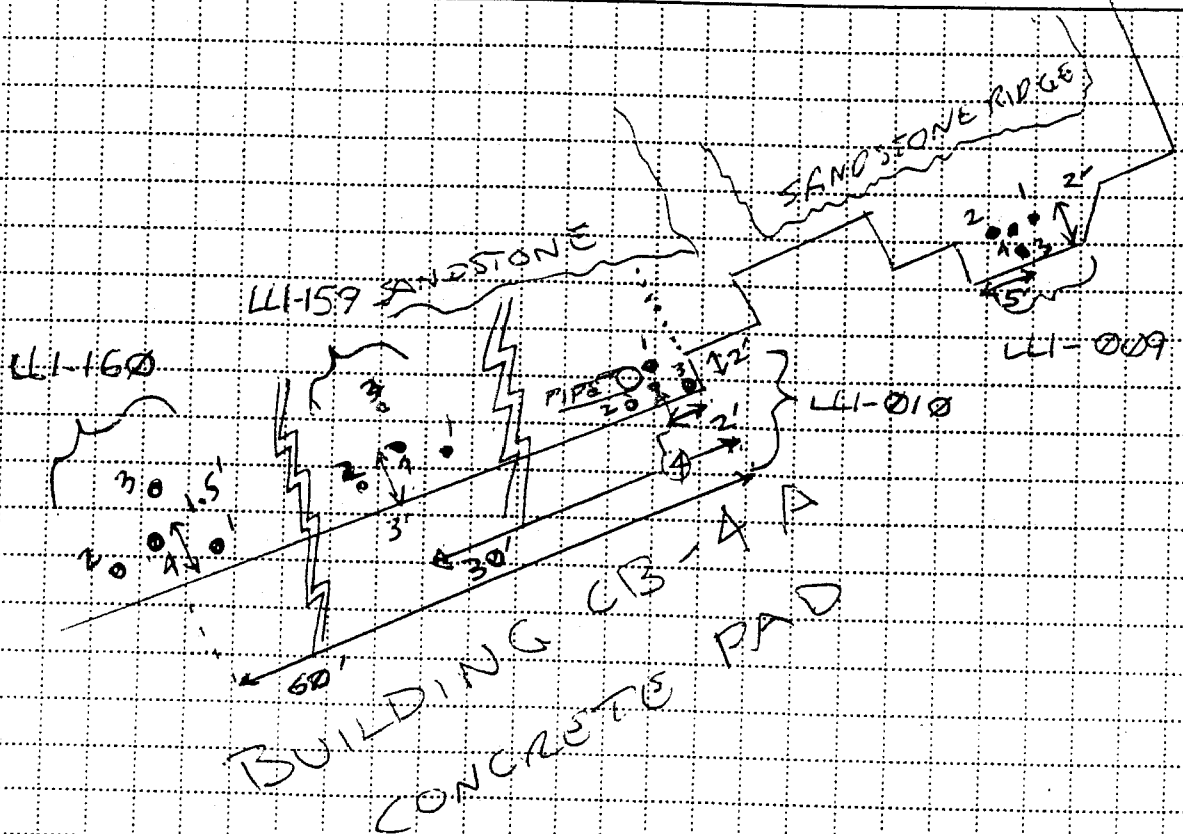
(Prominent GECW-EG)

LLI-009, LLI-010, LLI-159, LLI-160

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER 009, 010, 159, 160	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 5	
3. PROJECT RVAAP: LLI / PHASE II R.I.			4. LOCATION CB-4A		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 55 SCOOPS, BUCKET AUGER BOWS - SPOONS			8. HOLE LOCATION SEE MAP		
9. SURFACE ELEVATION NA			10. DATE STARTED 09/14/00		
11. DATE COMPLETED 09/19/00			12. OVERBURDEN THICKNESS NA		
13. DEPTH DRILLED INTO ROCK NA			14. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
15. TOTAL DEPTH OF HOLE SEE PAGE 2			16. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES NA		DISTURBED —	UNDISTURBED —	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC —	METALS X	OTHER (SPECIFY) CN-	OTHER (SPECIFY) EXPLOSIVES
21. TOTAL CORE RECOVERY NA		OTHER (SPECIFY) PCW (see 22)	OTHER (SPECIFY) —	22. DISPOSITION OF HOLE —	
23. SIGNATURE OF INSPECTOR Coll		BACKFILLED YES	MONITORING WELL —	OTHER (SPECIFY) —	

LOCATION SKETCH/COMMENTS

SCALE: NOT TO SCALE

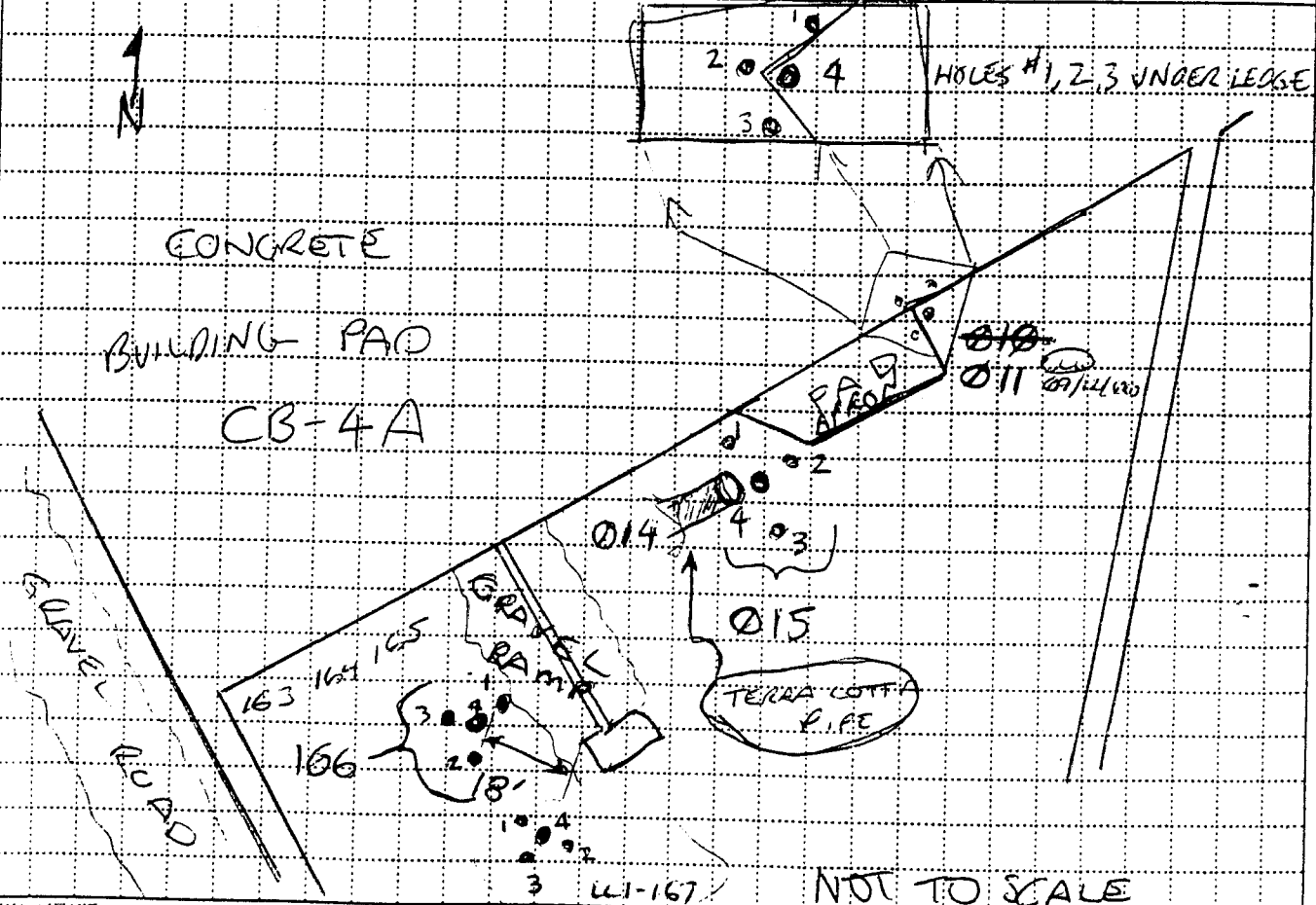


PROJECT RVAAP: LLI / PHASE II R.I.		HOLE NO LLI-009, 010, 159, 160	
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LI-015, LI-011, LI-166, LI-167

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER 015, 011, 166, 167	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 5	
3. PROJECT RVAAP: LI / PHASE II RI			4. LOCATION CB-4A		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS SCOOPS AND BUCKET		8. HOLE LOCATION SEE MAP			
9. SURFACE ELEVATION NA		10. DATE STARTED 09/12/00		11. DATE COMPLETED 09/19/00	
12. OVERBURDEN THICKNESS NA		13. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE SEE PAGE 32		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
15. GEOTECHNICAL SAMPLES NA		DISTURBED —		UNDISTURBED —	
19. TOTAL NUMBER OF CORE BOXES NA		20. SAMPLES FOR CHEMICAL ANALYSIS		21. TOTAL CORE RECOVERY NA	
		VOC		OTHER (SPECIFY)	
		METALS		OTHER (SPECIFY)	
		OTHER (SPECIFY)		OTHER (SPECIFY)	
22. DISPOSITION OF HOLE		23. SIGNATURE OF INSPECTOR			
BACKFILLED		MONITORING WELL		OTHER (SPECIFY)	
YES		—		—	

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE



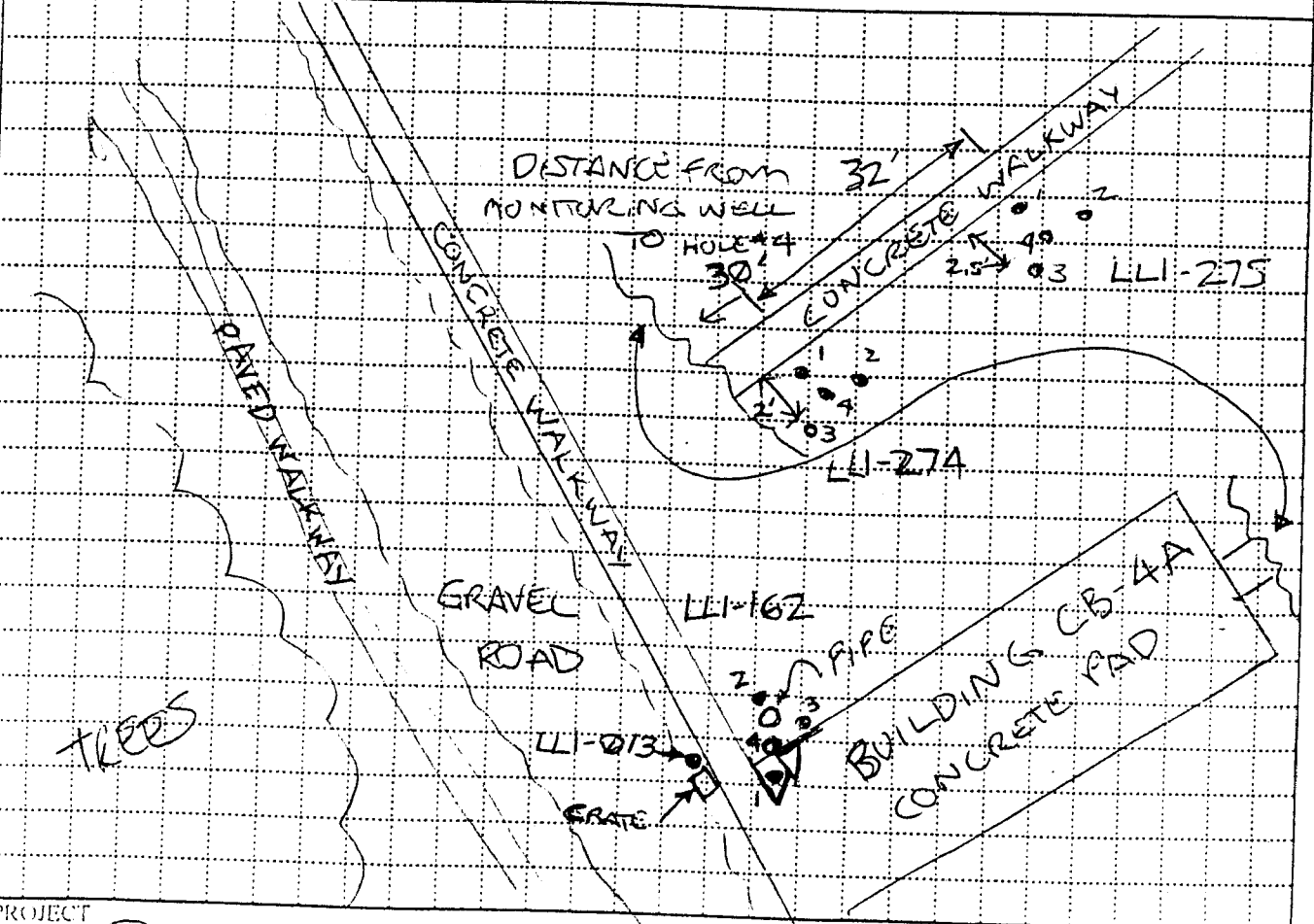
PROJECT RVAAP: LI / PHASE II RI		HOLE NO LI-015, 011, 166, 167	
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45

LLI-162, LLI-013, LLI-274, LLI-275

HTRW DRILLING LOG		DISTRICT		LOUISVILLE COE		HOLE NUMBER		162	
1. COMPANY NAME		SAIC		2. DRILL SUBCONTRACTOR		NA		013 274, 275	
3. PROJECT		RVAAP LLI / PHASE II RI		4. LOCATION		CB-4A		SHEET 1 OF 5	
5. NAME OF DRILLER		NA		6. MANUFACTURER'S DESIGNATION OF DRILL		NA		y.b. 12-11-00	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		SS SOUPS, BUCKET AUGER, R.W.S. SPOONS		8. HOLE LOCATION		SEE MAP			
				9. SURFACE ELEVATION		NA			
				10. DATE STARTED		09/14/00		11. DATE COMPLETED	
								09/15/00	
12. OVERBURDEN THICKNESS		NA		15. DEPTH GROUNDWATER ENCOUNTERED		NA			
13. DEPTH DRILLED INTO ROCK		NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED		NA			
14. TOTAL DEPTH OF HOLE		SEE PAGE 2		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)		NA			
15. GEOTECHNICAL SAMPLES		NA		19. TOTAL NUMBER OF CORE BOXES		NA			
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC		METALS		OTHER (SPECIFY)		OTHER (SPECIFY)	
		-		X		CN		EXPLOSIVES PROPPELLANTS	
22. DISPOSITION OF HOLE		BACKFILLED		MONITORING WELL		OTHER (SPECIFY)		21. TOTAL CORE RECOVERY	
		YES		-		-		NA	
								23. SIGNATURE OF INSPECTOR	
								<i>[Signature]</i>	

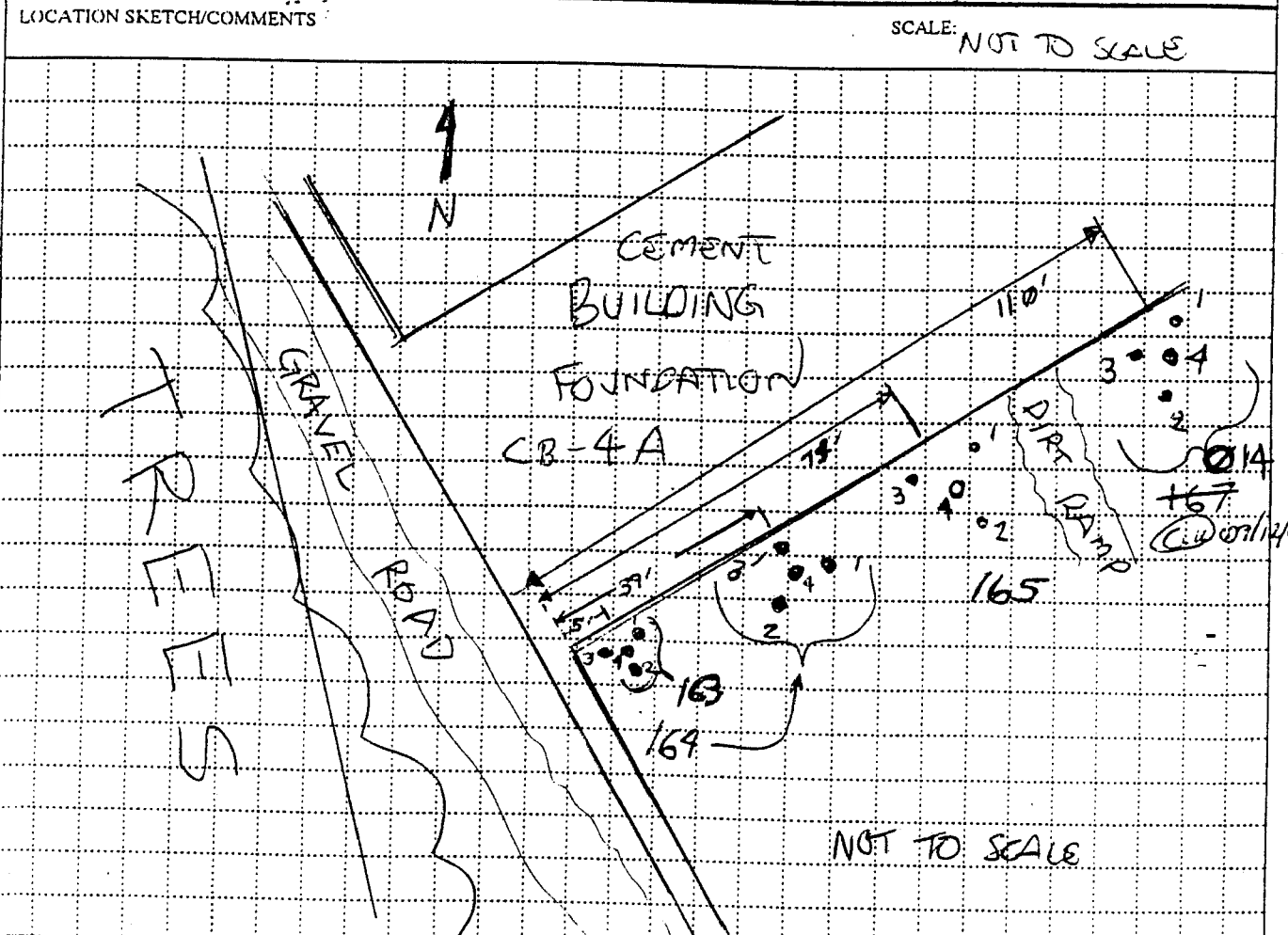
LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE



PROJECT	RVAAP LLI / PHASE II RI	HOLE NO	LLI-162, 013, 274, 275
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LLI-163, LLI-164, LLI-165, LLI-014

HTRW DRILLING LOG		DISTRICT Louisiana COE		HOLE NUMBER 163, 164, 165, 014	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET 1 OF 5	
3. PROJECT RVAAP: LLI / PII RI			4. LOCATION CB-4A		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 55 SCOP A-12 BUCKET AUGER		8. HOLE LOCATION SEE MAP		9. SURFACE ELEVATION NA	
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 09/12/00		11. DATE COMPLETED 09/19/00	
13. DEPTH DRILLED INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14. TOTAL DEPTH OF HOLE SEE PAGE # 2		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES MC		DISTURBED X	UNDISTURBED		19. TOTAL NUMBER OF CORE BOXES NA
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC X	METALS X	OTHER (SPECIFY) EXPLOSIVES	OTHER (SPECIFY) PROPAGANTS
22. DISPOSITION OF HOLE		BACKFILLED YES	MONITORING WELL	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY NA
				23. SIGNATURE OF INSPECTOR <i>[Signature]</i>	



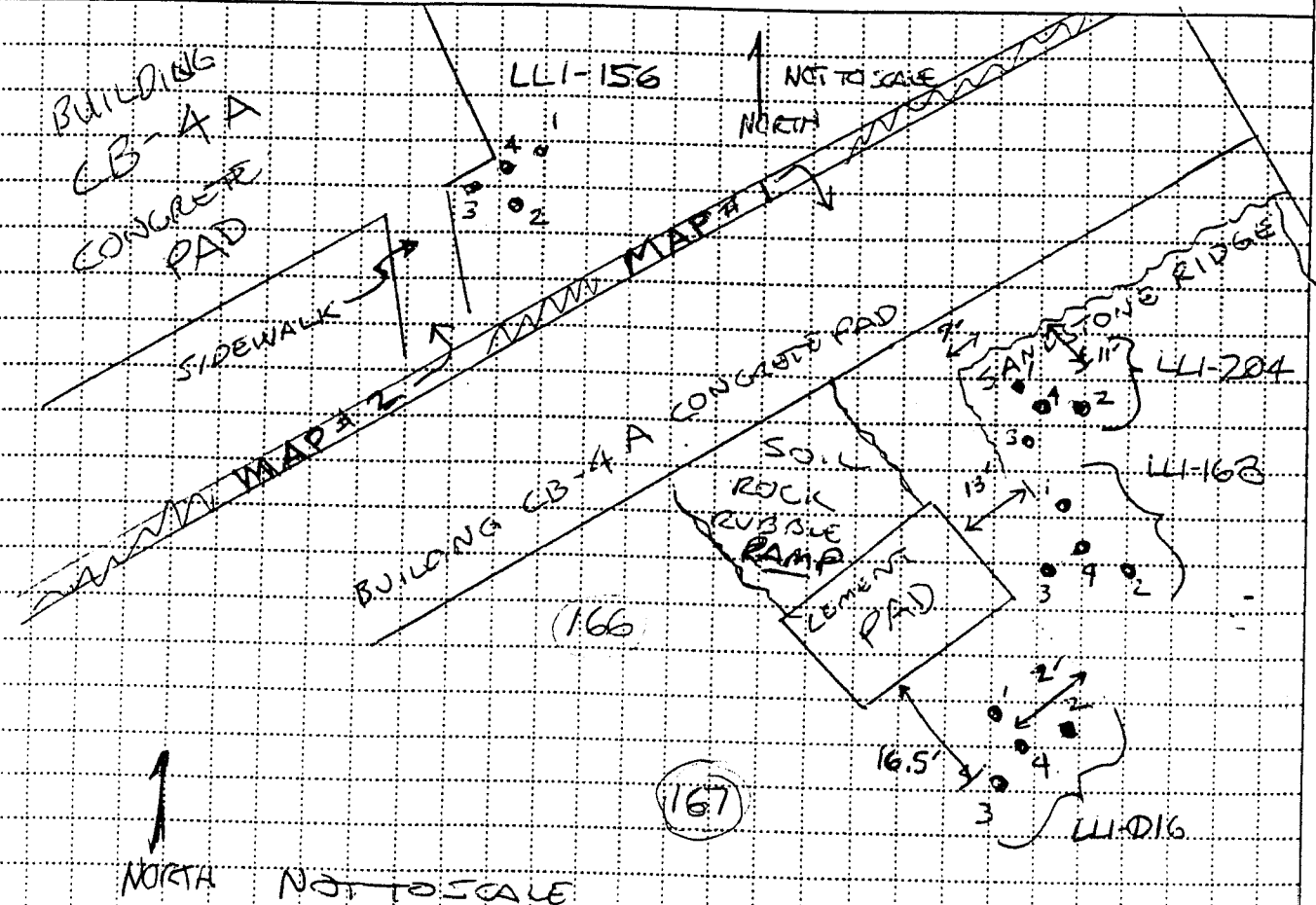
PROJECT RVAAP: LLI / PHASE II RI	HOLE NO CB-4A 163, 164, 165, 014
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LLI-168, LLI-016, LLI-204, LLI-156

17

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER 168, 016, 204, 156	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 5	
3. PROJECT RVAAP: LLI PHASE II RI			4. LOCATION CB-4A		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS SCOOPS AND BUCKET AUGERS, BOWLS + SPINDS		8. HOLE LOCATION SEE MAP		9. SURFACE ELEVATION NA	
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 09/13/00		11. DATE COMPLETED 09/19/00	
13. DEPTH (DRILLED) INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14. TOTAL DEPTH OF HOLE SEE PAGE 2		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
15. GEOTECHNICAL SAMPLES NA		DISTURBED X (ml)	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC X	METALS X	OTHER (SPECIFY) EXPLOSIVES	OTHER (SPECIFY) PROPYLENTS
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY NA
					23. SIGNATURE OF INSPECTOR <i>[Signature]</i>

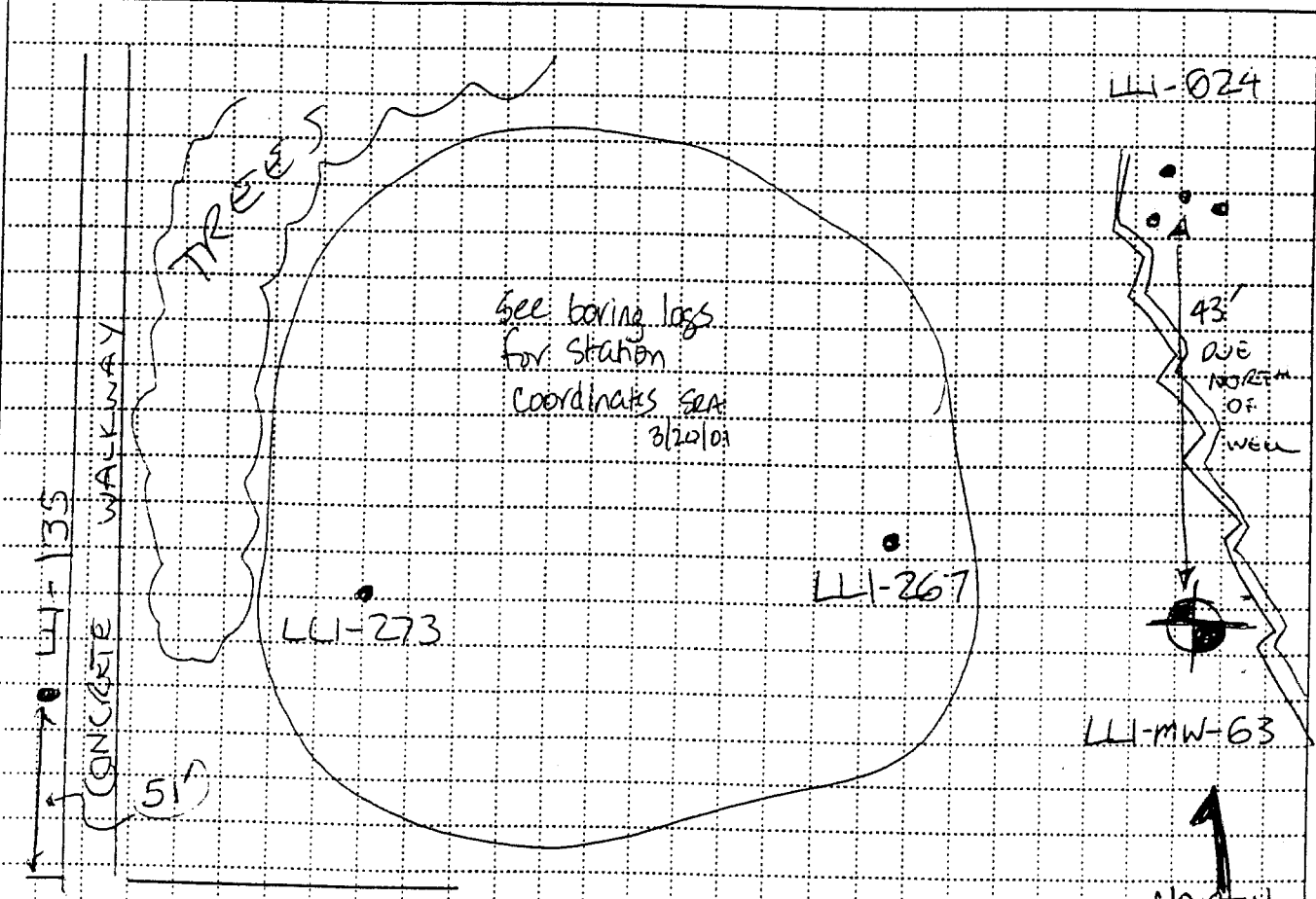
LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



PROJECT RVAAP: LLI / PHASE II RI		HOLE NO LLI-168, 016, 204, 156	
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HTRW DRILLING LOG		DISTRICT: LOUISVILLE COE		HOLE NUMBER: LLI-267, LLI-273, LLI-135, LLI-024	
1. COMPANY NAME: SAIC		2. DRILL SUBCONTRACTOR: NA		SHEET: 1 OF 2	
3. PROJECT: RVAAP: LLI/Phase II R.I.			4. LOCATION: SETTLING BASIN N OF CA-6		
5. NAME OF DRILLER: NA			6. MANUFACTURER'S DESIGNATION OF DRILL: NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: SS Bore, Spoon, Scoops, Bucket Auger		8. HOLE LOCATION: SEE MAP			
9. SURFACE ELEVATION: NA		10. DATE STARTED: 09/25/00		11. DATE COMPLETED: 09/25/00	
12. OVERBURDEN THICKNESS: NA		13. DEPTH GROUNDWATER ENCOUNTERED: NA			
13. (DEPTH DRILLED) INTO ROCK: NA		14. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA			
14. TOTAL DEPTH OF HOLE: SEE PAGE 2		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): STANDING WATER ~ 0.8'			
18. GEOTECHNICAL SAMPLES		DISTURBED: —		UNDISTURBED: —	
19. TOTAL NUMBER OF CORE BOXES: NA		20. SAMPLES FOR CHEMICAL ANALYSIS		21. TOTAL CORE RECOVERY: NA	
		VOC: PCB/SVOL'S		OTHER (SPECIFY): EXPLOSIVES	
		METALS: X		OTHER (SPECIFY): PROPAGANTS	
		OTHER (SPECIFY): BACKFILLED		OTHER (SPECIFY): CN-	
		MONITORING WELL: —		23. SIGNATURE OF INSPECTOR: —	
		YES: YES		OTHER (SPECIFY): PCB'S	

LOCATION SKETCH/COMMENTS: SCALE: **NOT TO SCALE**

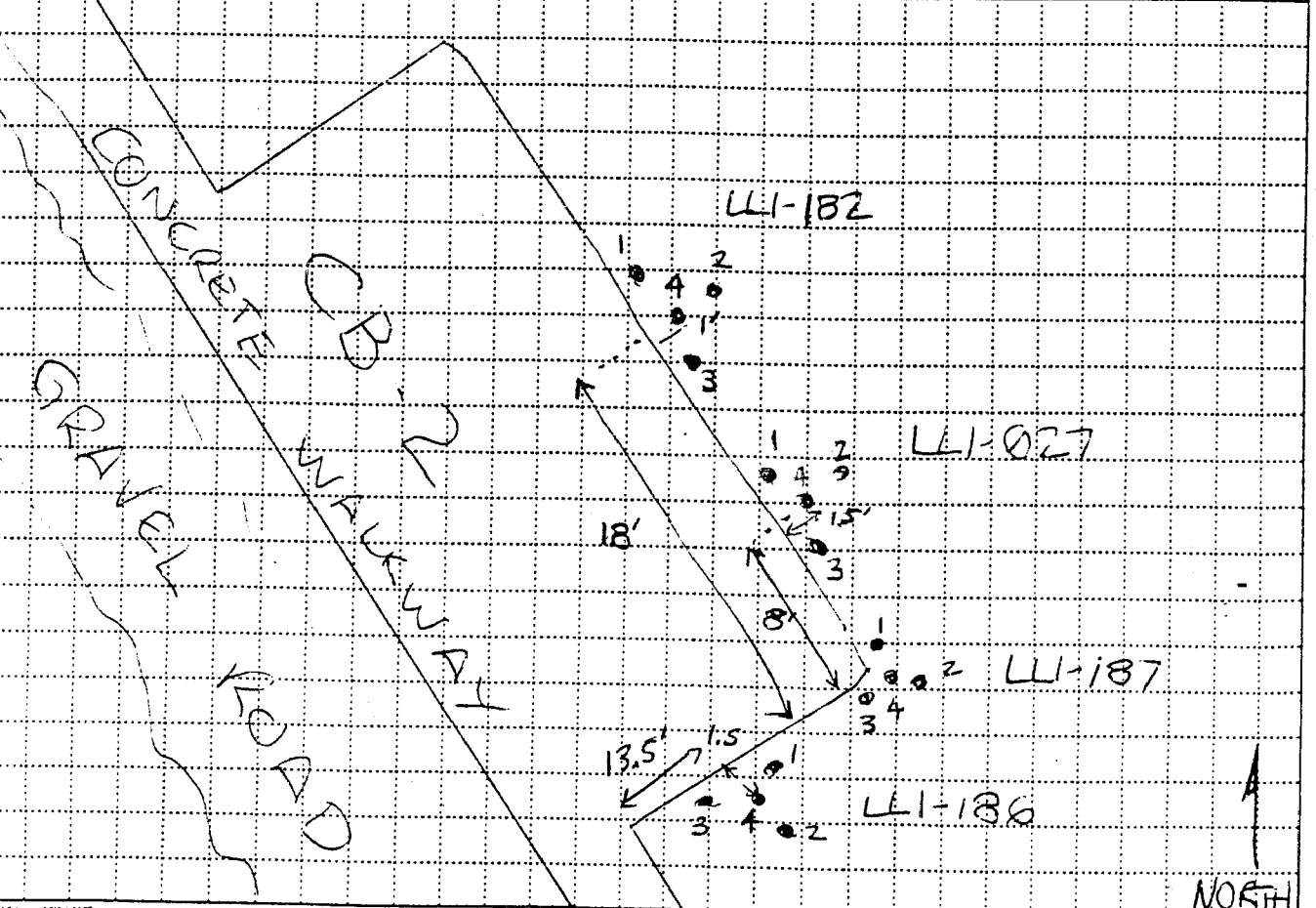


PROJECT: RVAAP: LLI/Phase II R.I.		HOLE NO: LLI-267, 273, 135, 024	
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LLI-182, LLI-027, LLI-187, LLI-186

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI/PHASE II R.I.			4. LOCATION		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS SCOPES, SCOPES BOWLS, BUCKET AUGERS		8. HOLE LOCATION			
9. SURFACE ELEVATION					
10. DATE STARTED 09/17/09			11. DATE COMPLETED		
12. OVERBURDEN THICKNESS			15. DEPTH GROUNDWATER ENCOUNTERED		
13. DEPTH DRILLED INTO ROCK			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES		DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
21. TOTAL CORE RECOVERY NA		OTHER (SPECIFY)	OTHER (SPECIFY)	22. DISPOSITION OF HOLE	
BACKFILLED		MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR	

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



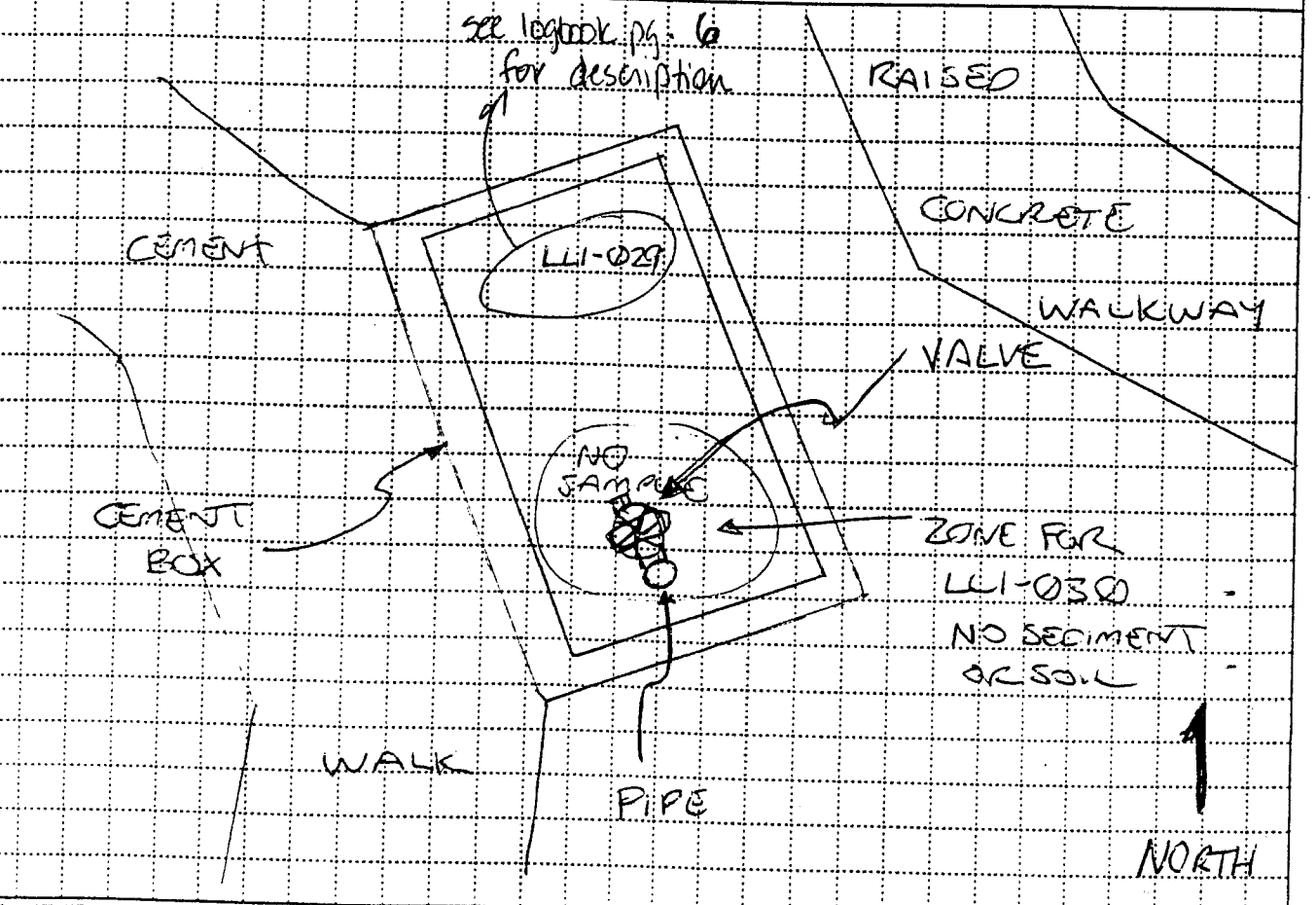
PROJECT RVAAP: LLI/PHASE II R.I.	HOLE NO. LLI-182, 027, 187, 186
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LLI-029, LLI-030 (no sample)

091

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER LLI-029, 030	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET NUMBER 1 OF 2	
3. PROJECT RVAAP: LLI / PHASE II R.I.			4. LOCATION NEAR BLDG LB-3		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZE AND TYPE OF DRILLING AND SAMPLING EQUIPMENT 55 SPDR. BOW			8. HOLE LOCATION SEE MAP		
			9. SURFACE ELEVATION NA		
			10. DATE STARTED 09/18/00		11. DATE COMPLETED 09/18/00
12. OVERBURDEN THICKNESS NA			15. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH DRILLED INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE NA see p. 6			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED	
				19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
			X	EXPLOSIVES	PROPPELLANTS
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY NA
					23. SIGNATURE OF INSPECTOR <i>[Signature]</i>

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE



PROJECT RVAAP: LLI / PHASE II R.I.	HOLE NO LLI-029, 030
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* SEE TTALS LLI-124, LLI-125, LLI-126, LLI-034

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HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER 1	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI/PHASE II R. 1			4. LOCATION *		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT S.S. SPONS. PUMPS BUCKET AUGERS		8. HOLE LOCATION *			
		9. SURFACE ELEVATION NA			
		10. DATE STARTED 09/27/00		11. DATE COMPLETED 09/27/00	
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH (DRILLED) INTO ROCK NA		14. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE *		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
15. GEOTECHNICAL SAMPLES *		DISTURBED <input checked="" type="checkbox"/>	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS *		VOC *	METALS *	OTHER (SPECIFY) *	21. TOTAL CORE RECOVERY NA
22. DISPOSITION OF HOLE *		BACKFILLED *	MONITORING WELL *	OTHER (SPECIFY) *	23. SIGNATURE OF INSPECTOR B.S. Weber

LOCATION SKETCH/COMMENTS: SCALE:

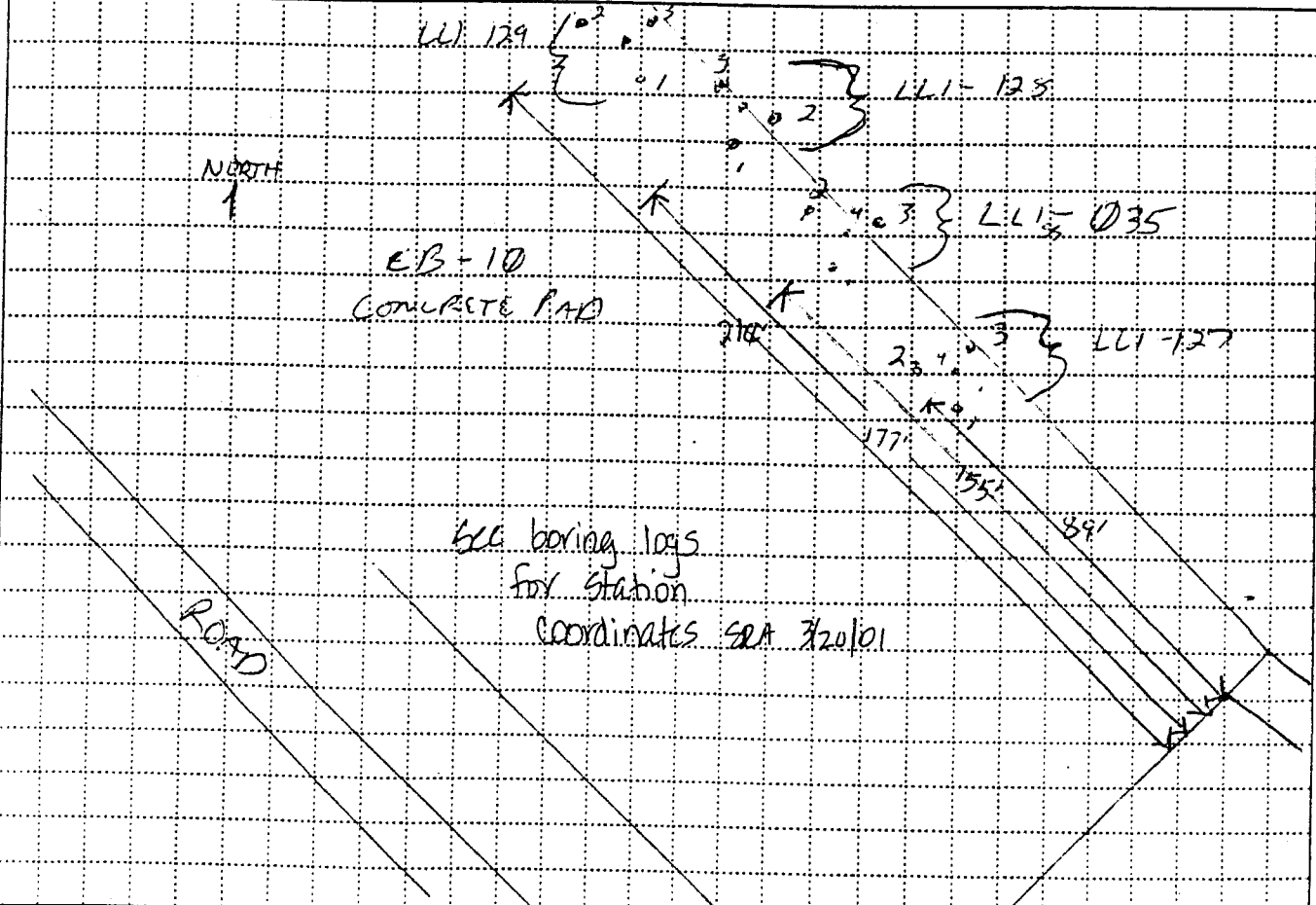
PROJECT: **RVAAP: LLI/PHASE II R. 1.**

HOLE NO: **LLI-124, 125, 126, 034**

* -598 TTALS LLI-127, LLI-035, LLI-128, LLI-129, 17

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER ↑	
COMPANY NAME SAIC		DRILL SUBCONTRACTOR NA		SHEET SHEETS 2 OF 2	
PROJECT RVAAP, LLI / PHASE II R. I.			LOCATION *		
NAME OF DRILLER NA			MANUFACTURER'S DESIGNATION OF DRILL WA		
SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT S.S. SPOONS, BOWLS, BUCKET AUGER		HOLE LOCATION *			
			SURFACE ELEVATION NA		
		DATE STARTED 09/27/00		DATE COMPLETED 09/27/00	
OVERBURDEN THICKNESS NA		DEPTH GROUNDWATER ENCOUNTERED NA			
DEPTH DRILLED INTO ROCK NA		DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
TOTAL DEPTH OF HOLE *		OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
GEOTECHNICAL SAMPLES *		DISTURBED ✓	UNDISTURBED NA	TOTAL NUMBER OF CORE BOXES NA	
SAMPLES FOR CHEMICAL ANALYSIS *		VOC *	METALS *	OTHER (SPECIFY) *	OTHER (SPECIFY) *
DISPOSITION OF HOLE *		BACKFILLED BENTONITE	MONITORING WELL NA	OTHER (SPECIFY) *	TOTAL CORE RECOVERY NA
				SIGNATURE OF INSPECTOR R. D. ...	

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



PROJECT RVAAP: LLI / PHASE II R. I.	HOLE NO LLI-127, 035, 128, 129
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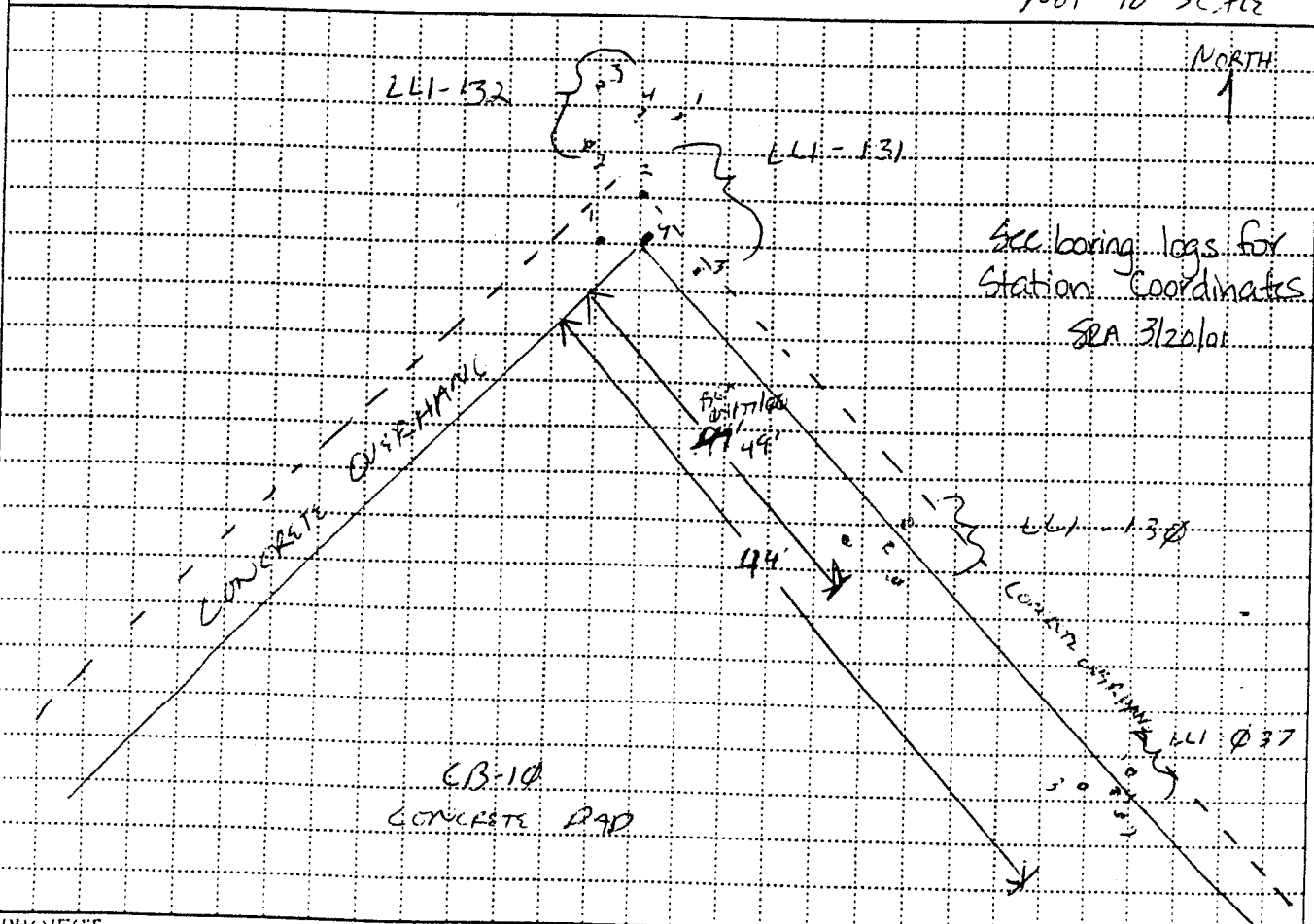
* I TALS LLI-037, LLI-130, LLI-131, LLI-132

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HTRW DRILLING LOG		DISTRICT LOUISVILLE		HOLE NUMBER ↑	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI / PHASE II R. I.			4. LOCATION *		
5. NAME OF DRILLER			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS. SPINDLES, APMS BLUESKY AUGERS		8. HOLE LOCATION *			
		9. SURFACE ELEVATION NA			
		10. DATE STARTED 09/27/00		11. DATE COMPLETED 09/29/00	
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE *		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES *		DISTURBED ✓	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS *		VOC *	METALS *	OTHER (SPECIFY) *	OTHER (SPECIFY) *
21. TOTAL CORE RECOVERY NA		BACKFILLED *	MONITORING WELL NA	OTHER (SPECIFY) *	23. SIGNATURE OF INSPECTOR [Signature]
22. DISPOSITION OF HOLE *		BENTONITE	NA	*	

LOCATION SKETCH/COMMENTS

SCALE: NOT TO SCALE



PROJECT RVAAP: LLI / PHASE II R. I.		HOLE NO LLI-037, 130, 131, 132	
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LLI-038, LLI-100

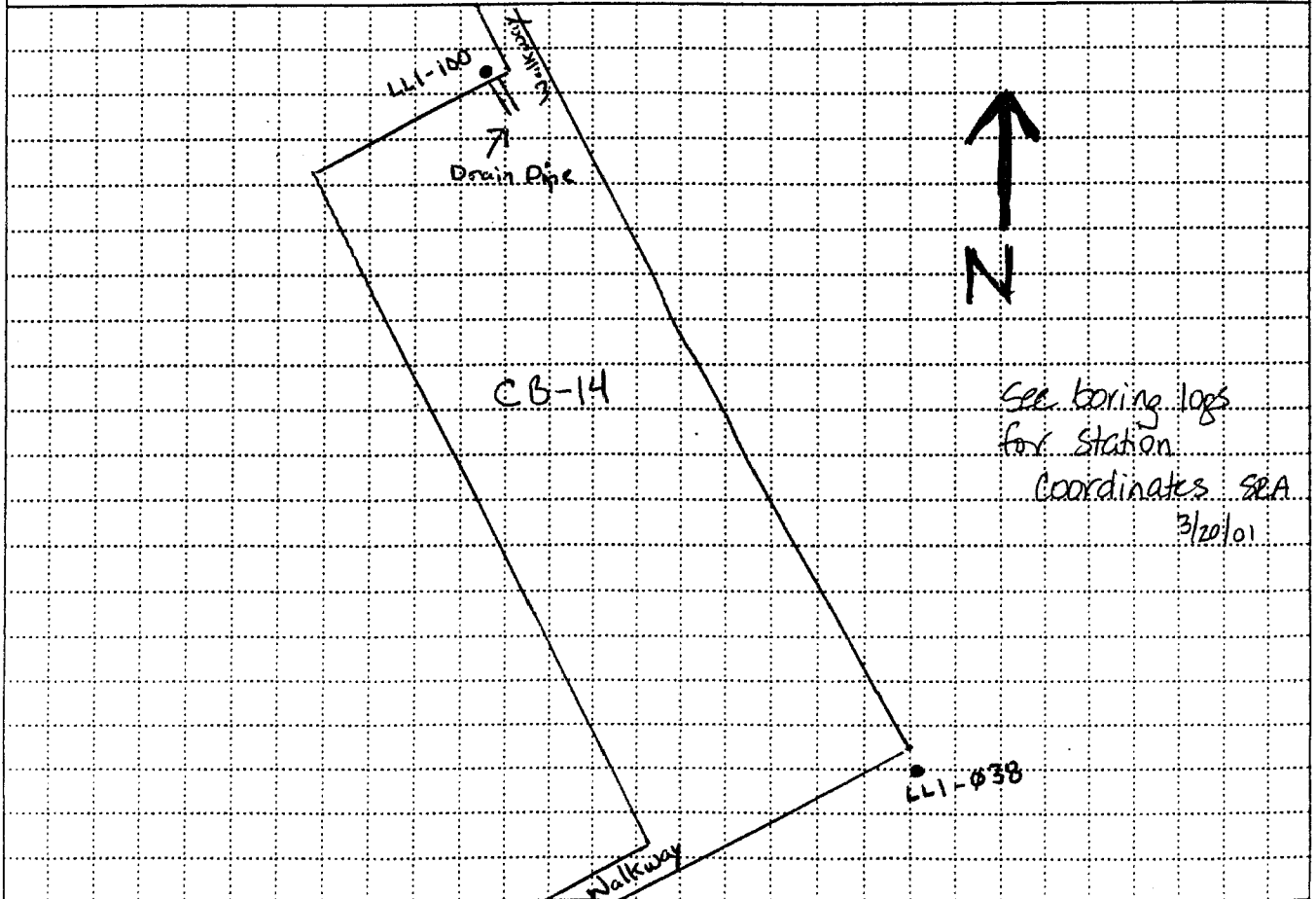
10

LLI 10/03/00

HTRW DRILLING LOG		DISTRICT Louisville COE		HOLE NUMBER 1	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI/Phase II R.I.			4. LOCATION CB-14		
5. NAME OF DRILLER NA		6. MANUFACTURER'S DESIGNATION OF DRILL NA			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS BOWLS, SPOONS, SCRAPERS BUCKET AUGERS		8. HOLE LOCATION SEE MAP		9. SURFACE ELEVATION NA	
		10. DATE STARTED 09/20/00		11. DATE COMPLETED 09/20/00	
12. OVERBURDEN THICKNESS NA		13. DEPTH GROUNDWATER ENCOUNTERED NA			
14. DEPTH DRILLED INTO ROCK NA		15. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
16. TOTAL DEPTH OF HOLE SEE PAGE 2		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES		DISTURBED —		UNDISTURBED —	
		19. TOTAL NUMBER OF CORE BOXES NA			
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC —	METALS X	OTHER (SPECIFY) EXPLOSIVES	OTHER (SPECIFY) CN-
		21. TOTAL CORE RECOVERY NA			
22. DISPOSITION OF HOLE —		BACKFILLED YES	MONITORING WELL —	OTHER (SPECIFY) PROPPELLANTS	23. SIGNATURE OF INSPECTOR Paul Yessanio / clk

LOCATION SKETCH/COMMENTS

SCALE:



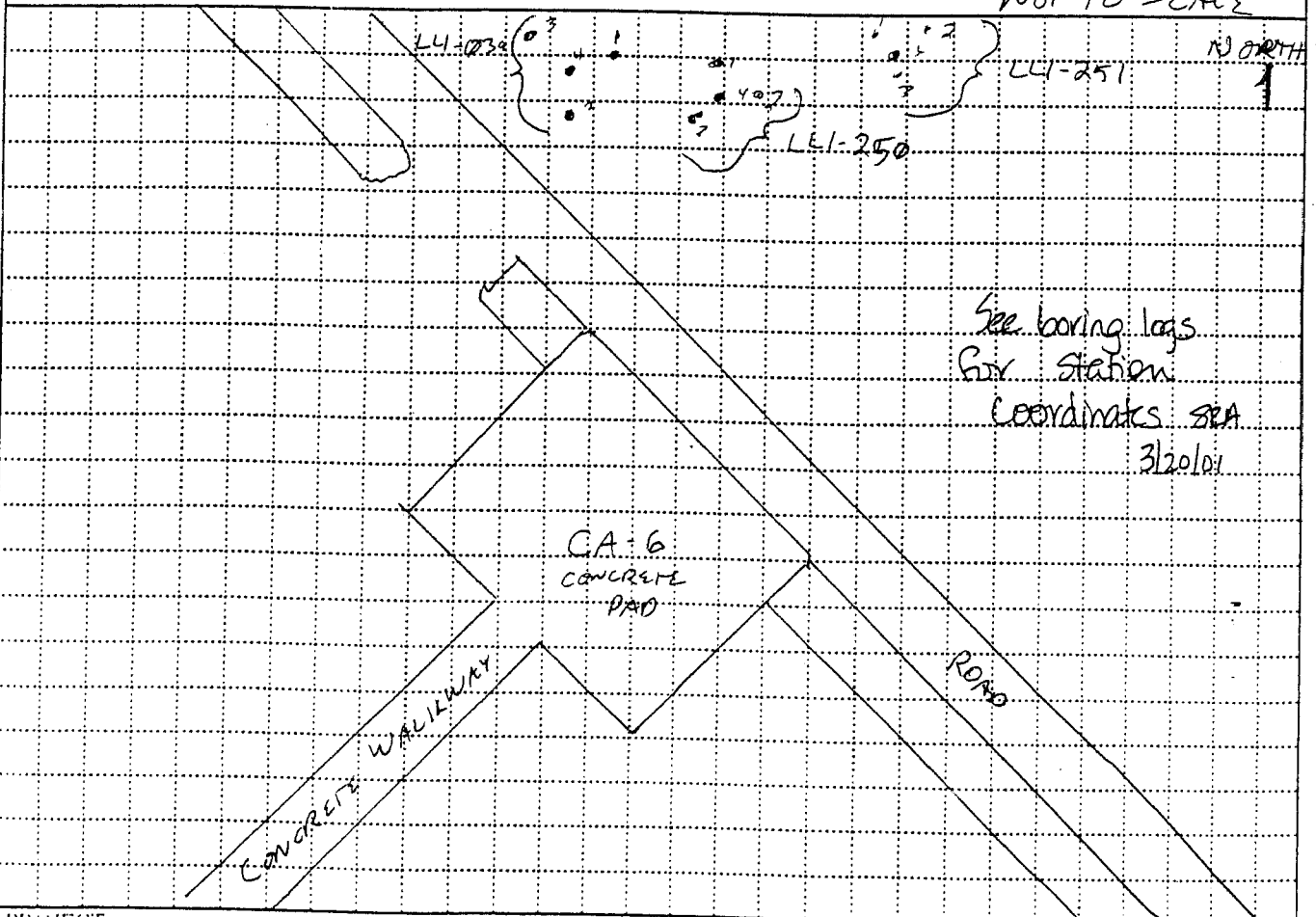
PROJECT RVAAP Phase II RI	HOLE NO LLI-038, 100
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* SEE ITALS LLI-039, LLI-250, LLI-251

600

HTRW DRILLING LOG		DISTRICT LOUISVILE COE		HOLE NUMBER ↑	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR WA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI/PHASE II R.1.			4. LOCATION *		
5. NAME OF DRILLER WA			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS. SPOONS, BOWLS BUCKET AUGERS		8. HOLE LOCATION *		9. SURFACE ELEVATION NA	
12. OVERBURDEN THICKNESS NA			10. DATE STARTED 09/29/00		11. DATE COMPLETED 09/29/00
13. DEPTH DRILLED INTO ROCK NA			15. DEPTH GROUNDWATER ENCOUNTERED NA		
14. TOTAL DEPTH OF HOLE *			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
18. GEOTECHNICAL SAMPLES *		DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS *		VOC *	METALS *	OTHER (SPECIFY) *	OTHER (SPECIFY) *
22. DISPOSITION OF HOLE *		BACKFILLED	MONITORING WELL	OTHER (SPECIFY) *	21. TOTAL CORE RECOVERY NA
		BENTONITE	NA	23. SIGNATURE OF INSPECTOR B. B. Dech	

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE



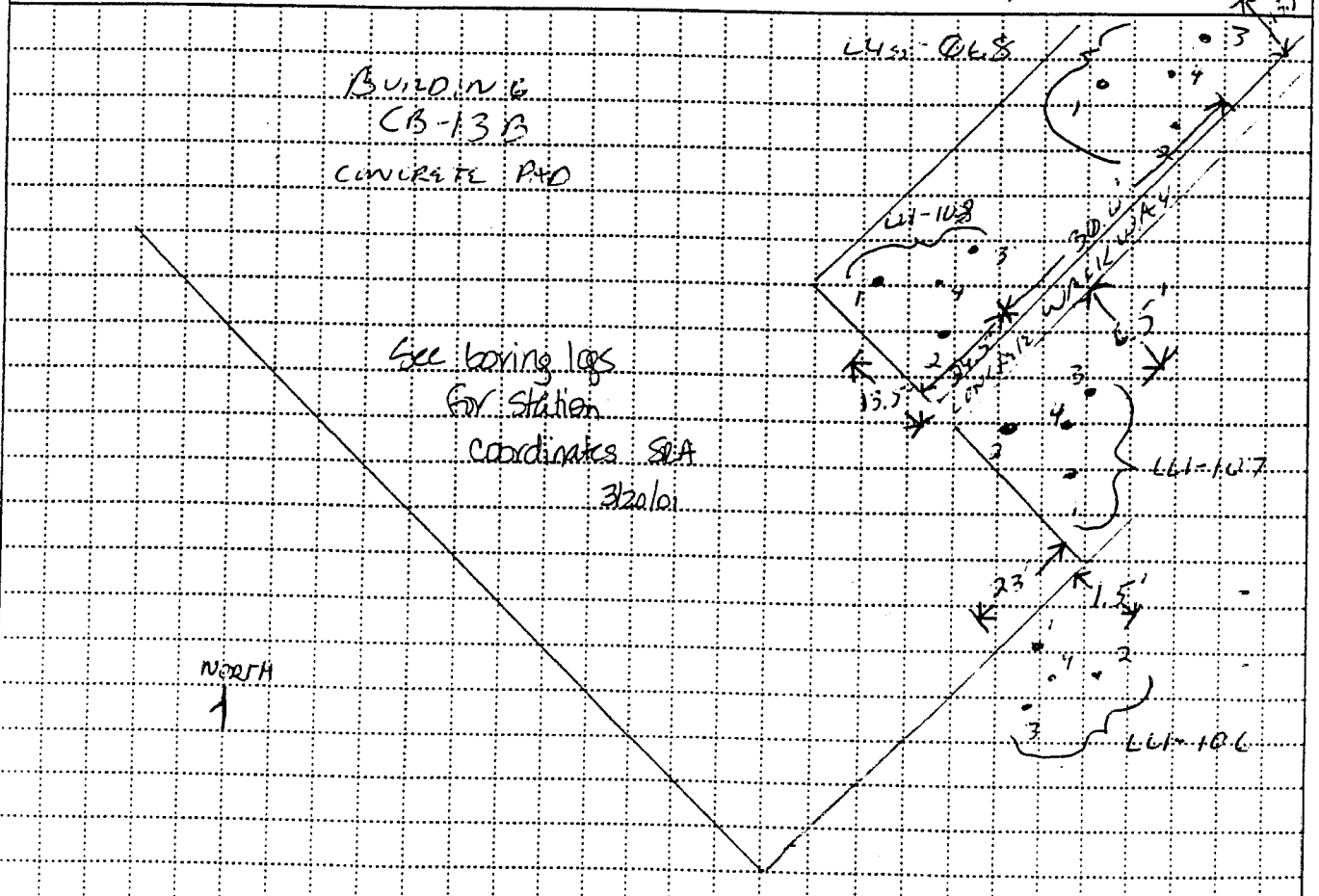
PROJECT RVAAP: LLI/PHASE II R.1	HOLE NO LLI, 039, 250, 251
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LLI-106, LLI-107, LLI-108, LLI-068

666

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER _____	
1. COMPANY NAME SAC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI / PHASE II R.I.			4. LOCATION BUILDING CB-13		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS SPINDLE, BORE, BUCKET AUGER		8. HOLE LOCATION SEE MAP			
9. SURFACE ELEVATION NA		10. DATE STARTED 09/26/00		11. DATE COMPLETED 07/29/00	
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE SEE PAGE 2		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED	
19. TOTAL NUMBER OF CORE BOXES					
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
21. TOTAL CORE RECOVERY		NA			
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	EXPLOSIVES	OTHER (SPECIFY)
23. SIGNATURE OF INSPECTOR		[Signature]			

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



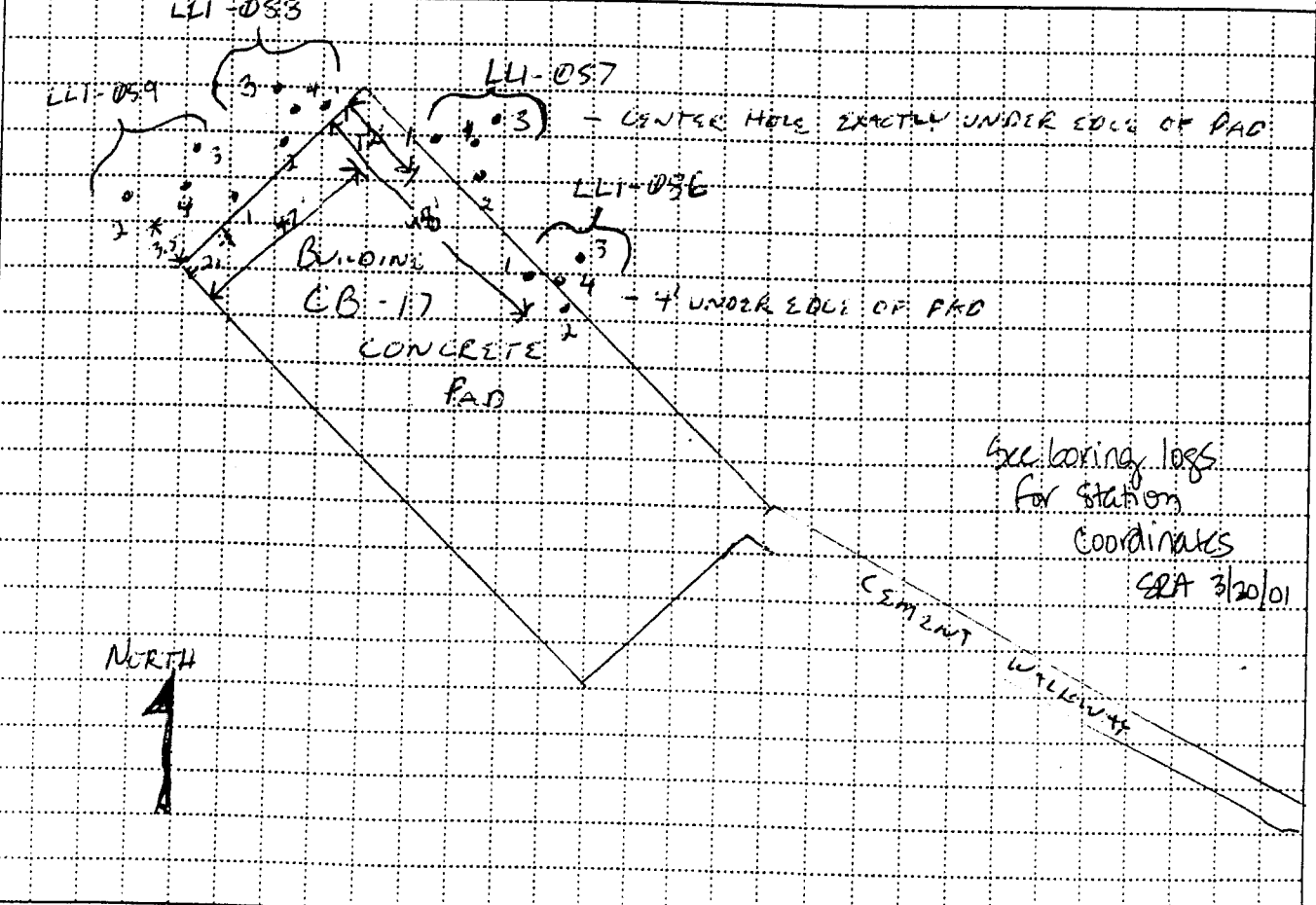
PROJECT RVAAP: LLI / PHASE II R.I.	HOLE NO. LLI-106, 107, 108, 068
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* - SEE TTALS LLI-086, LLI-087, LLI-088, LLI-089

38

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER LLI-086, 087, 088, 089	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET 1 OF 2	
3. PROJECT RVAAP: LLI / PHASE II R.I.			4. LOCATION *		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS SPINDLE, BITULS, AUGERS (BENCH)		8. HOLE LOCATION *			
		9. SURFACE ELEVATION *			
		10. DATE STARTED 09/25/00		11. DATE COMPLETED 09/28/00 (C.W.)	
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE * See p. 39-42		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES *		DISTURBED <input checked="" type="checkbox"/>	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC *	METALS *	OTHER (SPECIFY) EXPLOSIVES	OTHER (SPECIFY) PROPPELLANTS
22. DISPOSITION OF HOLE BACKFILLED		MONITORING WELL NA	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY NA	
		BENTONITE	NA	23. SIGNATURE OF INSPECTOR B. D. ...	

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



PROJECT RVAAP: LLI / PHASE II R.I.		HOLE NO LLI-086, 087, 088, 089	
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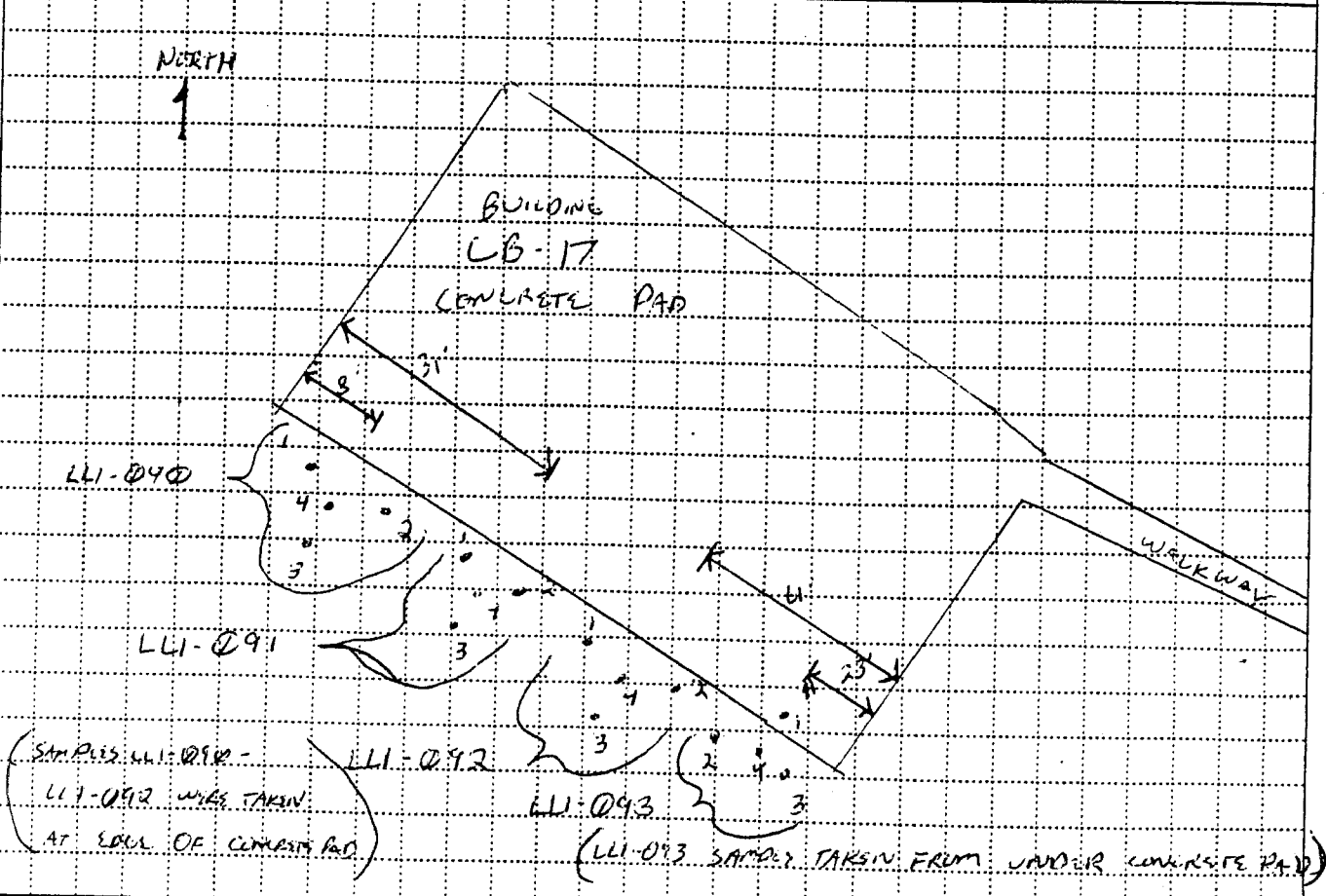
* - SEE TTALS

LLI-090, LLI-091, LLI-092, LLI-093

45

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER 7
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 7 OF 2
3. PROJECT RVAAP: LLI / PHASE II R. 1		4. LOCATION *		
5. NAME OF DRILLER NA		6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT S.S. SPOONS, AWLS, BUREST AUGERS		8. HOLE LOCATION *		
9. SURFACE ELEVATION NA		10. DATE STARTED 09/25/00		
12. OVERBURDEN THICKNESS NA		11. DATE COMPLETED 09/25/00 (LL)		
13. DEPTH (DRILLED) INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		
14. TOTAL DEPTH OF HOLE *		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
18. GEOTECHNICAL SAMPLES		19. TOTAL NUMBER OF CORE BOXES NA		
20. SAMPLES FOR CHEMICAL ANALYSIS		21. TOTAL CORE RECOVERY NA		
22. DISPOSITION OF HOLE		23. SIGNATURE OF INSPECTOR		

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



PROJECT RVAAP: LLI / PHASE II R. 1	HOLE NO LLI-090, 091, 092, 093
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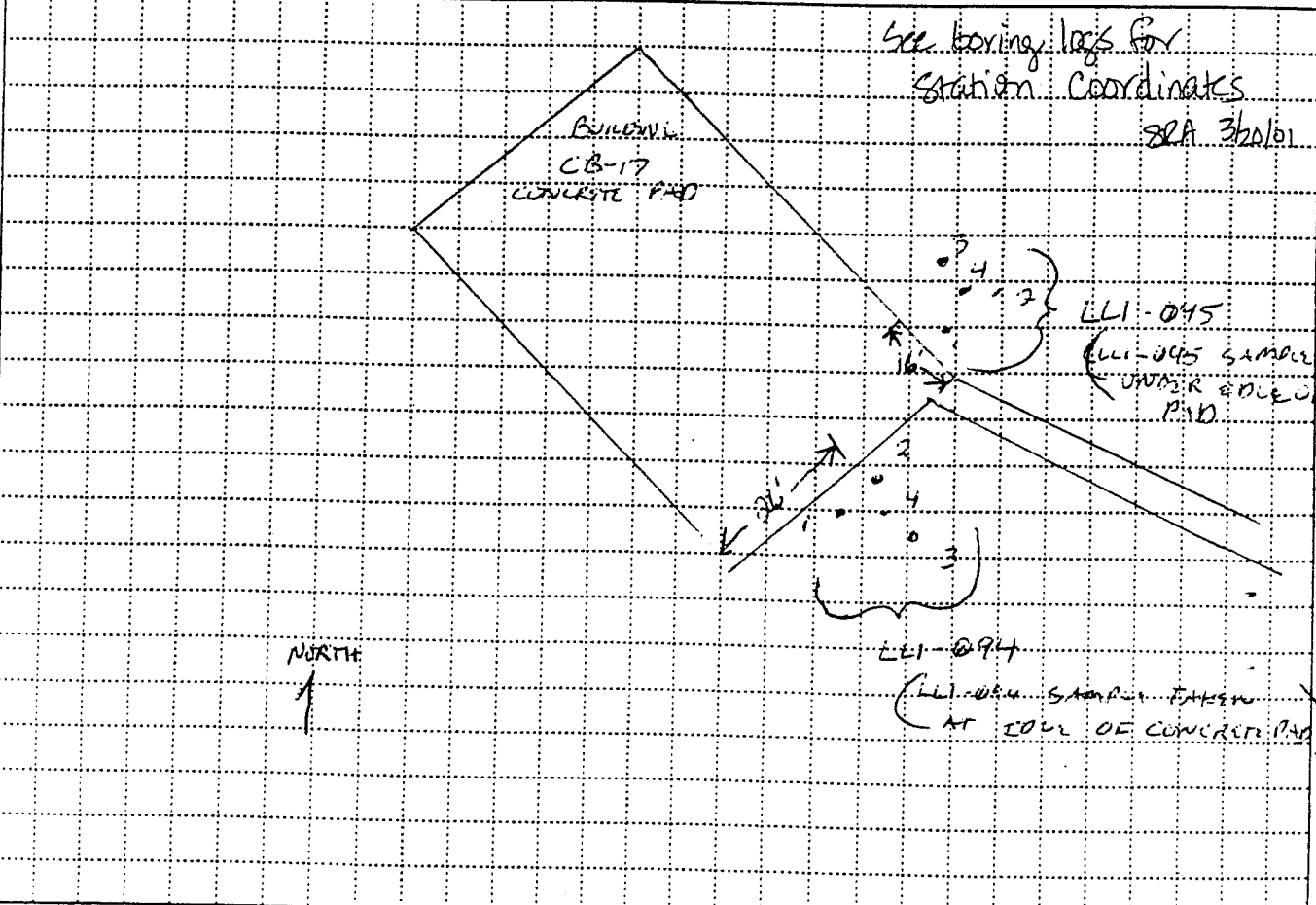
* - SEE TTALS

LLI-094, LLI-095

52

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP; LLI/PHASE II R.I.			4. LOCATION *		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS SPUNS, BOWLS, BURST AUGER			8. HOLE LOCATION *		
			9. SURFACE ELEVATION NA		
			10. DATE STARTED 09/25/00		11. DATE COMPLETED 09/25/00 (LL)
12. OVERBURDEN THICKNESS NA			15. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH (DRILLED) INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE *			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES *		DISTURBED <input checked="" type="checkbox"/>	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC *	METALS *	OTHER (SPECIFY)	OTHER (SPECIFY)
22. DISPOSITION OF HOLE		BACKFILLED RENTONITE	MONITORING WELL NA	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY NA
			23. SIGNATURE OF INSPECTOR <i>Boyer</i>		

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



PROJECT RVAAP; LLI/PHASE II R.I.	HOLE NO LLI-094, 095
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LLI-104, LLI-103, LLI-102, LLI-101

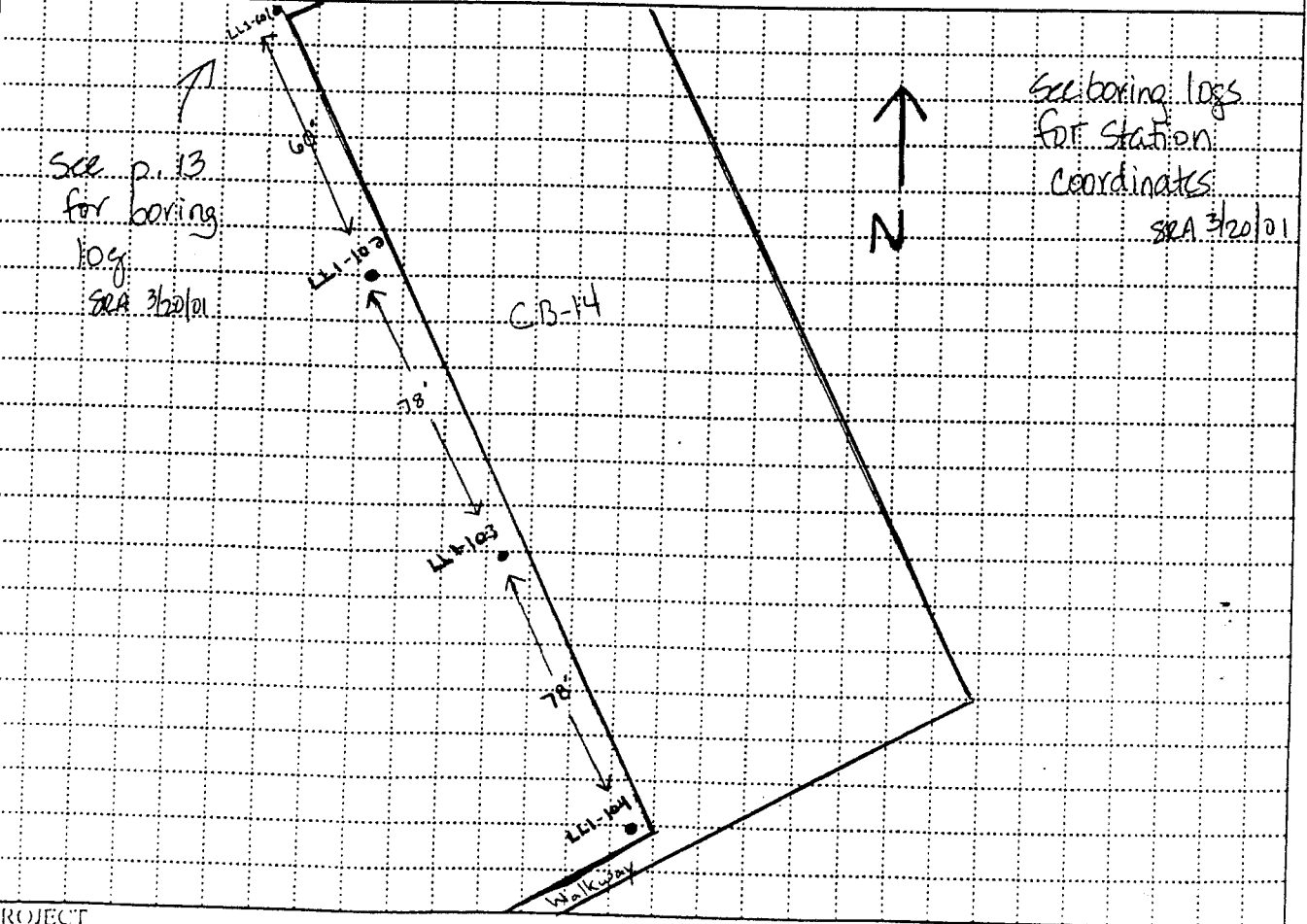
3

HTRW DRILLING LOG		DISTRICT LOUISVILE COE		HOLE NUMBER	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI/Phase II R.I.			4. LOCATION CB-14		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 5/8 IRONS BAWLS, 1/2 IPS BUCKHOT AUGERS		8. HOLE LOCATION SEE MAP			
			9. SURFACE ELEVATION NA		
			10. DATE STARTED 09/19/00		11. DATE COMPLETED 09/19/00
12. OVERBURDEN THICKNESS NA			15. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH (DRILLED) INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE SEE PAGE 2			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED	
				19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
			X	EXPLOSIVES	HEAVY METALS
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
		X			NA
				23. SIGNATURE OF INSPECTOR Paul Yecronis/clk	

C-2 10/03/00

LOCATION SKETCH/COMMENTS

SCALE: NOT TO SCALE

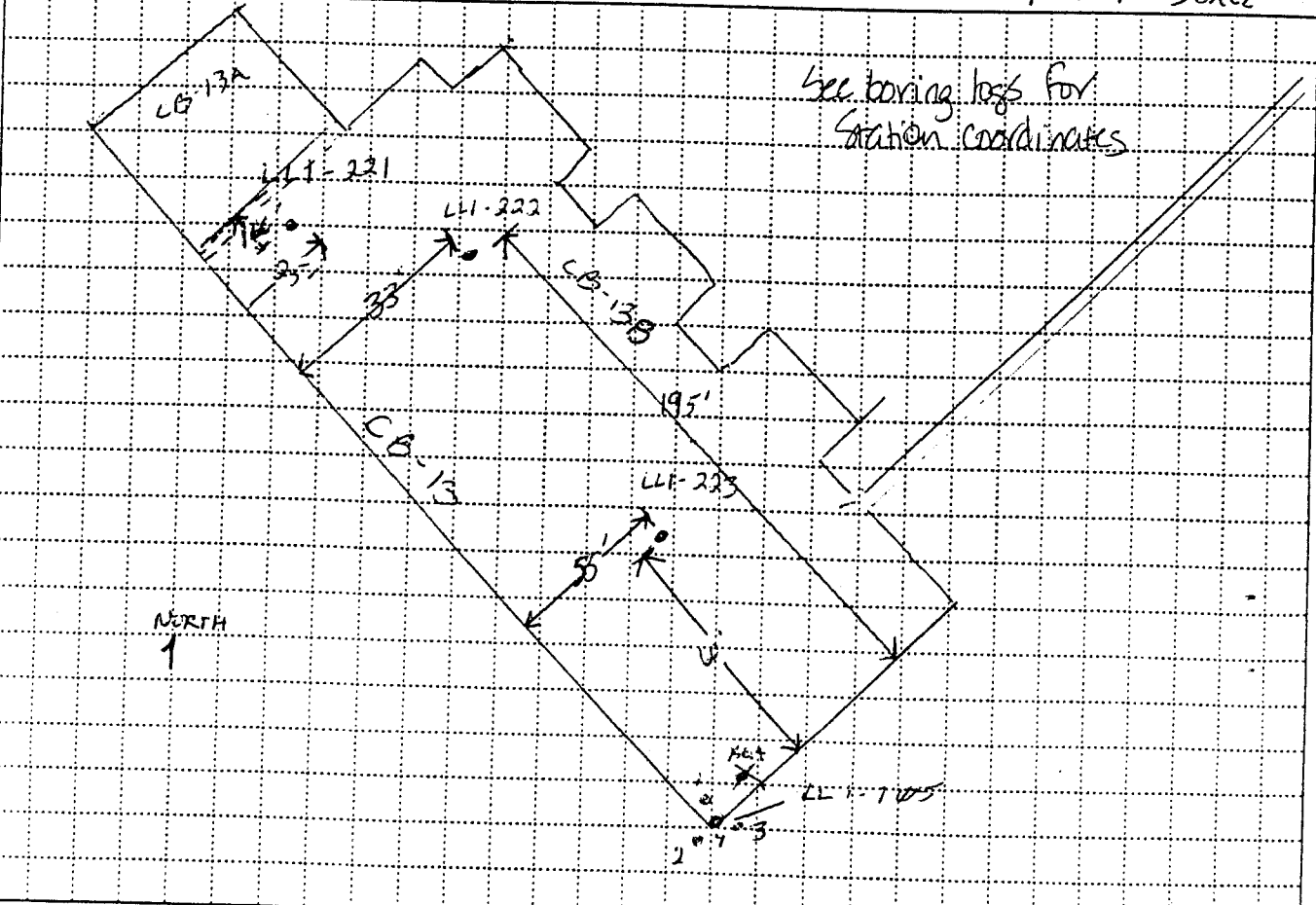


PROJECT RVAAP Phase II RI		HOLE NO LLI-104, 103, 102, 101
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LLI-221, LLI-222, LLI-223, LLI-105 59

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER _____	
1. COMPANY NAME SAIC		3. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
4. PROJECT RVAAP: LLI/PHASE II R.1.		4. LOCATION *			
5. NAME OF DRILLER NA		6. MANUFACTURERS DESIGNATION OF DRILL NA			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT S.S. SPINDLES, BOWLS, BUCKET AUGER		8. HOLE LOCATION *			
12. OVERBURDEN THICKNESS NA		9. SURFACE ELEVATION NA			
13. DEPTH DRILLED INTO ROCK NA		10. DATE STARTED 09/26/00		11. DATE COMPLETED 09/26/00 (CW)	
14. TOTAL DEPTH OF HOLE *		15. DEPTH GROUNDWATER ENCOUNTERED NA			
18. GEOTECHNICAL SAMPLES *		DISTURBED <input checked="" type="checkbox"/>		UNDISTURBED NA	
19. TOTAL NUMBER OF CORE BOXES NA		20. SAMPLES FOR CHEMICAL ANALYSIS		21. TOTAL CORE RECOVERY NA	
22. DISPOSITION OF HOLE		VOC <input checked="" type="checkbox"/>		METALS <input checked="" type="checkbox"/>	
23. SIGNATURE OF INSPECTOR B.A. [Signature]		BACK-FILLED <input checked="" type="checkbox"/>		MONITORING WELL <input checked="" type="checkbox"/>	
		OTHER (SPECIFY) NA		OTHER (SPECIFY) _____	

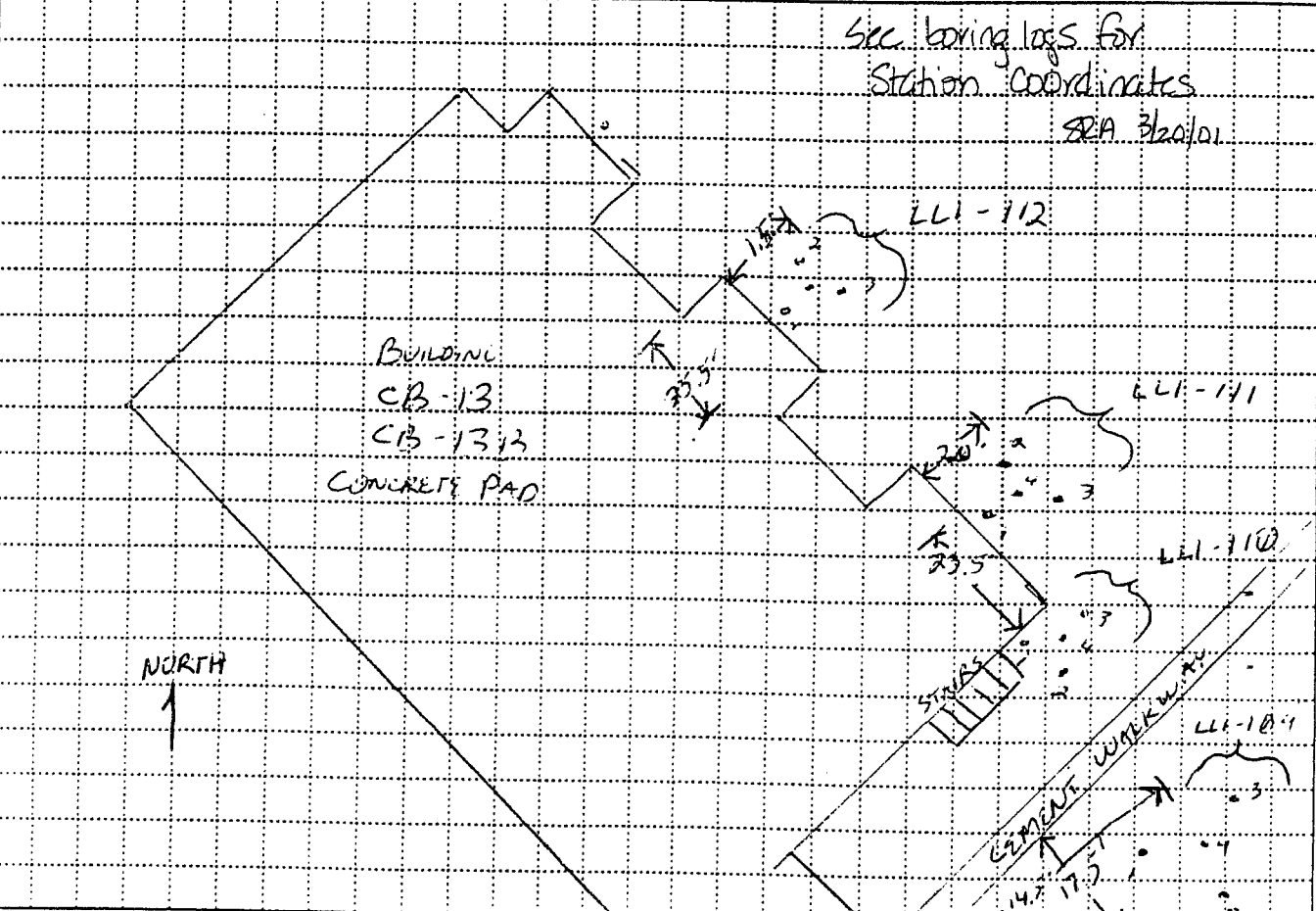
LOCATION SKETCH/COMMENTS: SCALE: **NOT TO SCALE**



PROJECT RVAAP: LLI/PHASE II R.1.	HOLE NO LLI-221, 222, 223; 105
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HTRW DRILLING LOG		DISTRICT LOUISVILLE COE			HOLE NUMBER —	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA			SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI/PHASE II R.I.			4. LOCATION *			
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS. SPINDLE, BOWLS BUCKET AUGER'S		8. HOLE LOCATION *				
9. SURFACE ELEVATION NA			10. DATE STARTED 09/26/00			
			11. DATE COMPLETED 09/28/00 <i>(initials)</i>			
12. OVERBURDEN THICKNESS NA			15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE *			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
15. GEOTECHNICAL SAMPLES		DISTURBED ✓	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA		
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC *	METALS *	OTHER (SPECIFY) —	OTHER (SPECIFY) —	OTHER (SPECIFY) —
21. TOTAL CORE RECOVERY NA		22. DISPOSITION OF HOLE BACKFILLED BINITE/ITE		MONITORING WELL NA	OTHER (SPECIFY) —	23. SIGNATURE OF INSPECTOR <i>B. S. D. H.</i>

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



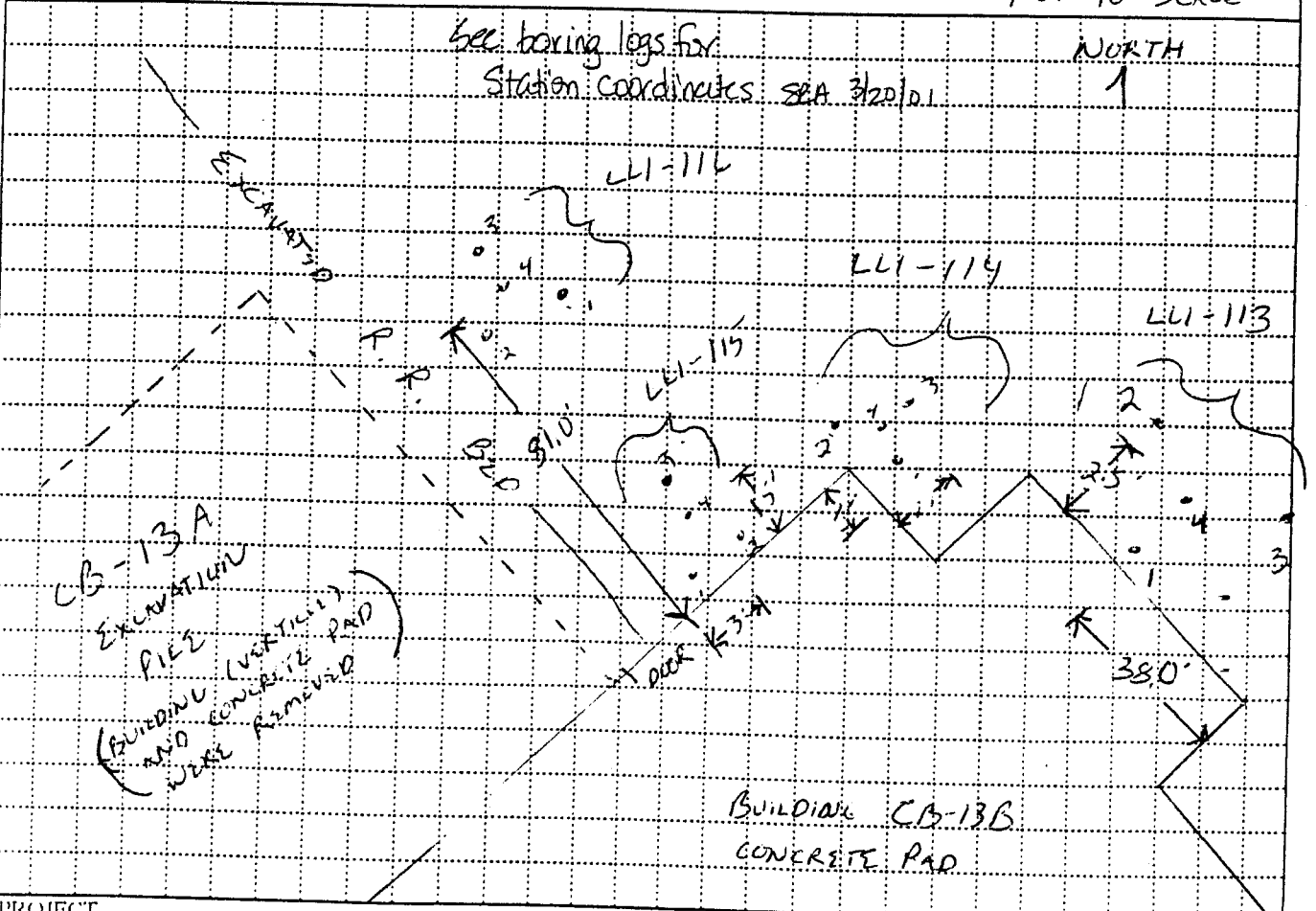
PROJECT: RVAAP: LLI/PHASE II R.I.

HOLE NO: LLI-109, 110, 111, 112

* TTALS LL-113, LL-114, LL-115, LL-116 80

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER	
1. COMPANY NAME SAIC		1. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
1. PROJECT RVAAP: LLI/PHASE II R. 1.			4. LOCATION *		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8. HOLE LOCATION *		9. SURFACE ELEVATION NA	
25 SPONS, BEAMS, BUCKET AUGERS				10. DATE STARTED 09/26/00	
				11. DATE COMPLETED 09/26/00 (C)	
12. OVERBURDEN THICKNESS NA		13. DEPTH DRILLED INTO ROCK NA			
13. DEPTH DRILLED INTO ROCK NA		14. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE *		15. DEPTH GROUNDWATER ENCOUNTERED NA			
15. GEOTECHNICAL SAMPLES		16. DISTURBED ✓		17. UNDISTURBED NA	
19. TOTAL NUMBER OF CORE BOXES NA		20. SAMPLES FOR CHEMICAL ANALYSIS		21. TOTAL CORE RECOVERY NA	
VOC *		METALS *		OTHER (SPECIFY)	
22. DISPOSITION OF HOLE		BACKFILLED		MONITORING WELL	
BENTONITE		NA		23. SIGNATURE OF INSPECTOR B. C. [Signature]	

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE

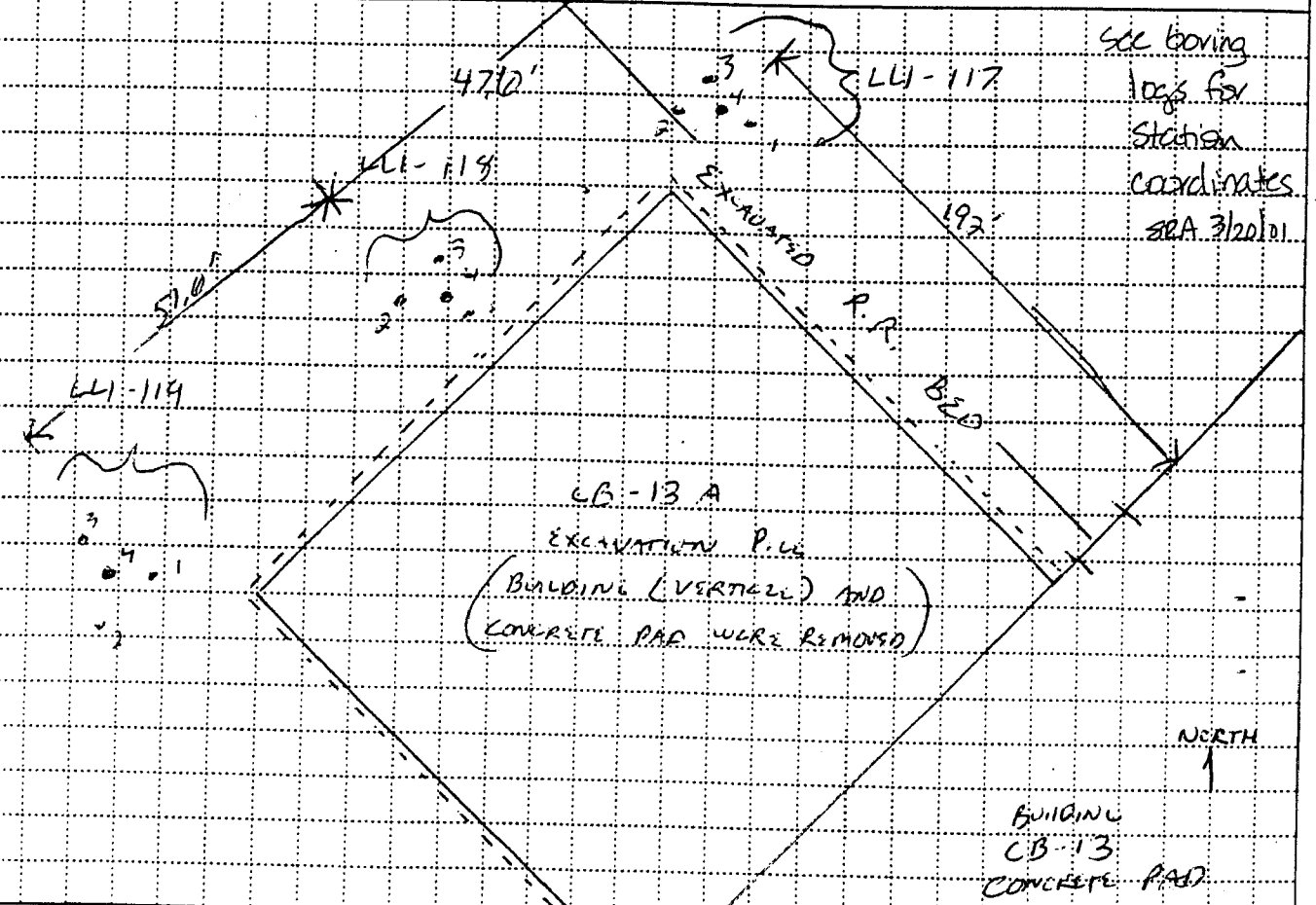


PROJECT RVAAP: LLI/PHASE II R. 1.	HOLE NO LLI-113, 114, 115, 116
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LLI-117, LLI-118, LLI-119 87

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER _____	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI/PHASE II R.1.			4. LOCATION *		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS. SPOONS, BOWLS BUCKET RAVER		8. HOLE LOCATION *		9. SURFACE ELEVATION NA	
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 09/27/00		11. DATE COMPLETED 09/27/00 (C)	
13. DEPTH (DRILLED) INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14. TOTAL DEPTH OF HOLE *		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		19. TOTAL NUMBER OF CORE BOXES NA	
18. GEOTECHNICAL SAMPLES *		DISTURBED ✓	UNDISTURBED	21. TOTAL CORE RECOVERY NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC *	METALS *	OTHER (SPECIFY)	OTHER (SPECIFY)
22. DISPOSITION OF HOLE		BACKFILLED YES	MONITORING WELL NA	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR Bib Runk

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE



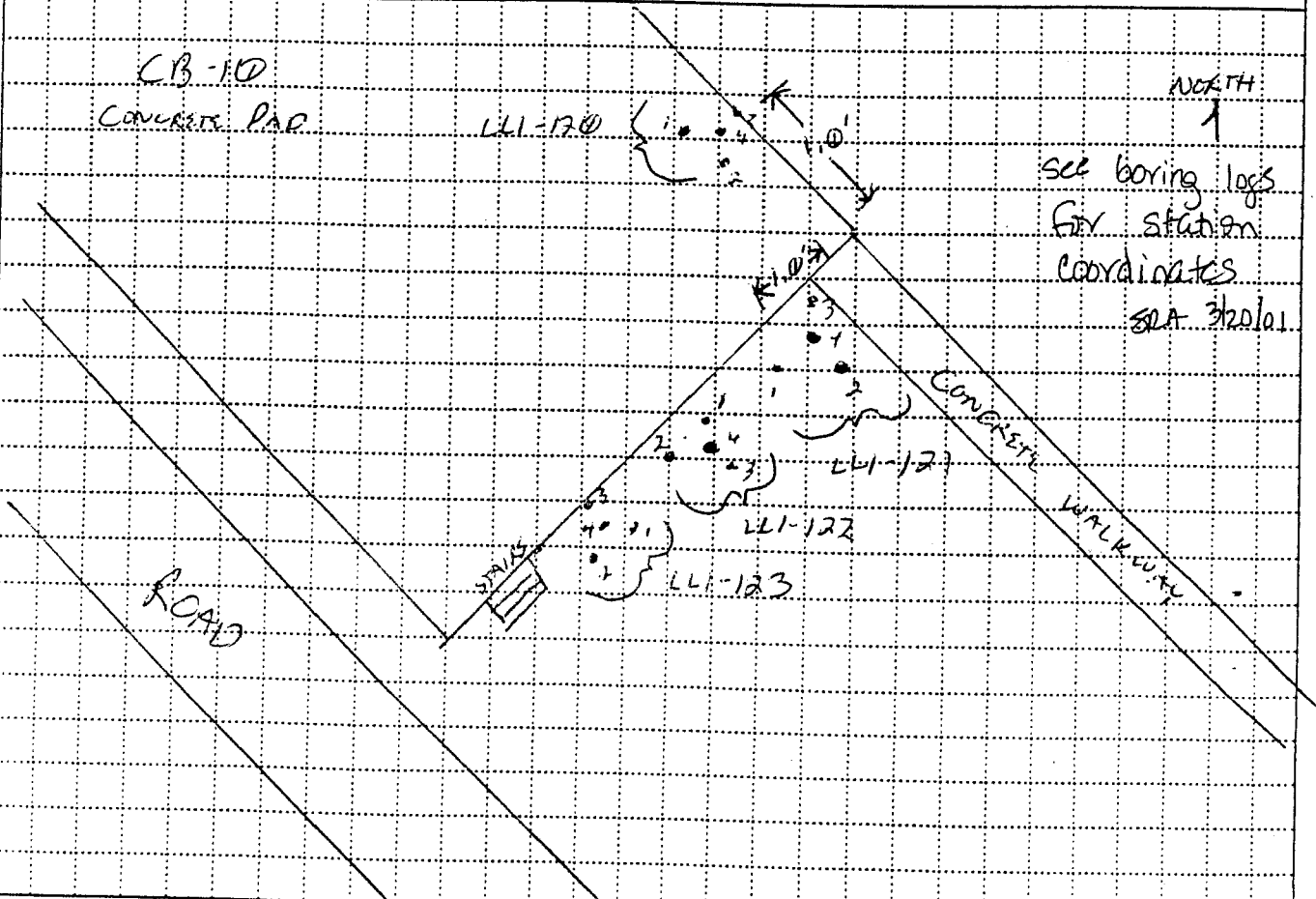
PROJECT RVAAP: LLI/PHASE II R.1.		HOLE NO LLI-117, 118, 119	
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* SEE TTALS LLI-120, LLI-121, LLI-122, LLI-123

3

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER ↑	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP, LLI / PHASE II R.1.			4. LOCATION *		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT S.S. SPIRONS, BOWS BUCKET AUGERS		8. HOLE LOCATION *			
9. SURFACE ELEVATION NA					
10. DATE STARTED 09/27/00			11. DATE COMPLETED 09/27/00		
12. OVERBURDEN THICKNESS NA			15. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH DRILLED INTO ROCK NA			14. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE *			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES *		DISTURBED ✓	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS *		VOC *	METALS *	OTHER (SPECIFY) *	21. TOTAL CORE RECOVERY NA
22. DISPOSITION OF HOLE *		BACKFILLED BENTONITE	MONITORING WELL NA	OTHER (SPECIFY) *	23. SIGNATURE OF INSPECTOR B.B. [Signature]

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE



PROJECT RVAAP: LLI / PHASE II R.1.		HOLE NO LLI-120, 121, 122, 123	
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* - SEE TOTALS LLI-133, LLI-134, LLI-367, LLI-370

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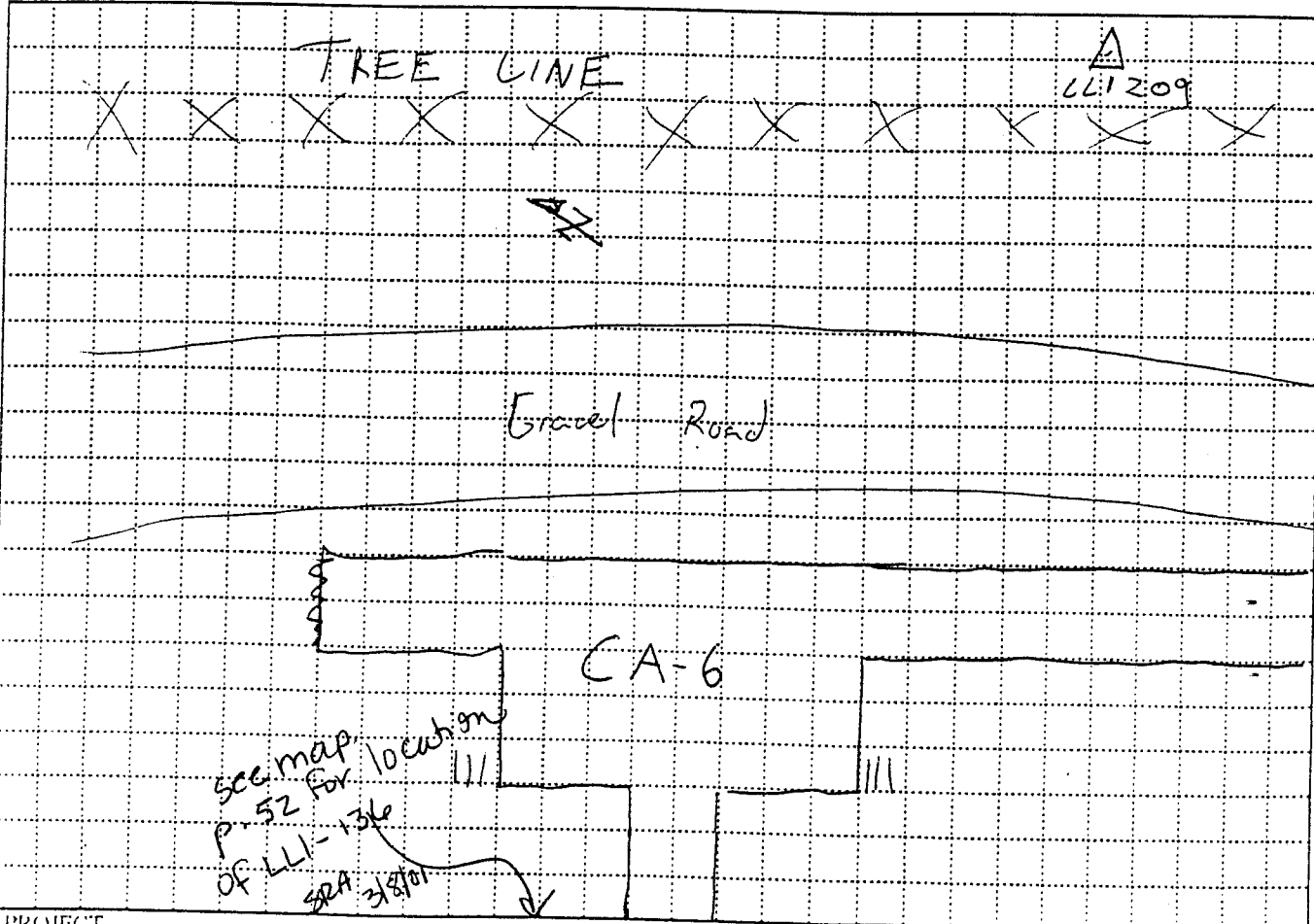
HTRW DRILLING LOG		DISTRICT Louisville COE		HOLE NUMBER ↑	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI/PHASE II R.I.			4. LOCATION *		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT S.S. SPOONS, BOWLS, BUCKET AUGER		8. HOLE LOCATION *		9. SURFACE ELEVATION *	
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 09/28/00		11. DATE COMPLETED 09/28/00	
13. DEPTH DRILLED INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14. TOTAL DEPTH OF HOLE *		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES *		DISTURBED ✓	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS *		VOC *	METALS *	OTHER (SPECIFY) *	OTHER (SPECIFY) *
21. DISPOSITION OF HOLE *		BACKFILLED BENTONITE	MONITORING WELL NA	OTHER (SPECIFY) *	21. TOTAL CORE RECOVERY NA
				23. SIGNATURE OF INSPECTOR B. B. B.	
LOCATION SKETCH/COMMENTS					
SCALE: NOT TO SCALE					
PROJECT RVAAP: LLI/PHASE II R.I.				HOLE NO LLI-133, 134, 367, 370	

LLI-136, LLI-209

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HTRW DRILLING LOG		DISTRICT Louisville COE		HOLE NUMBER A	
COMPANY NAME SAIC		DRILL SUBCONTRACTOR NA		SHEET SHEETS OF	
PROJECT BVAAP headline I Phase II RI			LOCATION Bldg. CA-6		
NAME OF DRILLER NA			MANUFACTURER'S DESIGNATION OF DRILL NA		
SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS SCOOP, bucket Auger			HOLE LOCATION see map SRA 3/8/01		
OVERBURDEN THICKNESS NA			DATE STARTED 9-15-00		
DEPTH DRILLED INTO ROCK NA			DATE COMPLETED 9-15-00		
TOTAL DEPTH OF HOLE NA see p. 60-61			DEPTH GROUNDWATER ENCOUNTERED NA		
GEOTECHNICAL SAMPLES NA			DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
SAMPLES FOR CHEMICAL ANALYSIS		TOTAL NUMBER OF CORE BOXES NA		OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA	
DISPOSITION OF HOLE		TOTAL CORE RECOVERY NA		SIGNATURE OF INSPECTOR	

LOCATION SKETCH/COMMENTS: SCALE: NOT to Scale



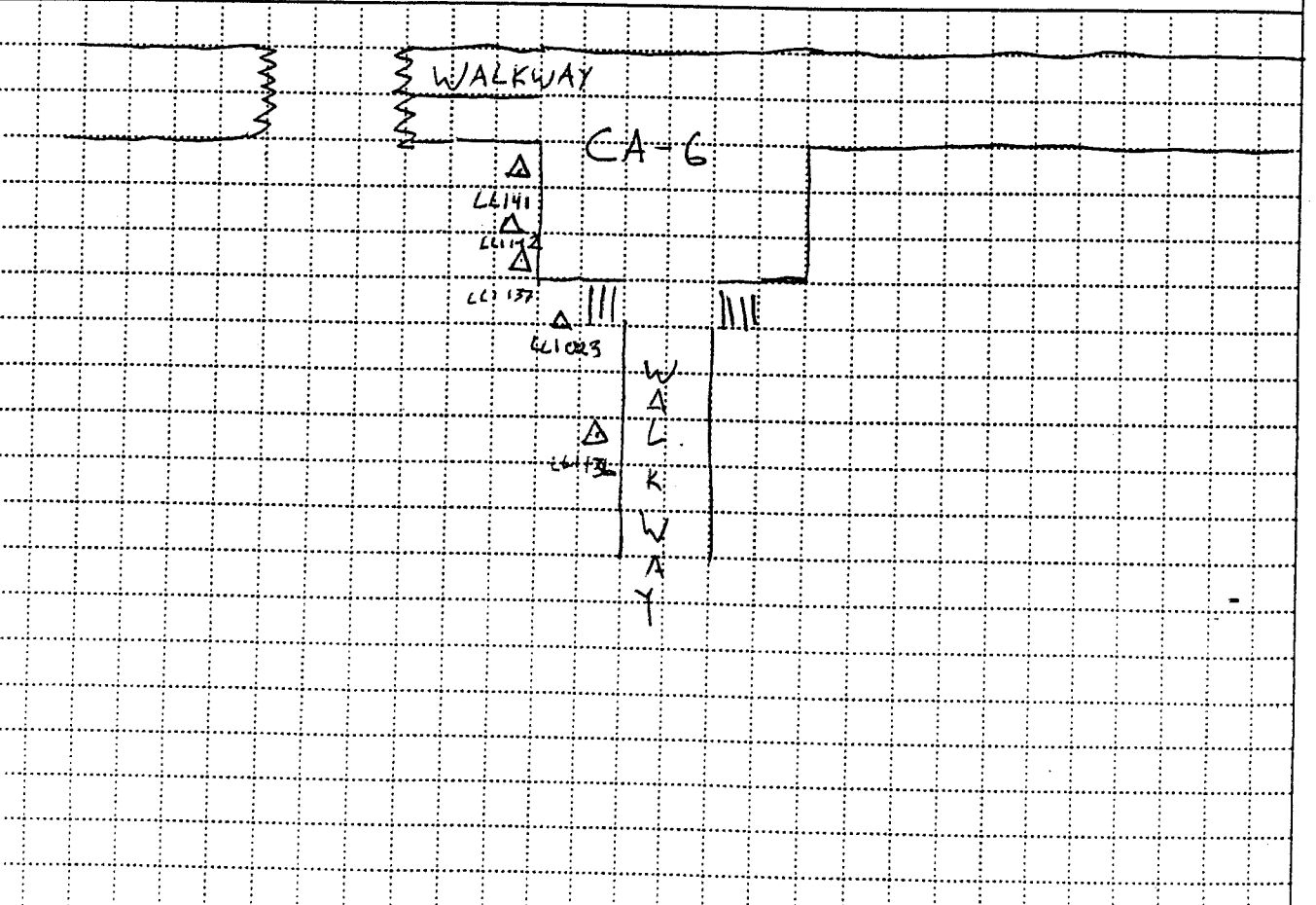
PROJECT RVAAP Phase II RI	HOLE NO. LLI-136, LLI-209
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52

LL1-141, 142, 137, 023 ←

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER	
1. COMPANY NAME SALC		2. DRILL SUBCONTRACTOR NA		SHEET 52 SHEETS OF	
3. PROJECT BVAAP Loading I Phase II RI			4. LOCATION Bldg. CA-6		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS SCOOP, bucket auger		8. HOLE LOCATION see map		9. SURFACE ELEVATION 215.0'	
12. OVERBURDEN THICKNESS NA NA		10. DATE STARTED 9-15-00		11. DATE COMPLETED 9-15-00	
13. DEPTH DRILLED INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		14. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14. TOTAL DEPTH OF HOLE see p. 53-56		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		19. TOTAL NUMBER OF CORE BOXES NA	
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	21. TOTAL CORE RECOVERY NA	
20. SAMPLES FOR CHEMICAL ANALYSIS NA		VOC NA	METALS X	OTHER (SPECIFY) explosives	OTHER (SPECIFY) propellants
22. DISPOSITION OF HOLE NA		BACKFILLED NA	MONITORING WELL NA	OTHER (SPECIFY) NA	23. SIGNATURE OF INSPECTOR NA

LOCATION SKETCH/COMMENTS SCALE: **Not to scale**



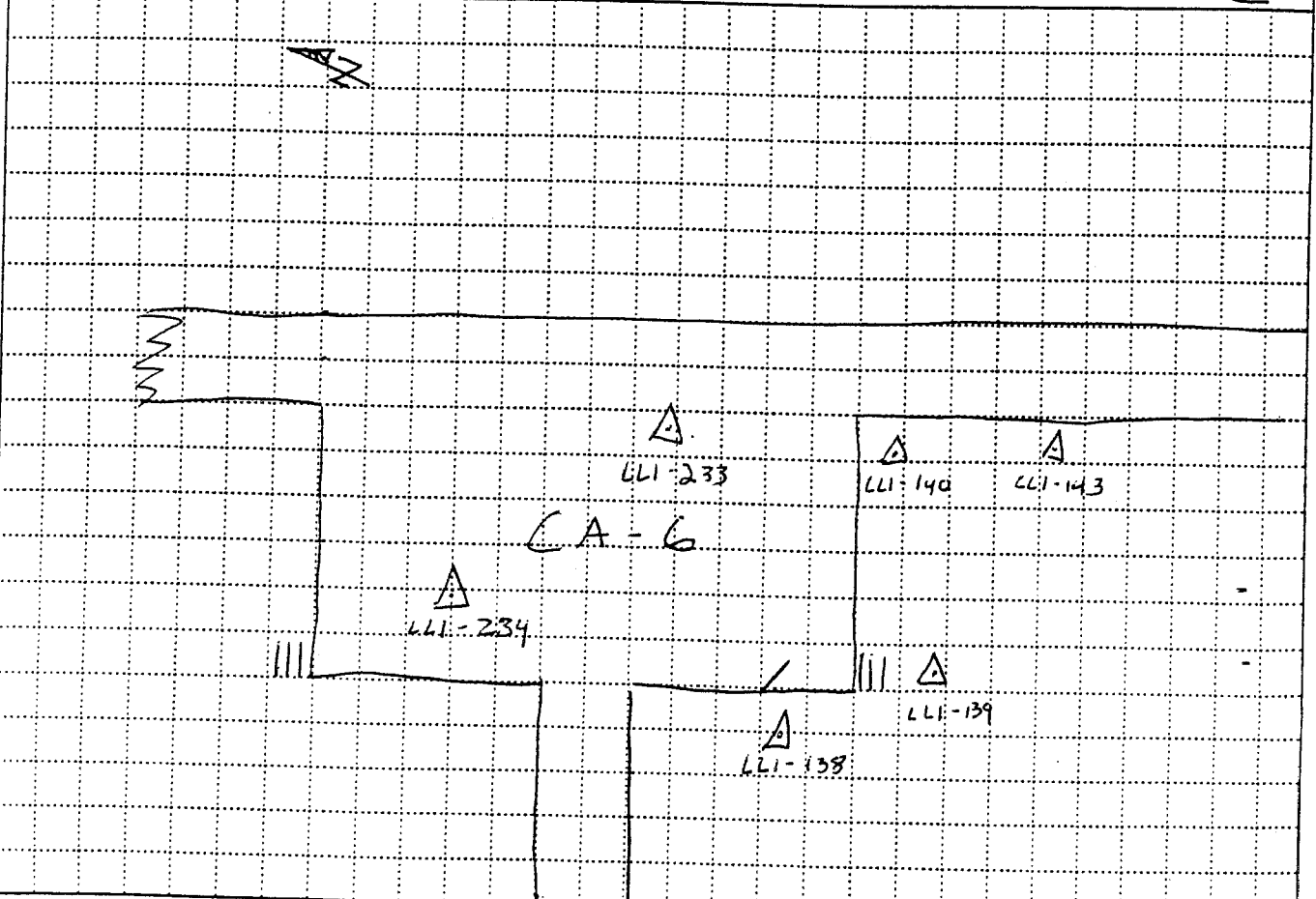
PROJECT RVAAP Phase II RI		HOLE NO LL1-141, 142, 137, 023
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LLI-143, LLI-140, LLI-139, LLI-138

LLC

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER ↑	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR		SHEET SHEETS OF	
3. PROJECT RVAAP Roadline I Phase II R1			4. LOCATION CA-6		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SCOP SCOOP, bucket auger		8. HOLE LOCATION see map		SPA 3/8/01	
12. OVERBURDEN THICKNESS NA			10. DATE STARTED 9-16-00		
11. DEPTH DRILLED INTO ROCK NA			11. DATE COMPLETED 9-16-00		
14. TOTAL DEPTH OF HOLE see NA p. 67-70			13. DEPTH GROUNDWATER ENCOUNTERED NA		
18. GEOTECHNICAL SAMPLES NA			15. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
20. SAMPLES FOR CHEMICAL ANALYSIS		19. TOTAL NUMBER OF CORE BOXES NA		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA	
21. TOTAL CORE RECOVERY NA		DISTURBED NA		UNDISTURBED NA	
22. DISPOSITION OF HOLE		VOC NA		METALS X	
		OTHER (SPECIFY) explosives		OTHER (SPECIFY) propellants	
		MONITORING WELL NA		OTHER (SPECIFY) NA	
		BACKFILLED		OTHER (SPECIFY) NA	
				13. SIGNATURE OF INSPECTOR	

LOCATION SKETCH/COMMENTS SCALE: Not to Scale



PROJECT RVAAP Phase II R1	HOLE NO LLI-143, 140, 139, 138
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ENG FORM 5056-R, AUG 94

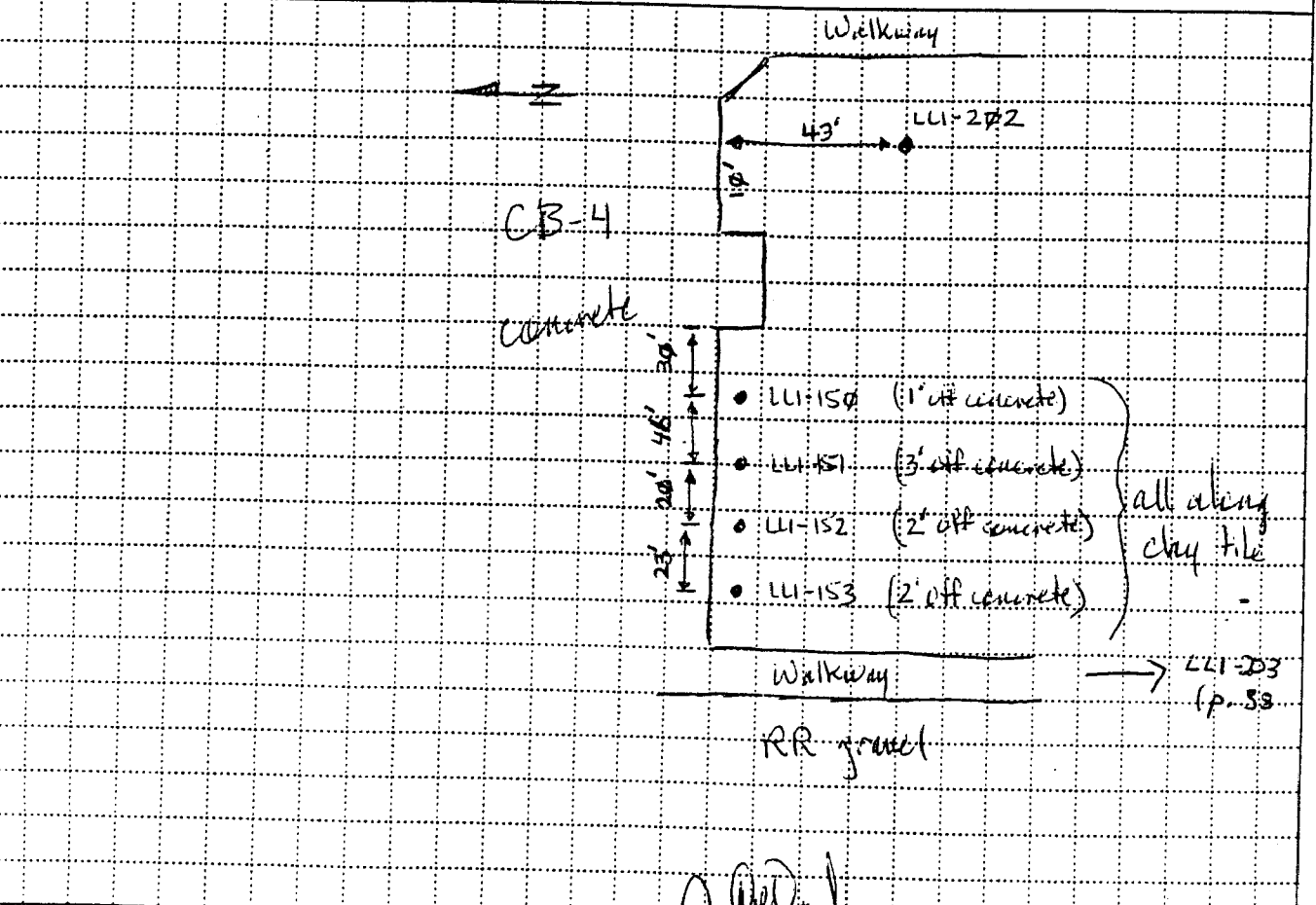
SPA 3/8/01
(Proprietor CERW-EG)

LLI-202, LLI-150, LLI-151, LLI-152

31

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER 7	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS OF	
3. PROJECT BVAAP LOADLINE I Phase II RI			4. LOCATION Bldg. CB-4		
5. NAME OF DRILLER			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 45 SCOOD. bucket auger		8. HOLE LOCATION see map		SPT 3/8/01	
9. SURFACE ELEVATION			10. DATE STARTED 9-14-00		
12. OVERBURDEN THICKNESS NA			11. DATE COMPLETED 9-14-00		
13. DEPTH DRILLED INTO ROCK NA			15. DEPTH GROUNDWATER ENCOUNTERED NA		
14. TOTAL DEPTH OF HOLE see p. 32-35			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
18. GEOTECHNICAL SAMPLES LLI-202			19. TOTAL NUMBER OF CORE BOXES NA		21. TOTAL CORE RECOVERY NAP
20. SAMPLES FOR CHEMICAL ANALYSIS		DISTURBED	UNDISTURBED	23. SIGNATURE OF INSPECTOR	
22. DISPOSITION OF HOLE		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
		X	X	propellants	explosives
		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	SVOC

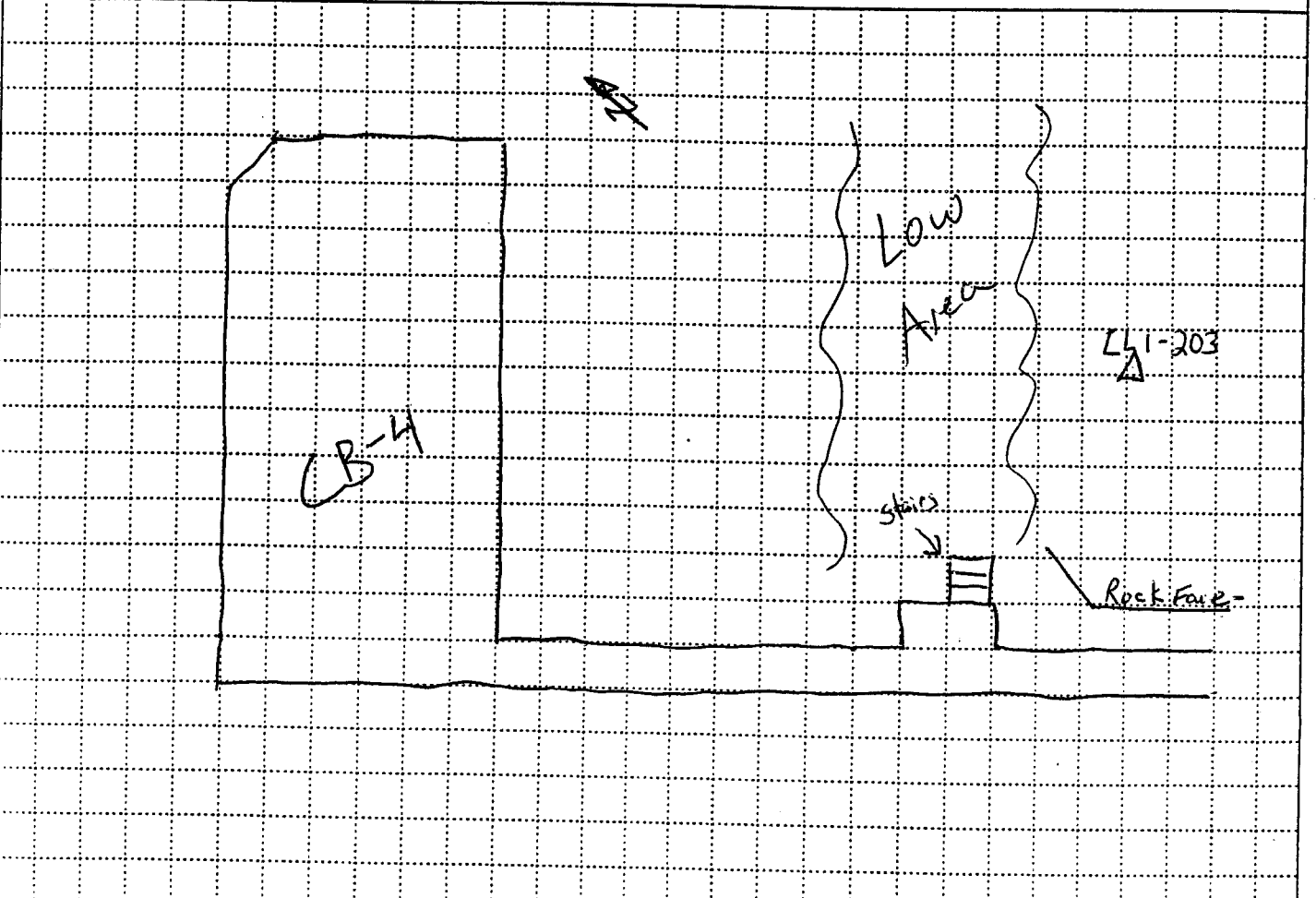
LOCATION SKETCH/COMMENTS: SCALE: NOT to scale



PROJECT BVAAP Phase II RI	HOLE NO. NA
LLI-202, 150, 151, 152	(Proprietor CEC W-EG)

HTRW DRILLING LOG		DISTRICT Louisville COE		LLI-153	HOLE NUMBER LLI-203
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS OF	
3. PROJECT RVAAP Local Line I Phase II RI			4. LOCATION Bldg. CB-4		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS SCRAP bucket auger		8. HOLE LOCATION see map		9. SURFACE ELEVATION SPA 315101	
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 9-14-00		11. DATE COMPLETED 9-14-00	
13. DEPTH DRILLED INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14. TOTAL DEPTH OF HOLE see p. 39-40		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		19. TOTAL NUMBER OF CORE BOXES NA	
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	20. SAMPLES FOR CHEMICAL ANALYSIS	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC NA	METALS X	OTHER (SPECIFY) EXPLOSIVES	OTHER (SPECIFY) MODERNANTS
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY) NA	21. TOTAL CORE RECOVERY NA
		NA	NA	23. SIGNATURE OF INSPECTOR	

LOCATION SKETCH/COMMENTS: SCALE: NOT to scale

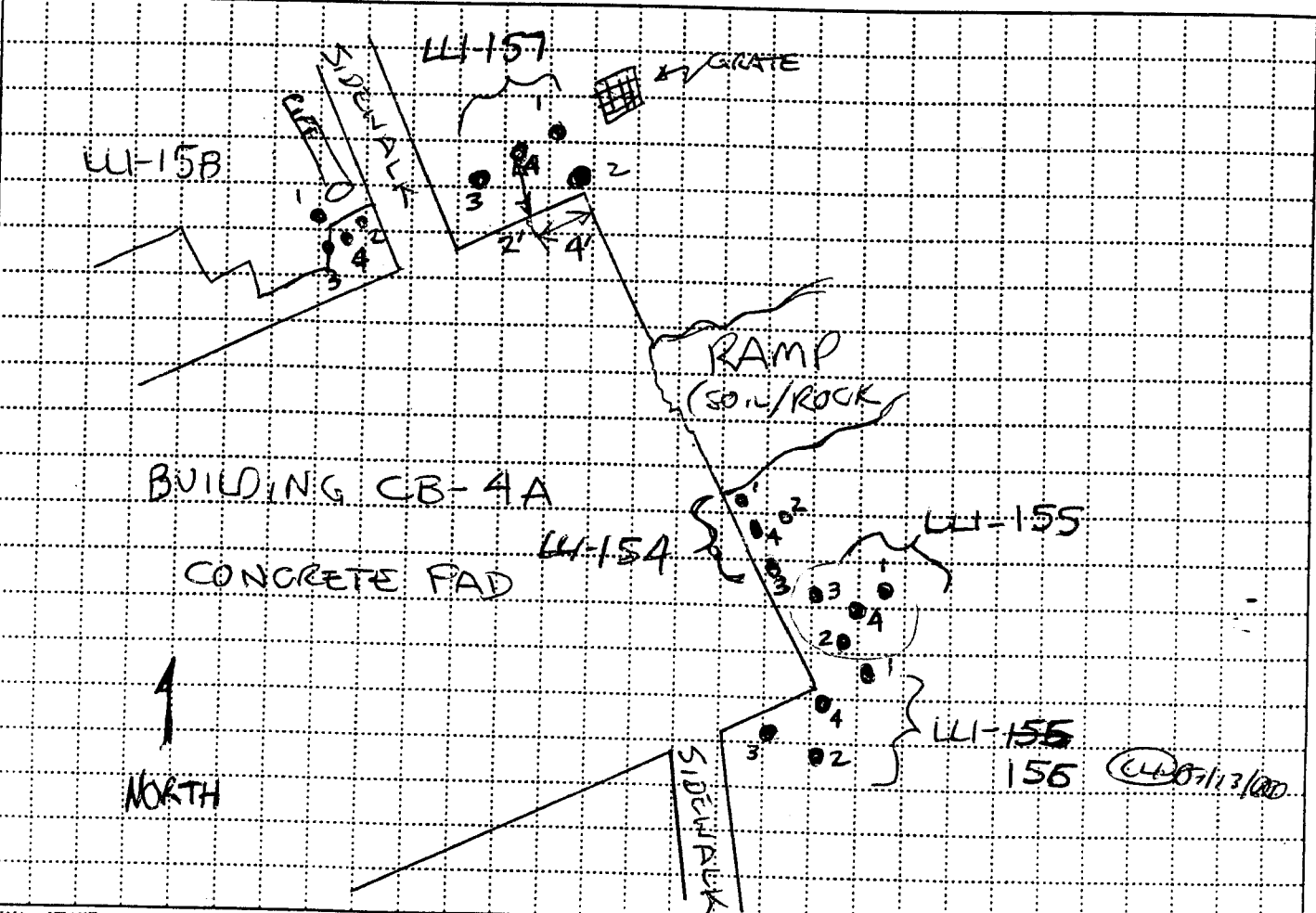


PROJECT RVAAP Phase II RI	HOLE NO LLI-203, 153
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24
157,
158

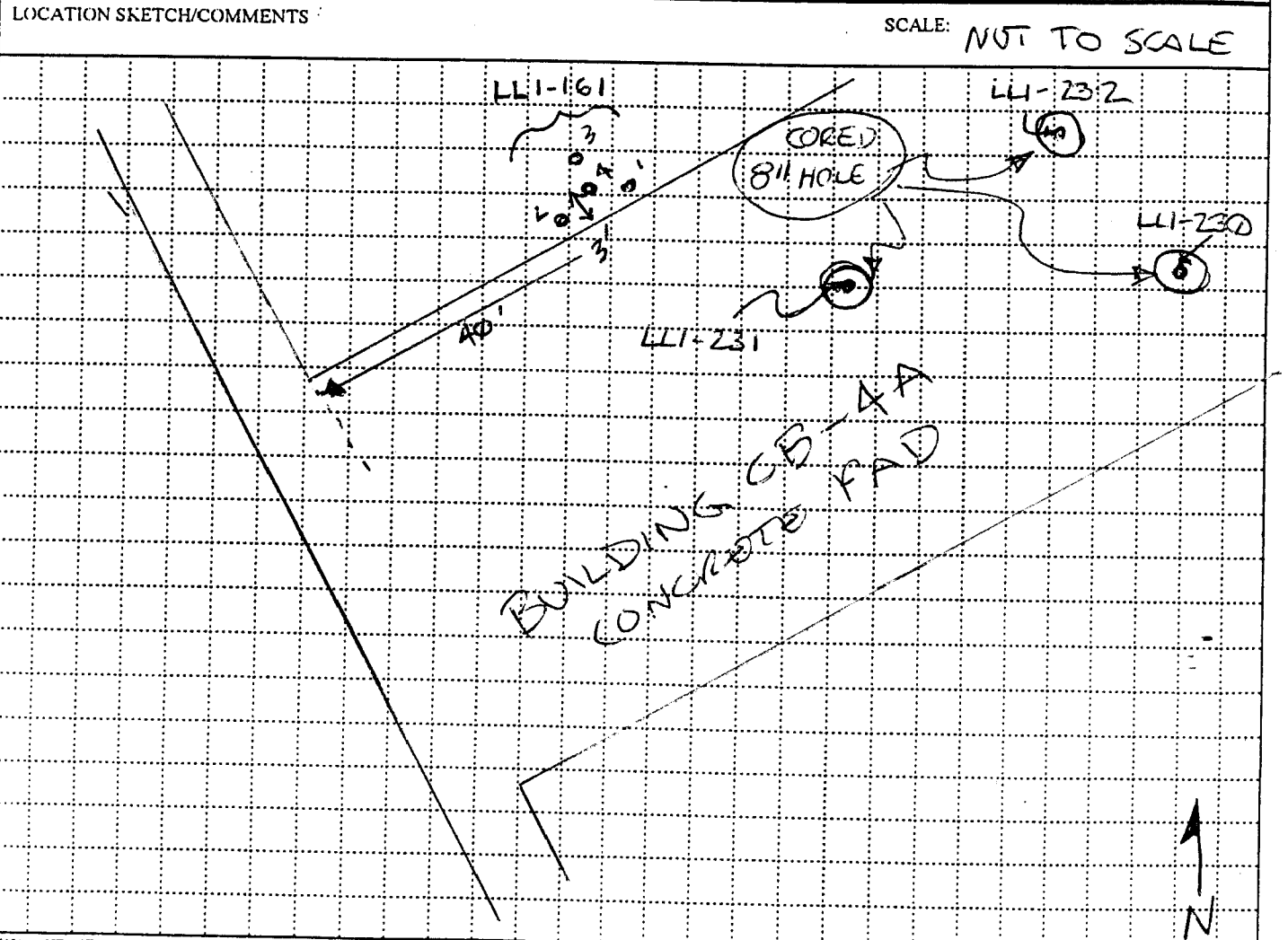
HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER LLI-155, 154, 157, 158	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 5	
3. PROJECT RVAAP: LLI / PHASE II R.I.			4. LOCATION CB-4A		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS SPOONS, SCOOPS, BOWLS, BUCKET AUGERS			8. HOLE LOCATION SEE MAP		
9. SURFACE ELEVATION NA			10. DATE STARTED 09/13/00		
12. OVERBURDEN THICKNESS NA			11. DATE COMPLETED 09/19/00		
13. DEPTH DRILLED INTO ROCK NA			15. DEPTH GROUNDWATER ENCOUNTERED NA		
14. TOTAL DEPTH OF HOLE SEE PAGE 2			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
18. GEOTECHNICAL SAMPLES NA			DISTURBED M.C.	UNDISTURBED -	19. TOTAL NUMBER OF CORE BOXES NA
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
-		X	X	CN, SYOC ³	EXPLOSIVES, PROPAGANTS
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY NA
-		YES	-	-	23. SIGNATURE OF INSPECTOR <i>[Signature]</i>

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE



PROJECT RVAAP: LLI / PHASE II R.I.	HOLE NO 155, 154, 157, 158
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HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER LLI-161, 231, 232, 230	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 5	
3. PROJECT RVAAP: LLI/PHASE II RI			4. LOCATION CB-4A		
5. NAME OF DRILLER			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 35 SCOOPS, BUCKET AUGERS, BUNS, SPOONS		8. HOLE LOCATION SEE MAP		9. SURFACE ELEVATION NA	
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 09/14/00		11. DATE COMPLETED 09/14/00	
13. DEPTH DRILLED INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14. TOTAL DEPTH OF HOLE SEE PAGE 2		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES M.C.		DISTURBED X		UNDISTURBED	
19. TOTAL NUMBER OF CORE BOXES NA		20. SAMPLES FOR CHEMICAL ANALYSIS		21. TOTAL CORE RECOVERY NA	
22. DISPOSITION OF HOLE		VOC X		METALS X	
		BACKFILLED YES		MONITORING WELL -	
		OTHER (SPECIFY) CN-		OTHER (SPECIFY) EXPLOSIVES PROPRIETARY	
		OTHER (SPECIFY) -		23. SIGNATURE OF INSPECTOR <i>[Signature]</i>	

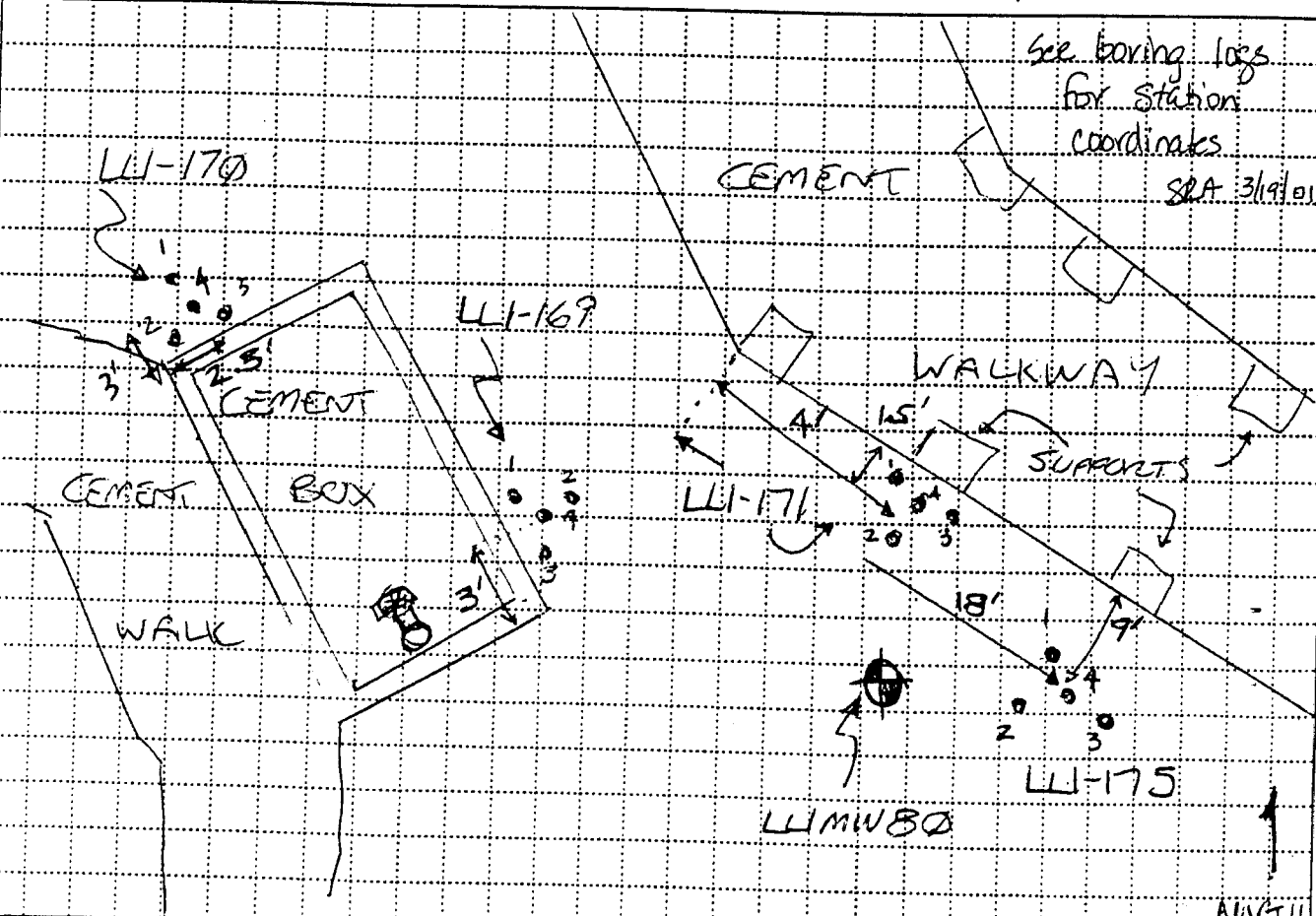


PROJECT RVAAP: LLI / PHASE II R.I.	HOLE NO LLI-161, 231, 232, 230
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LLI-169, LLI-170, LLI-171, LLI-175

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER _____	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI/PHASE II R.I.			4. LOCATION NEAR BLDG CB-3		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS SCOOPS, SPADERS, CROWLS, BUCKET AUGERS		8. HOLE LOCATION SEE MAP			
9. SURFACE ELEVATION NA		10. DATE STARTED 09/18/00		11. DATE COMPLETED 09/20/00	
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE SEE PAGE 11-14		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED	
19. TOTAL NUMBER OF CORE BOXES NA		20. SAMPLES FOR CHEMICAL ANALYSIS		21. TOTAL CORE RECOVERY NA	
		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
		NO S/S / SVCS	X	EXPLOSIVES	PERMEANTS CN/PLGS
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
		YES			<i>[Signature]</i>

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE



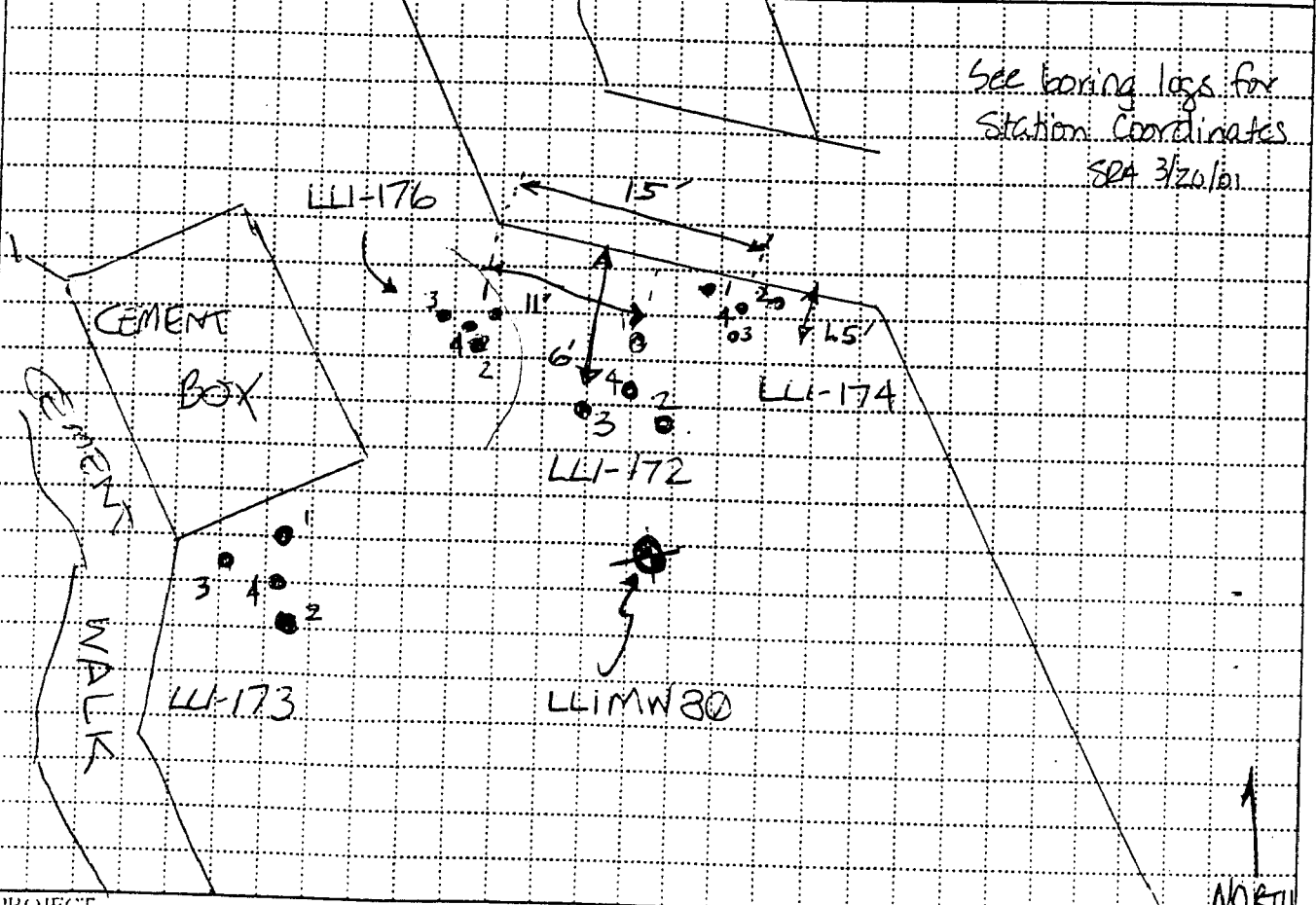
PROJECT RVAAP: LLI/PHASE II R.I.		HOLE NO LLI-169, 170, 171, 175	
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[Signature]

LLI-173, LLI-172, LLI-174, LLI-176

HTRW DRILLING LOG		INSTRUC Louisville COE		HOLE NUMBER	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET 1 OF 2 SHEETS	
3. PROJECT RVAAP: LLI/Phase II R.I.		4. LOCATION SEE MAP (NEM 606 CB-3)			
5. NAME OF DRILLER NA		6. MANUFACTURER'S DESIGNATION OF DRILL NA			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 35 BOWLS, SPAUN'S, SCOPES BUCKET AUGERS.		8. HOLE LOCATION SEE MAP		9. SURFACE ELEVATION NA	
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 09/18/00		11. DATE COMPLETE 09/29/00	
13. DEPTH DRILLED INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14. TOTAL DEPTH OF HOLE SEE PAGE 18-21		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		19. TOTAL NUMBER OF CORE BOXES NA	
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC		METALS	
22. DISPOSITION OF HOLE		BACKFILLED		MONITORING WELL	
		X			
				OTHER (SPECIFY) EXPLOSIVES	
				OTHER (SPECIFY) PROPPELLANTS	
				21. TOTAL CORE RECOVERY NA	
				23. SIGNATURE OF INSPECTOR <i>[Signature]</i>	

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE



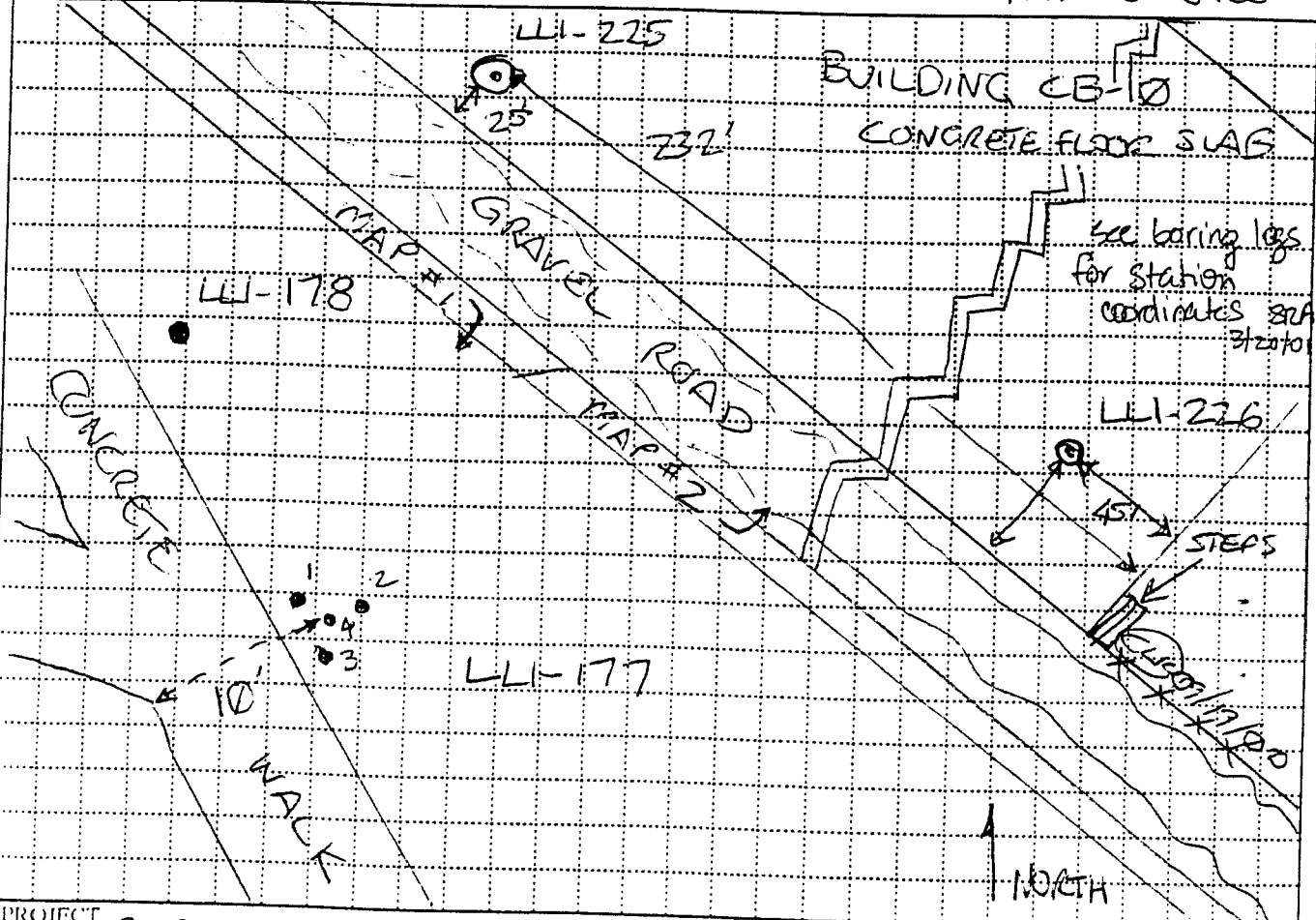
PROJECT RVAAP: LLI/Phase II R.I		HOLE NO LLI-173, 172, 174, 176	
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24

LLI-177, LLI-178, LLI-226, LLI-225

HTRW DRILLING LOG		DISTRICT Louisville COE		HOLE NUMBER	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI/PHASE II R.I.			4. LOCATION NEAR BLDG. CB-3 / BLDG. CB-10		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 53 SEONS SCOOPS BOWLS BUCKET AUGERS		8. HOLE LOCATION SEE MAP		9. SURFACE ELEVATION NA	
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 09/18/00		11. DATE COMPLETED 09/19/00	
13. DEPTH (DRILLED) INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14. TOTAL DEPTH OF HOLE SEE PAGE 25-28		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		19. TOTAL NUMBER OF CORE BOXES NA	
18. GEOTECHNICAL SAMPLES		DISTURBED M.C.		UNDISTURBED	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC		METALS	
21. TOTAL CORE RECOVERY NA		OTHER (SPECIFY) EXPLOSIVES		OTHER (SPECIFY) PREPOLLUTANTS CN-, PCBs	
22. DISPOSITION OF HOLE YES		BACKFILLED		MONITORING WELL	
				23. SIGNATURE OF INSPECTOR <i>[Signature]</i>	

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



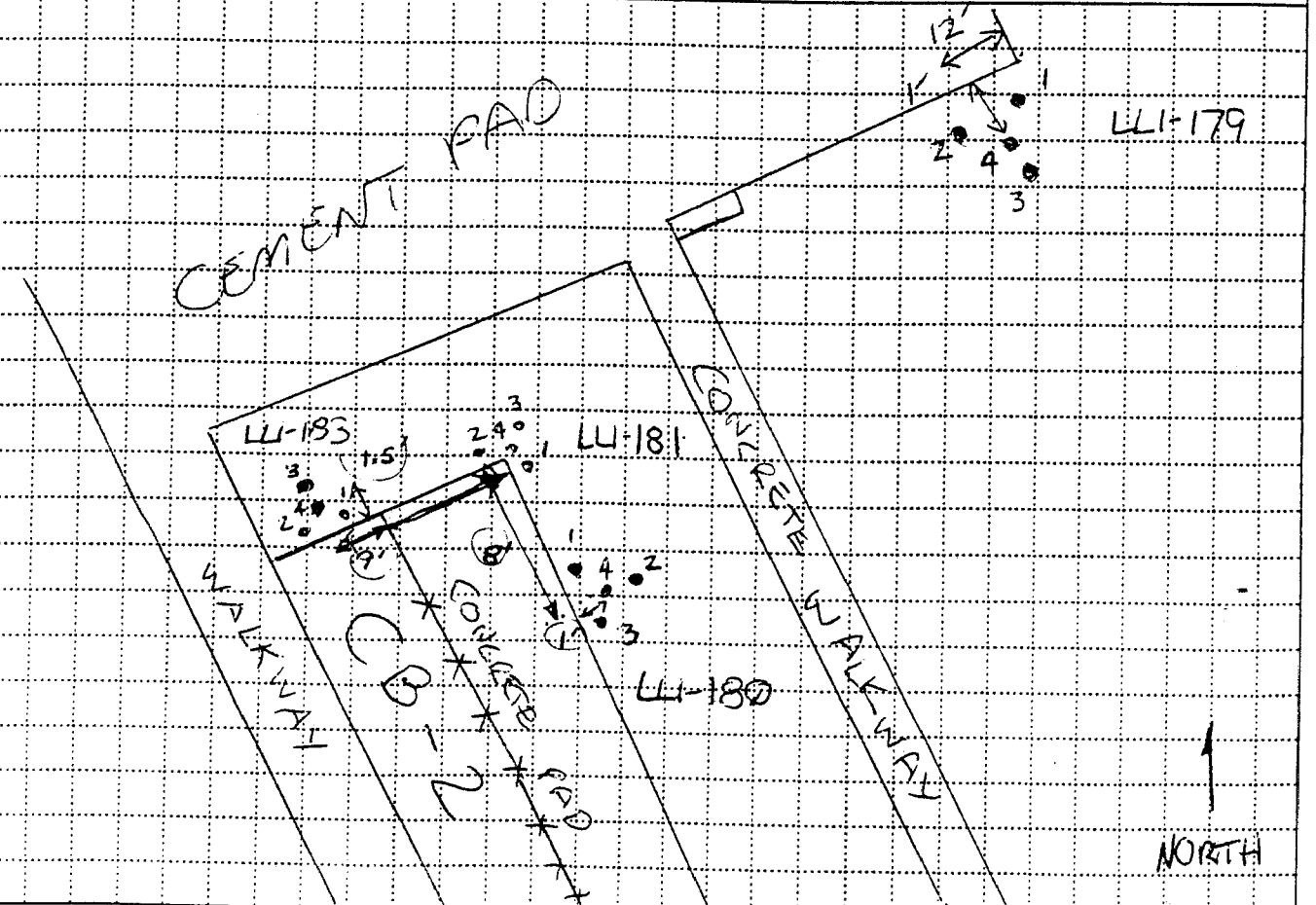
PROJECT RVAAP: LLI / PHASE II R.I.	HOLE NO LLI-177, 178, 226, 225
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ENG FORM 5056-R, AUG 94

LLI-179, LLI-183, LLI-181, LLI-180

HTRW DRILLING LOG		DISTRICT Louisville COE	HOLE NUMBER
1 COMPANY NAME SAIC		2 DRILL SUBCONTRACTOR NA	SHEET SHEETS 1 OF 2
3 PROJECT RVAAP: LLI/PHASE II R.I.		4 LOCATION CB-2	
5 NAME OF DRILLER NA		6 MANUFACTURERS DESIGNATION OF DRILL NA	
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS BITS, SPINNING SCOPES BUCKET AUGER		8 HOLE LOCATION SEE MAP	
9 SURFACE ELEVATION NA		10 DATE STARTED 09/17/00	
		11 DATE COMPLETED 09/17/00	
12 OVERBURDEN THICKNESS NA		15 DEPTH GROUNDWATER ENCOUNTERED NA	
13 DEPTH (DRILLED) INTO ROCK NA		16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14 TOTAL DEPTH OF HOLE SEE PAGE 2		17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA	
18 GEOTECHNICAL SAMPLES		19 TOTAL NUMBER OF CORE BOXES	
DISTURBED		UNDISTURBED	
		NA	
20 SAMPLES FOR CHEMICAL ANALYSIS		21 TOTAL CORE RECOVERY	
VOC		METALS	
		OTHER (SPECIFY) EXPLOSIVES	
22 DISPOSITION OF HOLE		23 SIGNATURE OF INSPECTOR	
BACKFILLED		MONITORING WELL	
YES		OTHER (SPECIFY)	
		PRINCIPAL	

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



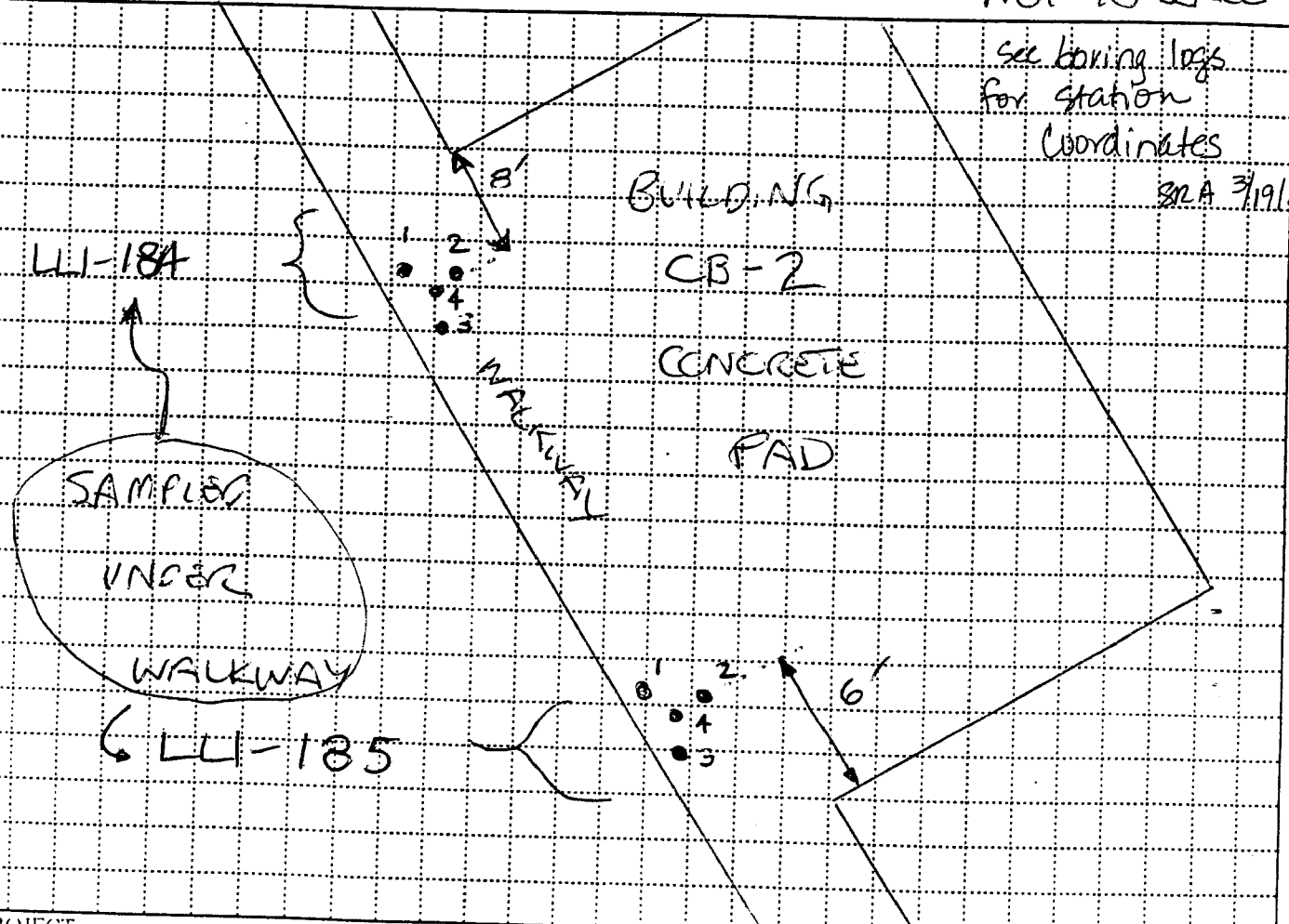
PROJECT RVAAP: LLI/PHASE II R.I.	HOLE NO LLI-179, 183, 181, 180
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HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER LLI-184, 185	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI/PHASE II R.I.			4. LOCATION SEE PAGE 2 (BLDG CB-2)		
5. NAME OF DRILLER			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS SPOONS, BOWLS, SCOOPS, BUCKET AUGER		8. HOLE LOCATION SEE PAGE 2		9. SURFACE ELEVATION NA	
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 09/18/00		11. DATE COMPLETED 09/18/00	
13. DEPTH DRILLED INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14. TOTAL DEPTH OF HOLE SEE PAGE 2 4-7		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		19. TOTAL NUMBER OF CORE BOXES NA	
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC		METALS	
22. DISPOSITION OF HOLE		BACKFILLED		MONITORING WELL	
		VES		OTHER (SPECIFY)	
		X		EXPLOSIVES	
				OTHER (SPECIFY)	
				PROPPELLANTS	
				OTHER (SPECIFY)	
				23. SIGNATURE OF INSPECTOR <i>[Signature]</i>	
				21. TOTAL CORE RECOVERY NA	

LOCATION SKETCH/COMMENTS:

SCALE: NOT TO SCALE

see boring logs for station coordinates
SRA 3/19/01



PROJECT RVAAP: LLI/PHASE II R.I.		HOLE NO. LLI-184, 185.
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LLI-189, LLI-188

8

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE			HOLE NUMBER A	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA			SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI / PHASE II R. I			4. LOCATION RANDOM GRID			
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS Spoon Bits, Scrapers, Bucket Augers		8. HOLE LOCATION SEE PAGE 2				
9. SURFACE ELEVATION NA		10. DATE STARTED 09/29/00		11. DATE COMPLETED 09/29/00		
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA				
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA				
14. TOTAL DEPTH OF HOLE SEE PAGE 2		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA				
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED		19. TOTAL NUMBER OF CORE BOXES NA
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)
			X	EXPLOSIVES	PROPELLANTS	CN
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR	
		YES			[Signature]	
LOCATION SKETCH/COMMENTS				SCALE:		
<p>SEE MAP IN SAF APPENDIX No 2</p> <p>See boring logs for Station Coordinates SRA 7/20/01</p>						
PROJECT RVAAP: LLI / PHASE II R. I.				HOLE NO LLI-189, 188		

LLI-19A, LLI-19B, LLI-19C, LLI-19D SRA 3/20/01

HTRW DRILLING LOG		DISTRICT Louisville COE		HOLE NUMBER LLI-19A, 19B, 19C, 19D 73	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: PHASE II R.I.			4. LOCATION Random Grid SEE CAD MAP		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8. HOLE LOCATION		9. SURFACE ELEVATION	
SS 3FOOT'S SCOOPS, AWLS, BUCKET AUGERS		SEE PAGE 2		NA	
12. OVERBURDEN THICKNESS NA			15. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH DRILLED INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE SEE PAGE 2			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES		19. TOTAL NUMBER OF CORE BOXES		21. TOTAL CORE RECOVERY	
		NA		NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		23. SIGNATURE OF INSPECTOR			
		[Signature]			
22. DISPOSITION OF HOLE		OTHER (SPECIFY)			
YES		EXPLOSIVES PROPPELLANTS CN-CR			

LOCATION SKETCH/COMMENTS:

SCALE:

SEE MAP IN SAP APPENDIX No 2

See boring logs for Station Coordinates SRA 3/20/01

PROJECT RVAAP: LLI/P PHASE II R.I.	HOLE NO 193, 192, 191, 190 LLI-194, 195, 196, 197
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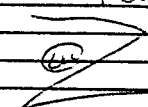
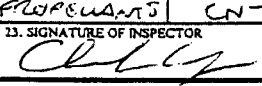
LLI-194, LLI-195, LLI-196, LLI-197

66

HTRW DRILLING LOG		DISTRICT Louisville COE		HOLE NUMBER	
1. COMPANY NAME JAIC		2. DRILL SUBCONTRACTOR NA		3. SHEET SHEETS 1 OF 2	
4. PROJECT RVAAP: LLI/PHASE II R.I.		4. LOCATION RANDOM GRID: SEE CAD MAP			
5. NAME OF DRILLER NA		6. MANUFACTURERS DESIGNATION OF DRILL			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS 5/8" DIA. BIT AND SHOVELS BUCKET AUGERS		8. HOLE LOCATION SEE PAGE 2		9. SURFACE ELEVATION NA	
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 09/28/00		11. DATE COMPLETED 09/28/00	
13. DEPTH (DRILLED) INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14. TOTAL DEPTH OF HOLE SEE PAGE 2		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED	
19. TOTAL NUMBER OF CORE BOXES NA		20. SAMPLES FOR CHEMICAL ANALYSIS		21. TOTAL CORE RECOVERY NA	
22. DISPOSITION OF HOLE		VOC		METALS	
BACKFILLED		MONITORING WELL		OTHER (SPECIFY) EXPLOSIVES	
VES				OTHER (SPECIFY) PERPELLANTS	
LOCATION SKETCH/COMMENTS		SCALE:		23. SIGNATURE OF INSPECTOR <i>[Signature]</i>	
<p>SEE CAD MAP IN SAP ADDENDUM No 2.</p> <p>see boring logs for Station coordinates SEA 320121</p>					
PROJECT RVAAP: LLI/PHASE II R.I.				HOLE NO LLI-194, 195, 196, 197	

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LLI-198, LLI-206, LLI-207, LLI-217

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE			HOLE NUMBER	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA			SHEET 1 OF 2	
3. PROJECT RVAAP: LLI/Phase II R.I			4. LOCATION Random Grid			
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		SS 3FOOT, 5/8" DIA, 1/2" DIA, 1/4" DIA		8. HOLE LOCATION SEE GPS COORDINATES		
		UNKNOWN ADDRESS		9. SURFACE ELEVATION NA		
				10. DATE STARTED 09/26/00		
				11. DATE COMPLETED 09/26/00		
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA				
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA				
14. TOTAL DEPTH OF HOLE SEE PAGE 2		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA				
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED		19. TOTAL NUMBER OF CORE BOXES NA
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)
			X	EXPLOSIVES	PROPAGANTS	CN-
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR 	
		YES				
LOCATION SKETCH/COMMENTS				SCALE: NOT TO SCALE		
<p>SEE CAD MAP IN SOA SAP APPENDIX 2</p> <p>09/30/00</p> <p>See boring logs for Station Coordinates</p> <p>SEA 3/20/01</p>						
PROJECT RVAAP: LLI/Phase II R.I					HOLE NO LLI-198, 206, 207, 217	

LLI-205, LLI-119, LLI-201, LLI-200

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HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI/PHASE II R.I.			4. LOCATION RANDOM GRID		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8. HOLE LOCATION		9. SURFACE ELEVATION	
SS SAWS, PAWS SCOPES BUCKET AUGER		SEE PAGE 2		NA	
12. OVERBURDEN THICKNESS NA			15. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH DRILLED INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE SEE PAGE 2			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED	
				19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC		METALS	
				OTHER (SPECIFY) EXPLOSIVES	
22. DISPOSITION OF HOLE		BACKFILLED		MONITORING WELL	
		YES			
				OTHER (SPECIFY) PROPELLANTS	
				21. TOTAL CORE RECOVERY NA	
				23. SIGNATURE OF INSPECTOR <i>[Signature]</i>	

LOCATION SKETCH/COMMENTS: SCALE:

SEE GRID MAP IN SAP APPENDIX No 2

See boring logs for
Station coordinates
SEA 3/20/01

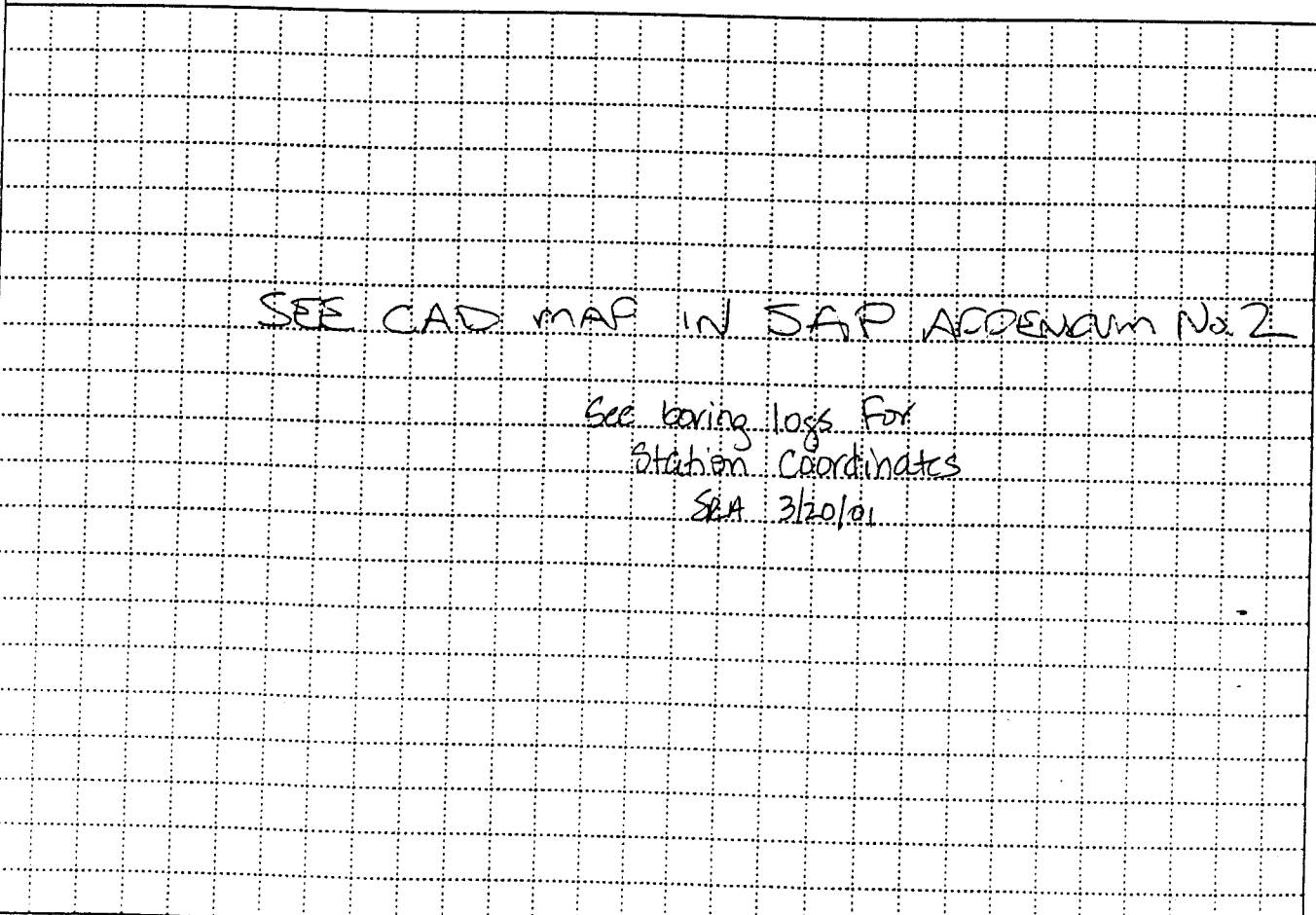
PROJECT RVAAP: LLI/PHASE II R.I.	HOLE NO. LLI-205, 199, 201, 200
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LLI-216, LLI-215, LLI-208, LLI-210

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HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER A	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI / Phase II R.I.			4. LOCATION RANDOM GRID		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS. SCOPES, SPOONS, BOWLS BUCKET AUGER		8. HOLE LOCATION SEE CAD MAP			
9. SURFACE ELEVATION NA		10. DATE STARTED 09/27/00		11. DATE COMPLETED 09/27/00	
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE SEE PAGE 2		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED	
19. TOTAL NUMBER OF CORE BOXES NA		20. SAMPLES FOR CHEMICAL ANALYSIS		21. TOTAL CORE RECOVERY NA	
22. DISPOSITION OF HOLE		VOC		METALS	
BACKFILLED		OTHER (SPECIFY) EXPLOSIVES		OTHER (SPECIFY) PRIPPELLANTS	
YES		MONITORING WELL		OTHER (SPECIFY) CN-CAT	
23. SIGNATURE OF INSPECTOR					

LOCATION SKETCH/COMMENTS SCALE:



SEE CAD MAP IN SAP ADDENDUM No 2

See boring logs for Station Coordinates
SEA 3/20/01

PROJECT RVAAP: LLI / Phase II R.I.	HOLE NO LLI-216, 215, 208, 210
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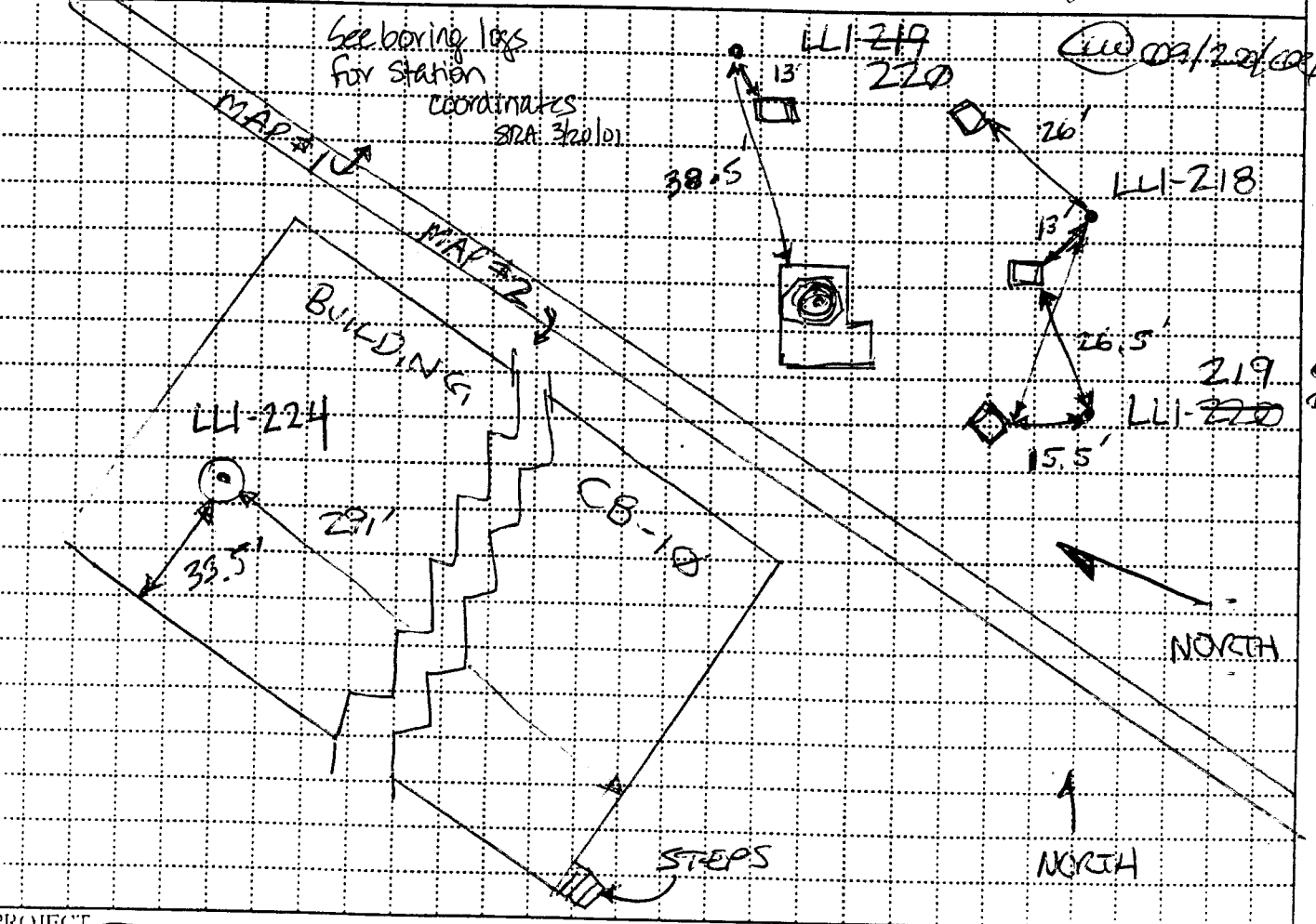
LI-211, LI-212, LI-213, LI-214

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HTRW DRILLING LOG		DISTRICT LOUISVILLE COE			HOLE NUMBER ↑	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA			SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: PHASE II RI / LI				4. LOCATION RANDOM GRID		
5. NAME OF DRILLER NA				6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		SS SCOOPS, JESSING BANG BUCKET AUGER		8. HOLE LOCATION SEE CAD MAP OR GPS COORDS.		
				9. SURFACE ELEVATION NA		
				10. DATE STARTED 09/27/00		11. DATE COMPLETED 09/27/00
12. OVERBURDEN THICKNESS NA				15. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH (DRILLED) INTO ROCK NA				16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE SEE PAGE 2				17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED		19. TOTAL NUMBER OF CORE BOXES NA
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)
			X	EXPLOSIVES	PROPELLANTS	CN-
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR	
		YES			[Signature]	
LOCATION SKETCH/COMMENTS				SCALE: NOT TO SCALE		
<p>SEE CAD MAP IN SAP APPENDUM No 2</p> <p>See boring logs for Station coordinates SEA 3/20/01</p>						
PROJECT RVAAP: LI / PHASE II RI					HOLE NO LI-211, 212, 213, 214	

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		WELL NUMBER LI-224, 218, 219, 220
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2
3. PROJECT RVAAP: LLI / PHASE II R.I.		4. LOCATION MAP #1: WATER TOWER / MAP #2: BUC CB-10		
5. NAME OF DRILLER NA		6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 55 SPOONS, SCOPES, BOWLS, BUCKET AUGERS		8. HOLE LOCATION SEE MAP		
		9. SURFACE ELEVATION NA		
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 09/19/00		11. DATE COMPLETED 09/19/00
13. DEPTH DRILLED INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		
14. TOTAL DEPTH OF HOLE SEE PAGE 32-35		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
18. GEOTECHNICAL SAMPLES		19. TOTAL NUMBER OF CORE BOXES NA		
20. SAMPLES FOR CHEMICAL ANALYSIS		21. TOTAL CORE RECOVERY NA		
22. DISPOSITION OF HOLE		23. SIGNATURE OF INSPECTOR		

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



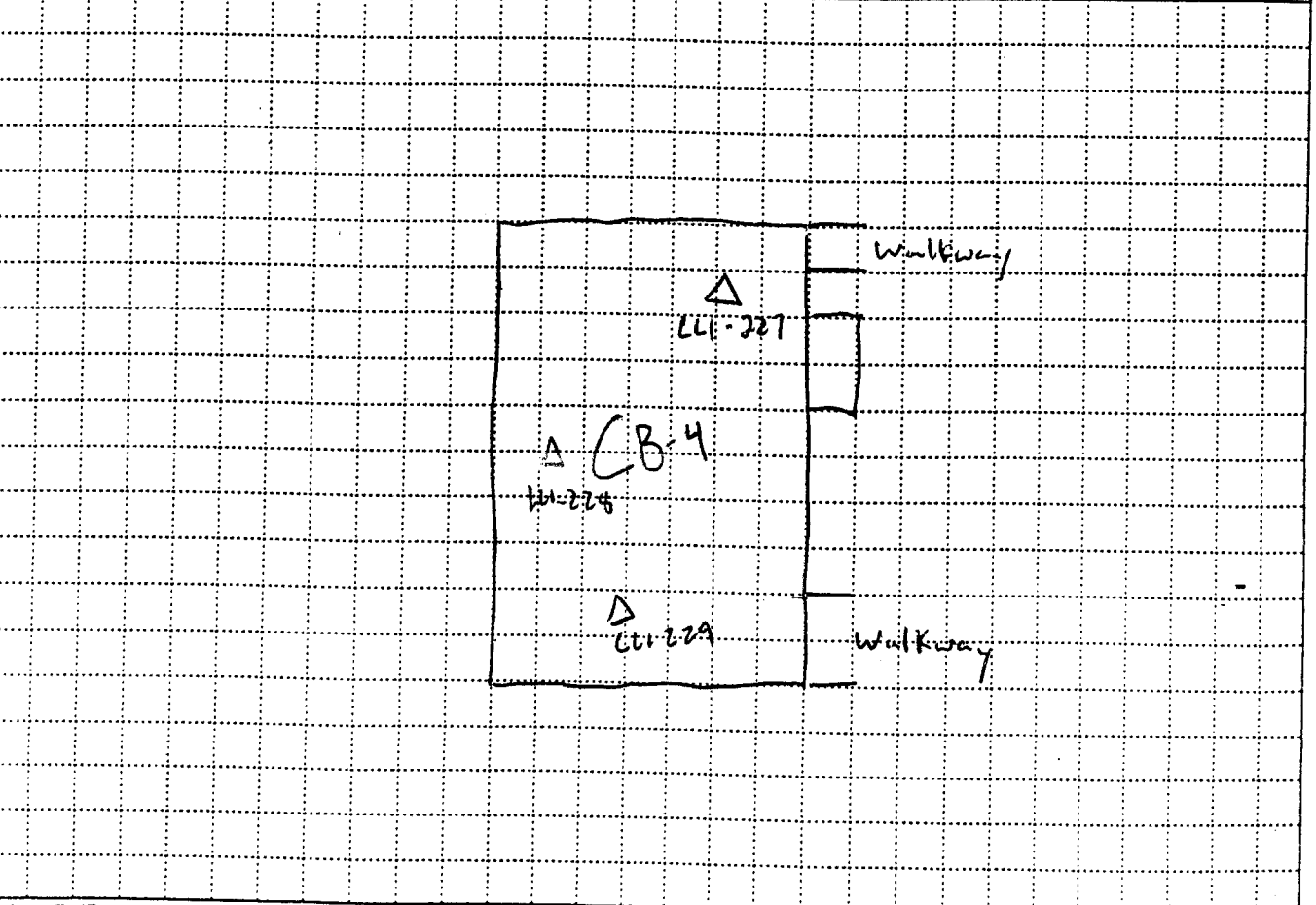
PROJECT RVAAP: LLI / PHASE II R.I.	HOLE NO. LI-224, 218, 219, 220
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LLI-228, LLI-227, LLI-229

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HTRW DRILLING LOG		DISTRICT Louisville COE		HOLE NUMBER	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS OF	
3. PROJECT RVAAP Phase II @ Loadline I			4. LOCATION Bldg CB-4		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS SCOOP, bucket augers		8. HOLE LOCATION see map		9. SURFACE ELEVATION 31.8101	
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 9-14-00		11. DATE COMPLETED 9-14-00	
13. DEPTH DRILLED INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14. TOTAL DEPTH OF HOLE see p. 46-48		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC X	METALS X	OTHER (SPECIFY) explosives	OTHER (SPECIFY) mm/beans
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY) NA	21. TOTAL CORE RECOVERY NA
			NA	NA	23. SIGNATURE OF INSPECTOR

LOCATION SKETCH/COMMENTS: SCALE: Not to scale



PROJECT RVAAP Phase II RI		HOLE NO LLI-228, 227, 229	
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HTRW DRILLING LOG		DISTRICT LOUISVILLE COE			HOLE NUMBER	
1. COMPANY NAME SALC		2. DRILL SUBCONTRACTOR NA			SHEET SHEETS OF 	
3. PROJECT BVAAP Baseline I Phase II R1			4. LOCATION CA-6 and settling basin			
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA			
7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SCOOP, BUCKET AUGER		8. HOLE LOCATION See maps p. 66 and p. 80				
		9. SURFACE ELEVATION SPH 318.01				
		10. DATE STARTED 9-16-00		11. DATE COMPLETED 9-16-00		
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA				
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA				
14. TOTAL DEPTH OF HOLE See p. 74-77		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA				
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA		
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC X	METALS X	OTHER (SPECIFY) EXPLOSIVES	OTHER (SPECIFY) PROPAGANTS	OTHER (SPECIFY) SVOCs
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL NA	OTHER (SPECIFY) NA	21. TOTAL CORE RECOVERY NA	
					23. SIGNATURE OF INSPECTOR	

LOCATION SKETCH/COMMENTS

SCALE: **NO scale**

See map pg. 66 for LLI-233
LLI-234

See map pg. 80 for LLI-260
LLI-261

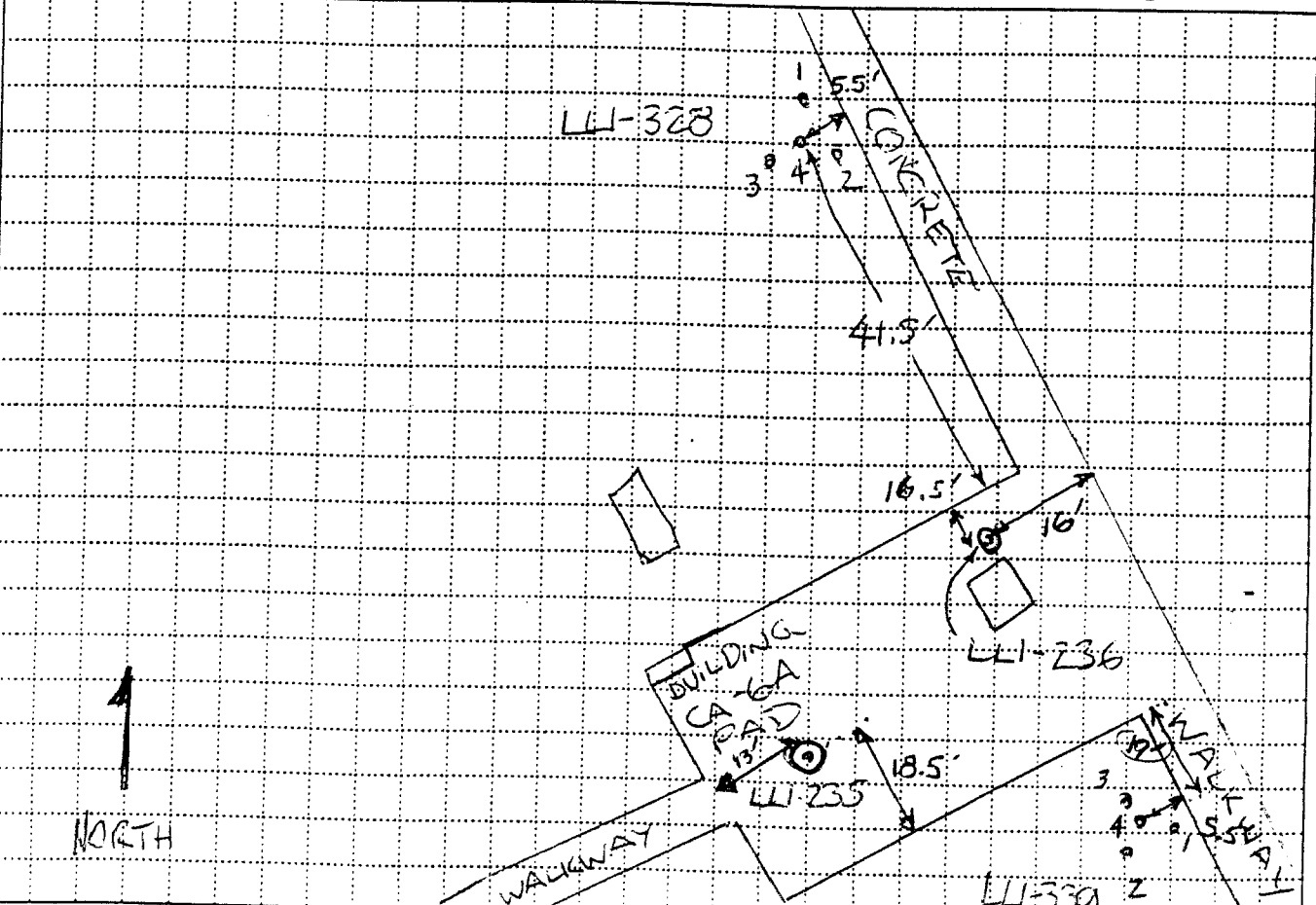
PROJECT
RVAAP Phase II R1

HOLE NO
LLI-233, 234, 260, 261

LLI-330, LLI-235, LLI-236, LLI-328

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER —	
1. COMPANY NAME RVAAP: LLI/PHASE II R.I.		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT SAIC @ 09/16/00			4. LOCATION CA-6A		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SEE PAGES, SPONS, SIZES BUCKET AUGERS			8. HOLE LOCATION SEE MAP		
9. SURFACE ELEVATION NA			10. DATE STARTED 09/16/00		
			11. DATE COMPLETED 09/16/00		
12. OVERBURDEN THICKNESS NA			15. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH DRILLED INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE SEE PAGE 2			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES		DISTURBED —	UNDISTURBED —	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC —	METALS X	OTHER (SPECIFY) EXPLOSIVES	OTHER (SPECIFY) PROPELLANTS
22. DISPOSITION OF HOLE		BACKFILLED YES	MONITORING WELL —	OTHER (SPECIFY) —	21. TOTAL CORE RECOVERY NA
				23. SIGNATURE OF INSPECTOR CLL	

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE

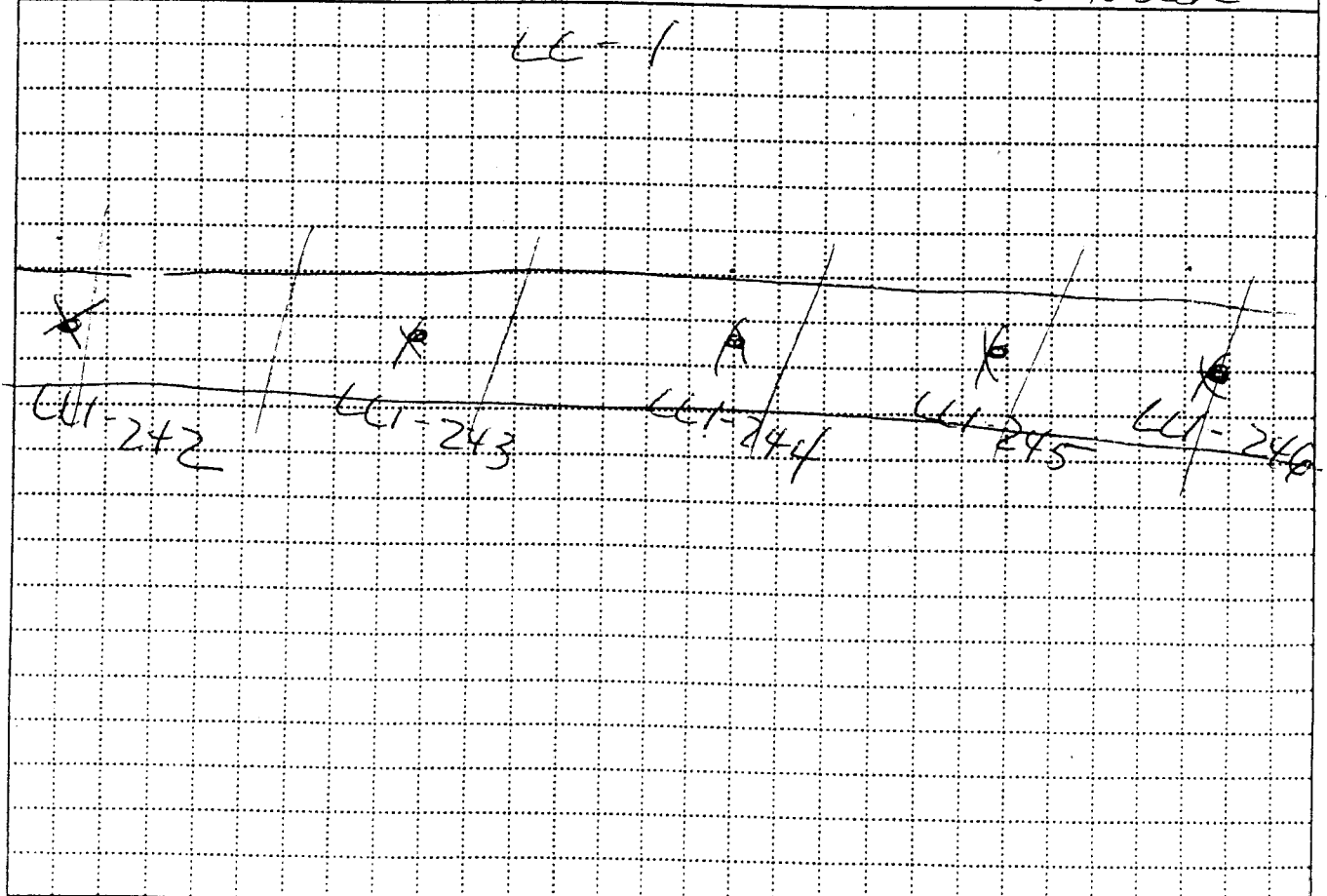


PROJECT RVAAP: LLI / PHASE II R.I.		HOLE NO LLI-330, 235, 236, 328	
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LLI-246, LLI-245, LLI-244, LLI-243, 242 SM

HTRW DRILLING LOG		DISTRICT <i>Louisa COE</i>		HOLE NUMBER <i>NA</i>	
1. COMPANY NAME <i>SAC</i>		2. DRILL SUBCONTRACTOR		SHEET <i>1</i> OF <i>1</i> SHEETS	
3. PROJECT <i>RVAAP LLI Phase II RI</i>			4. LOCATION <i>LL-1</i>		
5. NAME OF DRILLER <i>NA</i>			6. MANUFACTURER'S DESIGNATION OF DRILL <i>NA</i>		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT <i>55 Bowl, Spoon</i>		8. HOLE LOCATION <i>ON OLD RR TRACKS</i>			
		9. SURFACE ELEVATION <i>NA</i>			
		10. DATE STARTED <i>10/2/00</i>		11. DATE COMPLETED <i>10/3/00</i>	
12. OVERBURDEN THICKNESS <i>NA</i>		15. DEPTH GROUNDWATER ENCOUNTERED <i>NA</i>			
13. DEPTH (DRILLED) INTO ROCK <i>NA</i>		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>NA</i>			
14. TOTAL DEPTH OF HOLE <i>See logs</i>		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <i>NA</i>			
18. GEOTECHNICAL SAMPLES		DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES <i>NA</i>	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER (SPECIFY) <i>PROP</i>	21. TOTAL CORE RECOVERY
22. DISPOSITION OF HOLE <i>W/ Ballast</i>		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR <i>M. Clough</i>

LOCATION SKETCH/COMMENTS SCALE: *Not to Scale*



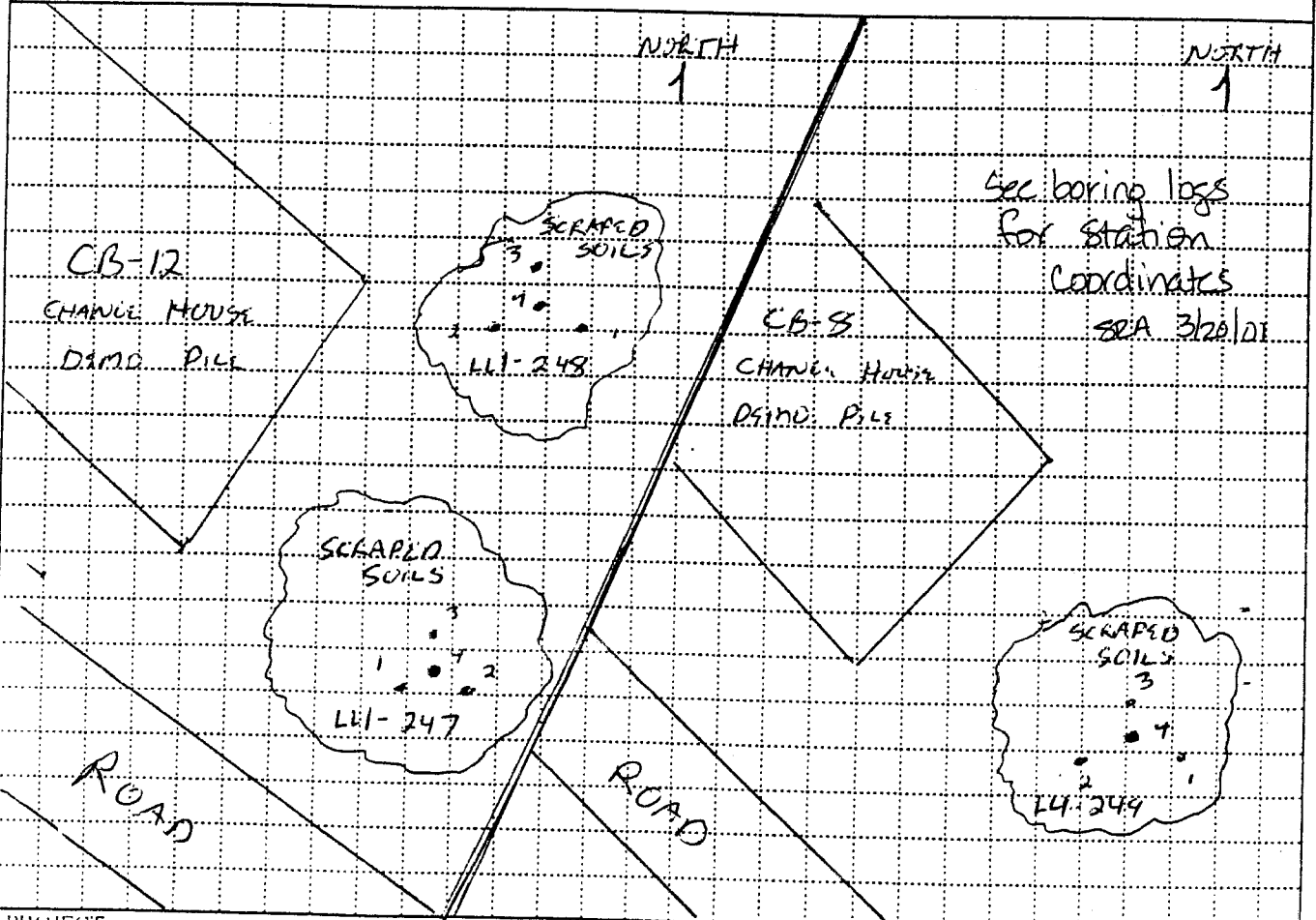
PROJECT <i>RVAAP LLI Phase II RI</i>	HOLE NO <i>LLI, 246, 245, 244, 243, 242</i>
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* - SEE TTALS LL1-247, LL1-248, LL1-249

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HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER 247, 248, 249	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LL1/PHASE II R. 1.			4. LOCATION *		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 55. GRINDS BOWLS, BUCKET AUGUR		8. HOLE LOCATION *		9. SURFACE ELEVATION NA	
10. DATE STARTED 09/27/00		11. DATE COMPLETED 09/27/00			
12. OVERBURDEN THICKNESS NA		13. DEPTH GROUNDWATER ENCOUNTERED NA			
14. DEPTH DRILLED INTO ROCK NA		15. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
16. TOTAL DEPTH OF HOLE *		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES *		DISTURBED <input checked="" type="checkbox"/>		UNDISTURBED <input type="checkbox"/>	
19. TOTAL NUMBER OF CORE BOXES NA		20. SAMPLES FOR CHEMICAL ANALYSIS		21. TOTAL CORE RECOVERY NA	
22. DISPOSITION OF HOLE		VOC *	METALS *	OTHER (SPECIFY) *	OTHER (SPECIFY) NA
23. SIGNATURE OF INSPECTOR B. B. C. W.		BACKFILLED NA	MONITORING WELL NA	OTHER (SPECIFY) NA	

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



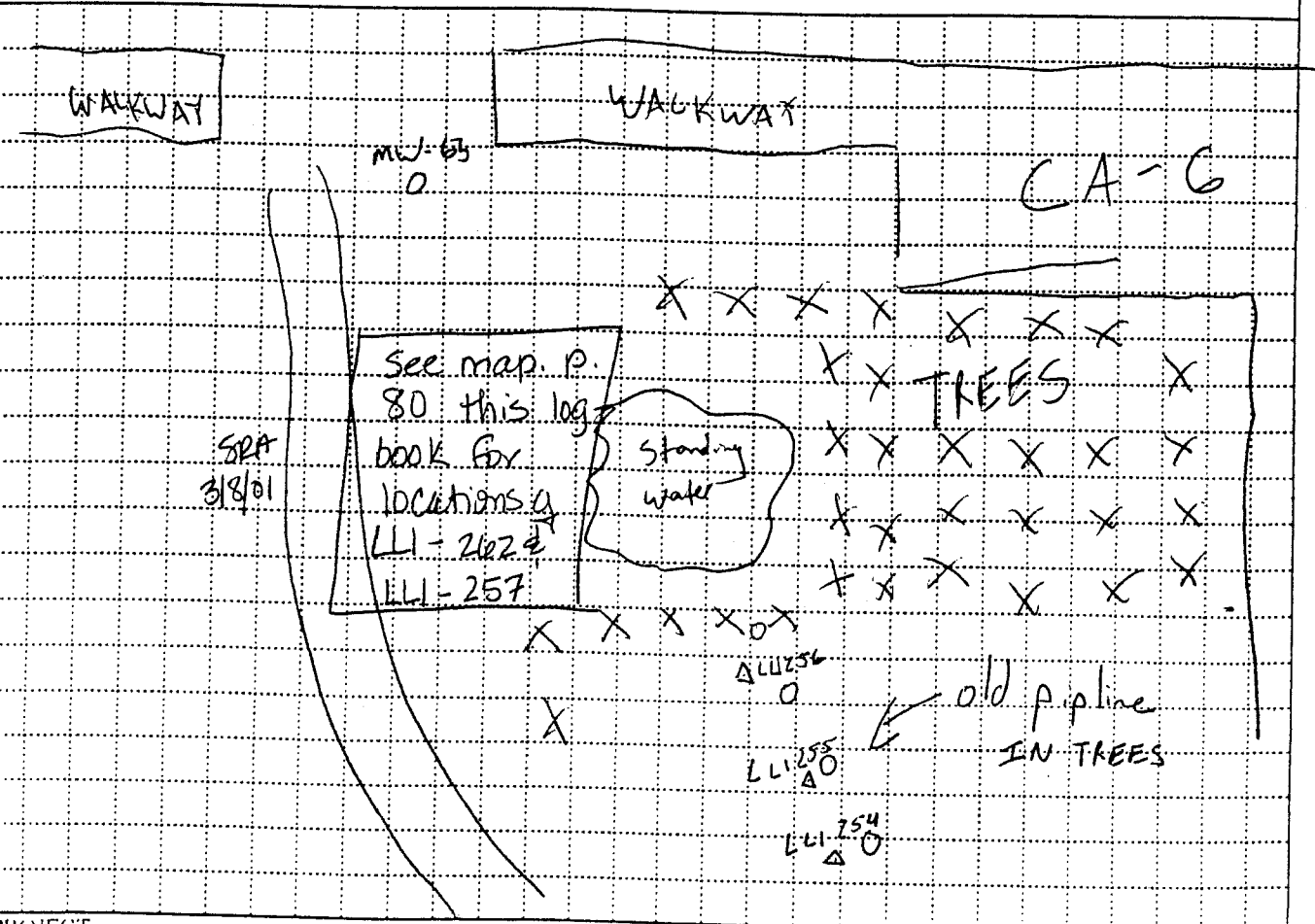
PROJECT RVAAP: LL1/PHASE II R. 1.	HOLE NO LL1-247, 248, 249
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LLI-262, LLI-257, LLI-256, LLI-255 ←

HTRW DRILLING LOG		DISTRICT Louisville COE		HOLE NUMBER	
1. COMPANY NAME EAIC		2. DRILL SUBCONTRACTOR		SHEET SHEETS OF	
3. PROJECT BVAAP Phase II RI - Loadline I			4. LOCATION Settling basin by CA-6		
5. NAME OF DRILLER NA		6. MANUFACTURERS DESIGNATION OF DRILL NA		SRA 3/8/01	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 46 SCODD bucket auger		8. HOLE LOCATION see map below and p. 80		9. SURFACE ELEVATION	
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 9-17-00		11. DATE COMPLETED 9-17-00	
13. DEPTH DRILLED INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14. TOTAL DEPTH OF HOLE see p. 88-91		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		19. TOTAL NUMBER OF CORE BONES NA	
18. GEOTECHNICAL SAMPLES LLI-256		DISTURBED	UNDISTURBED X	21. TOTAL CORE RECOVERY NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER (SPECIFY) EXPLOSIVES	OTHER (SPECIFY) PROPPELLANTS
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY) NA	OTHER (SPECIFY) SVDOS
			NA	NA	18. SIGNATURE OF INSPECTOR

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



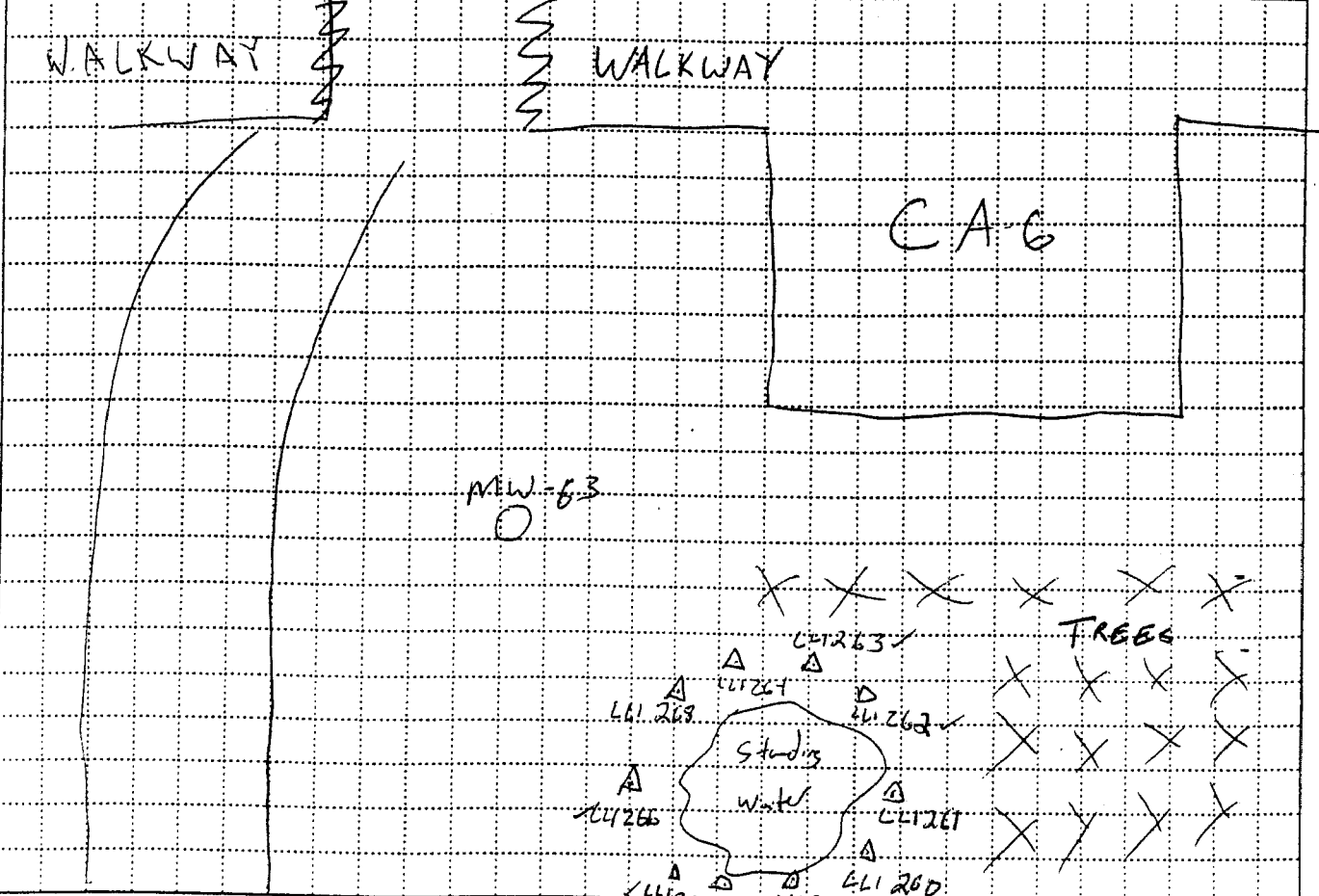
PROJECT	HOLE NO LLI-262, 257, 256, 255
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LLI-266, LLI-263, LLI-258, LLI-259

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER ↑	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS OF	
3. PROJECT RVAAP Loading I Phase II RI			4. LOCATION Settling basin by CA-6		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS scoop, bucket auger		8. HOLE LOCATION see map		9. SURFACE ELEVATION SPR 318101	
12. OVERBURDEN THICKNESS NA		13. DEPTH DRILLED INTO ROCK NA		10. DATE STARTED 9-17-00	
11. (DEPTH DRILLED) INTO ROCK NA		14. TOTAL DEPTH OF HOLE see p. 81-84		11. DATE COMPLETED 10-23-00	
15. GEOTECHNICAL SAMPLES NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA	
18. SAMPLES FOR CHEMICAL ANALYSIS		19. TOTAL NUMBER OF CORE BOXES NA		20. DISPOSITION OF HOLE	
DISTURBED NA		UNDISTURBED NA		BACKFILLED NA	
VOC NA		METALS X		OTHER (SPECIFY) EXPLOSIVES	
OTHER (SPECIFY) PROPYLENES		OTHER (SPECIFY) NA		21. TOTAL CORE RECOVERY NA	
22. DISPOSITION OF HOLE		MONITORING WELL NA		23. SIGNATURE OF INSPECTOR	
OTHER (SPECIFY) NA		OTHER (SPECIFY) NA		OTHER (SPECIFY) NA	

LOCATION SKETCH/COMMENTS SCALE: Not to Scale



PROJECT RVAAP Phase II RI I	HOLE NO LLI-266, 263, 258, 259
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LLI-268, LLI-264, LLI-265, LLI-254 ←

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HTRW DRILLING LOG		DISTRICT LOUISVILLE CEE		HOLE NUMBER	
1. COMPANY NAME SAIL		2. DRILL SUBCONTRACTOR		SHEET _____ OF _____ SHEETS	
3. PROJECT BVAAP Loading I Phase II R1		4. LOCATION Settling basin by CA-6		5. NAME OF DRILLER NA	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS SCOOP, bucket auger		6. MANUFACTURERS DESIGNATION OF DRILL NA		8. HOLE LOCATION see maps p. 80 and p. 87	
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 9-18-00		11. DATE COMPLETED 9-30-00	
13. DEPTH DRILLED INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14. TOTAL DEPTH OF HOLE see p. 95-98		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		19. TOTAL NUMBER OF CORE BOXES NA	
18. GEOTECHNICAL SAMPLES LLI-264, 265, 268		DISTURBED X		UNDISTURBED NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC NA		METALS X	
22. DISPOSITION OF HOLE		BACKFILLED NA		MONITORING WELL NA	
		OTHER (SPECIFY) EXPLOSIVES		OTHER (SPECIFY) PROPAGANTS	
		OTHER (SPECIFY) NA		OTHER (SPECIFY) NA	
		21. SIGNATURE OF INSPECTOR		21. TOTAL CORE RECOVERY NA	

LOCATION SKETCH/COMMENTS: _____ SCALE: _____

PRY

see map p. 87 for LLI-254

see map p. 80 for LLI-268
LLI-264 -

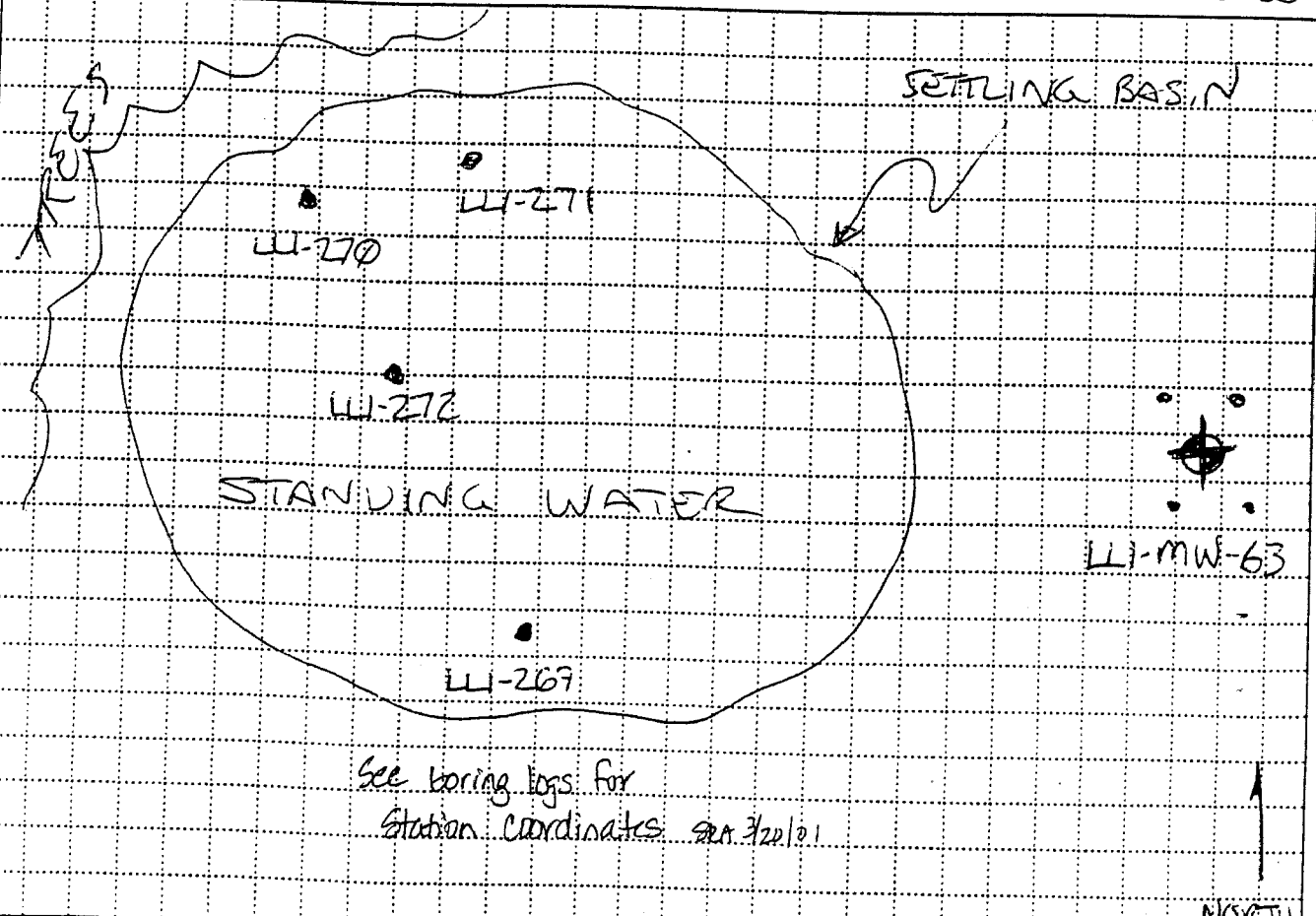
? see map p. for LLI-265 ?

PROJECT BVAAP Loading I Phase II R1	HOLE NO. LLI-268, 264, 265, 254
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LLI-269, LLI-272, LLI-270, LLI-271, 17

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER 1
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2
3. PROJECT RVAAP. LLI/PHASE II R.I.		4. LOCATION SETTLING BASIN No. CA-6		
5. NAME OF DRILLER NA		6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 35 BWS SPOON'S SCOOPS BUCKET AUGERS		8. HOLE LOCATION SEE MAP		
9. SURFACE ELEVATION NA		10. DATE STARTED 09/25/00		
11. DATE COMPLETED 09/30/00		12. OVERBURDEN THICKNESS NA		
13. DEPTH DRILLED INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		
14. TOTAL DEPTH OF HOLE SEE PAGE 2		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) 8" STANDING WATER OVER NOSE		19. TOTAL NUMBER OF CORE BOXES NA		
18. GEOTECHNICAL SAMPLES		21. TOTAL CORE RECOVERY NA		
20. SAMPLES FOR CHEMICAL ANALYSIS		22. DISPOSITION OF HOLE		
23. SIGNATURE OF INSPECTOR <i>Weller</i>		24. OTHER (SPECIFY) EXPLOSIVES		

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE



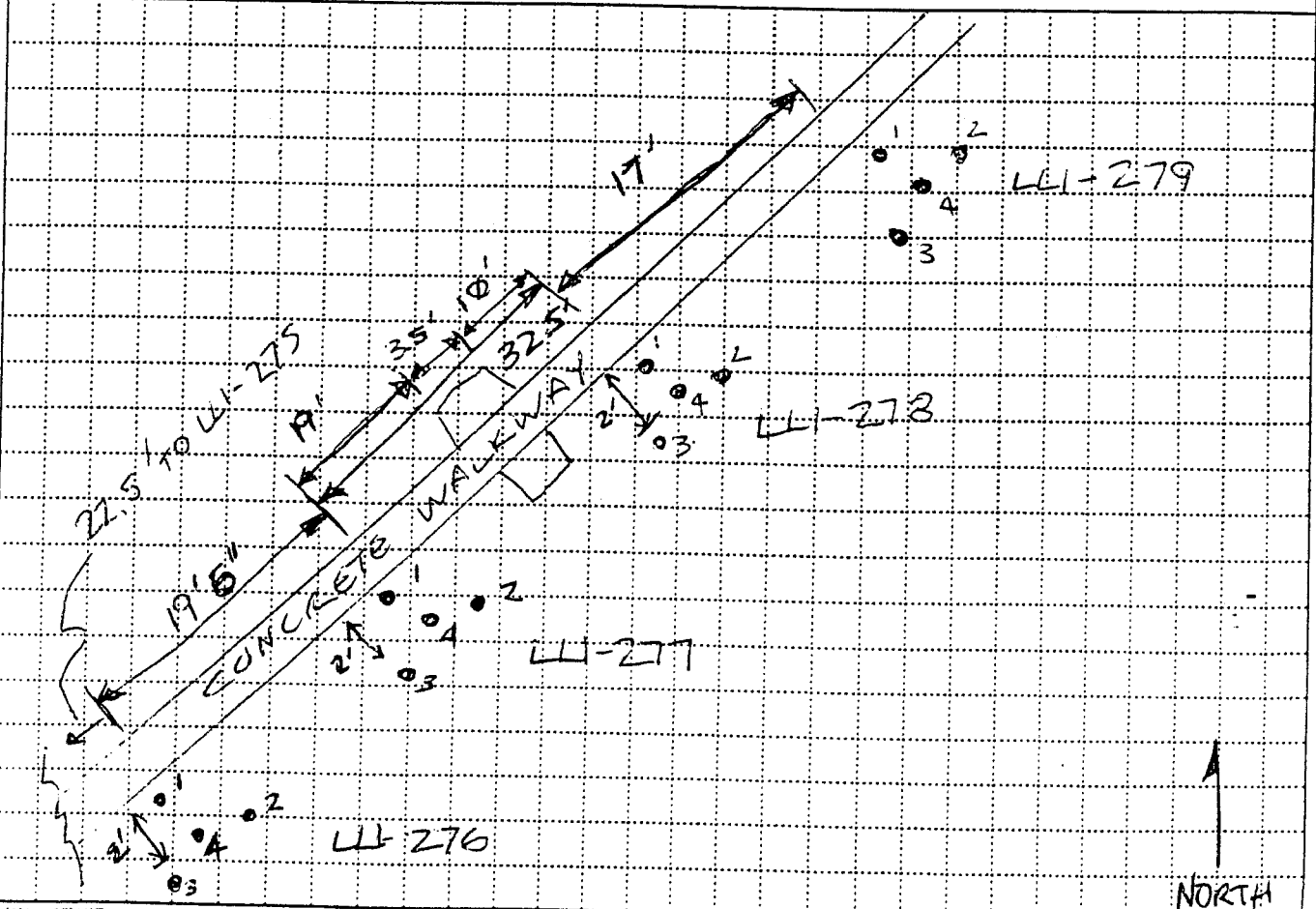
PROJECT RVAAP: LLI/PHASE II R.I.	HOLE NO. LLI-269, 272, 270, 271
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LLI-276, LLI-277, LLI-278, LLI-279

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET 1 OF 5 SHEETS	
3. PROJECT RVAAP: LLI / PHASE II R.I			4. LOCATION CG-4A EAST		
5. NAME OF DRILLER NA		6. MANUFACTURER'S DESIGNATION OF DRILL NA			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS SPOONS, BAWLS, SCOPES, BUCKET AUGER		8. HOLE LOCATION SEE MAP			
9. SURFACE ELEVATION NA		10. DATE STARTED 09/15/00		11. DATE COMPLETED 09/15/00	
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE SEE PAGE 2		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC		METALS	
22. DISPOSITION OF HOLE		BACKFILLED		MONITORING WELL	
		YES			
				19. TOTAL NUMBER OF CORE BOXES NA	
		OTHER (SPECIFY) EXPLOSIVES		OTHER (SPECIFY) PROPPELLANTS	
				21. TOTAL CORE RECOVERY NA	
				23. SIGNATURE OF INSPECTOR <i>[Signature]</i>	

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE



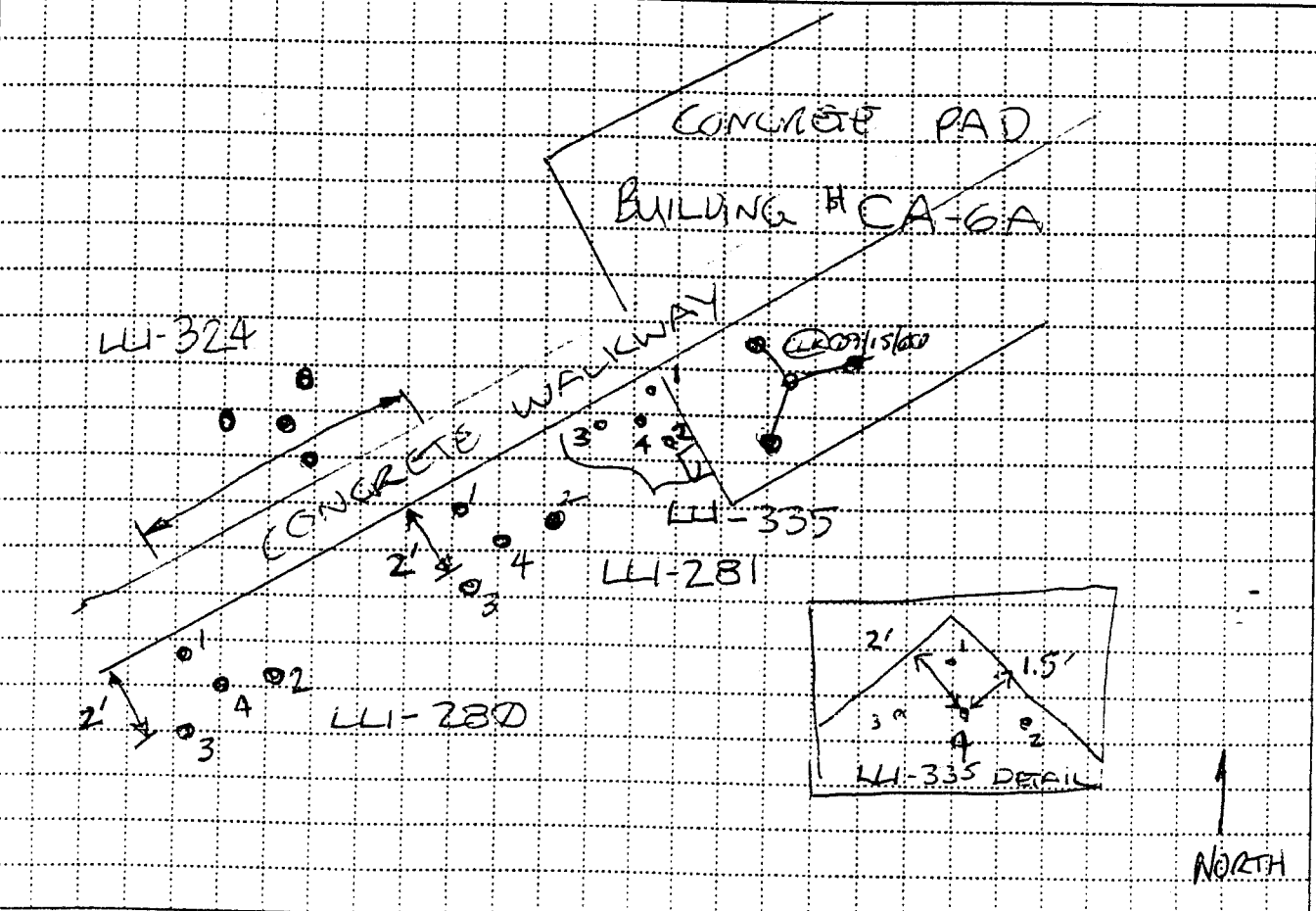
PROJECT RVAAP: LLI / PHASE II R.I.		HOLE NO LLI-276, 277, 278, 279	
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LLI-280, LLI-281, LLI-324, LLI-335

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HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER 280, 281, 324, 335	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET 1 OF 2	
3. PROJECT RVAAP: LLI / PHASE II R.I.			4. LOCATION CA-6A		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 55 BOWLS, SPUNTS, SCOOPS BUCKET AUGER		8. HOLE LOCATION SEE MAP			
		9. SURFACE ELEVATION NA			
		10. DATE STARTED 07/15/00		11. DATE COMPLETED 09/16/00	
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE SEE PAGE 2		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED	
				19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
		X	X	EXPLOSIVES	PROPPELLANTS
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
		YES		PEBS/SWGS	NA
				23. SIGNATURE OF INSPECTOR <i>[Signature]</i>	

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE

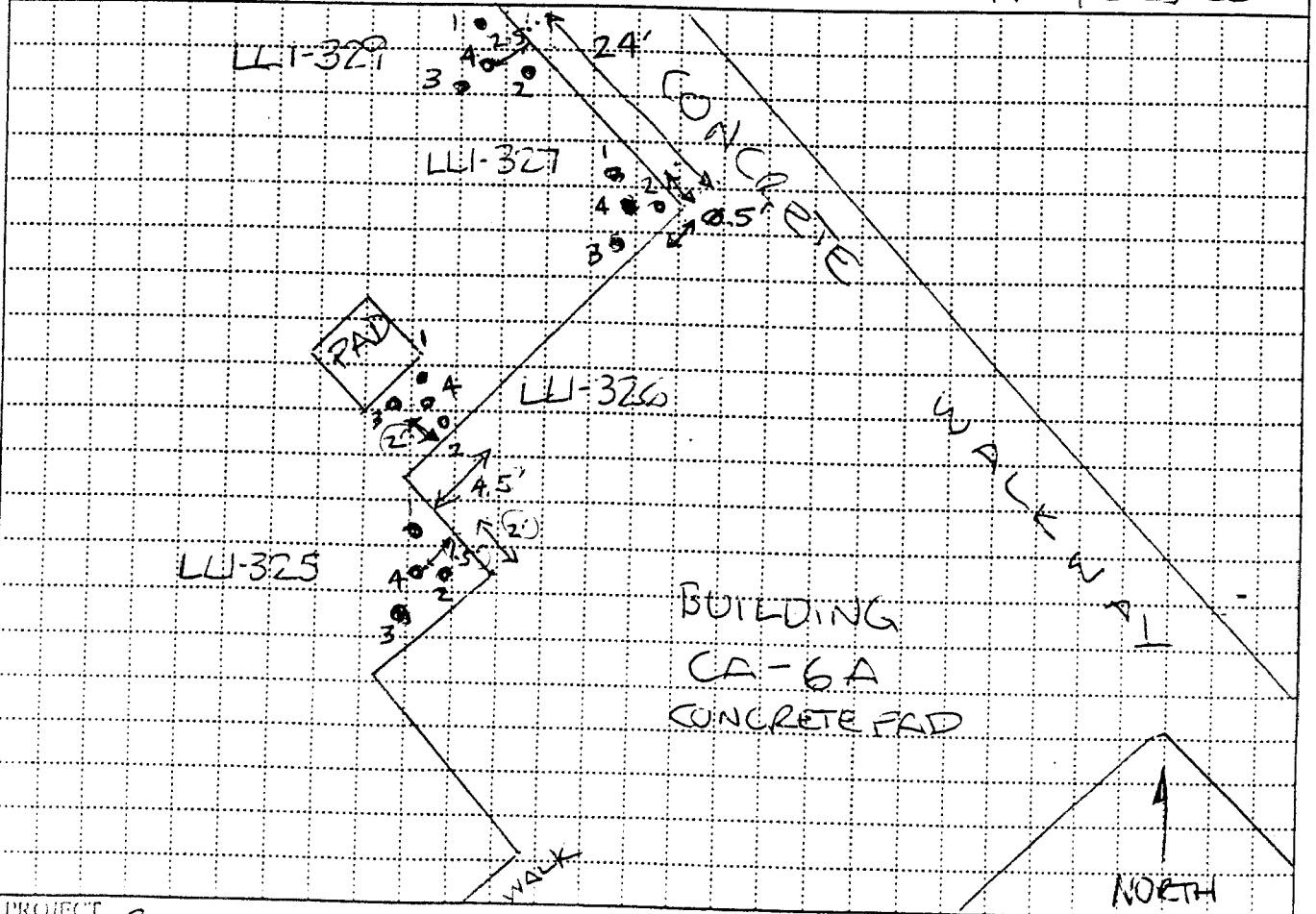


PROJECT RVAAP: LLI / PAGE II R.I.	HOLE NO LLI-280, 281, 324, 335
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LLI-329, LLI-327, LLI-326, LLI-325

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE			HOLE NUMBER —	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA			SHEET 1 OF 2 SHEETS	
3. PROJECT RVAAP: LLI / PHASE II R.I.			4. LOCATION CA-6A			
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS SCOOPS B/LWS, SPOONS BUCKET AUGERS		8. HOLE LOCATION SEE MAP			9. SURFACE ELEVATION NA	
12. OVERBURDEN THICKNESS NA			10. DATE STARTED 09/16/00		11. DATE COMPLETED 09/29/00	
13. DEPTH DRILLED INTO ROCK NA			15. DEPTH GROUNDWATER ENCOUNTERED NA			
14. TOTAL DEPTH OF HOLE SEE PAGE 2			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED		19. TOTAL NUMBER OF CORE BOXES NA
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)
22. DISPOSITION OF HOLE		- BACKFILLED	MONITORING WELL	EXPLOSIVES	PROPELLANTS	CN-
		YES	—	—	—	21. TOTAL CORE RECOVERY NA
				23. SIGNATURE OF INSPECTOR <i>[Signature]</i>		

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE



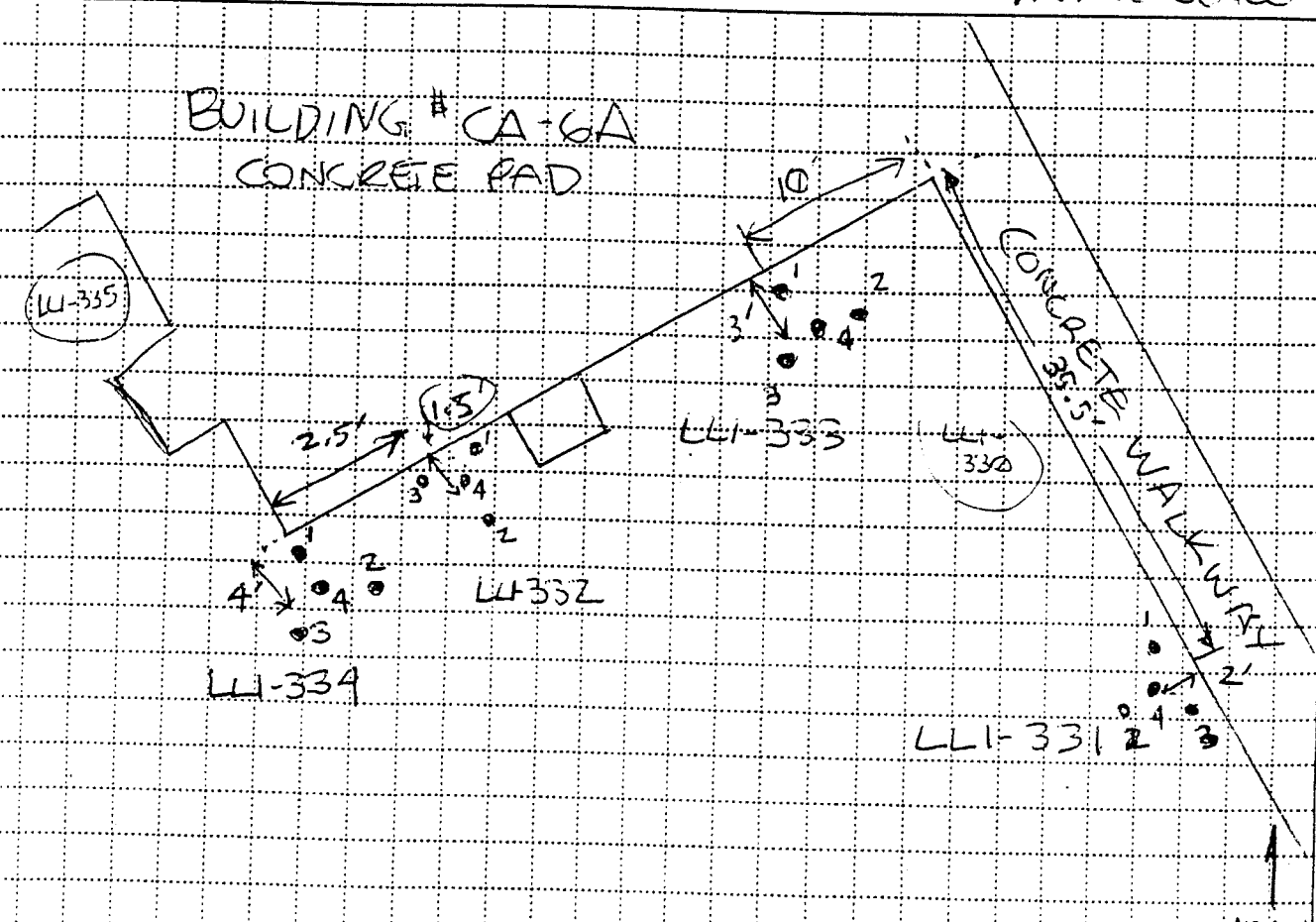
PROJECT RVAAP. LLI / PHASE II R.I.		HOLE NO LLI-329, 327, 326, 325	
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LI-334, LI-332, LI-333, LI-331

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET 1 OF 2 SHEETS	
3. PROJECT RVAAP: LLI/PHASE II R.I.			4. LOCATION CA-6A		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 55 BEND 5FOOT-4 SCOPES BUCKET AUGERS			8. HOLE LOCATION SEE MAP		
9. SURFACE ELEVATION NA			10. DATE STARTED 09/16/00		
			11. DATE COMPLETED 09/19/00		
12. OVERBURDEN THICKNESS NA			15. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH DRILLED INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE SEE PAGE 2			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED	
		—		—	
19. TOTAL NUMBER OF CORE BOXES NA		20. SAMPLES FOR CHEMICAL ANALYSIS		21. TOTAL CORE RECOVERY NA	
		VOC		OTHER (SPECIFY)	
		—		EXPLOSIVES PROPPELLANTS CN	
22. DISPOSITION OF HOLE		BACKFILLED		MONITORING WELL	
—		YES		—	
				23. SIGNATURE OF INSPECTOR <i>[Signature]</i>	

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE

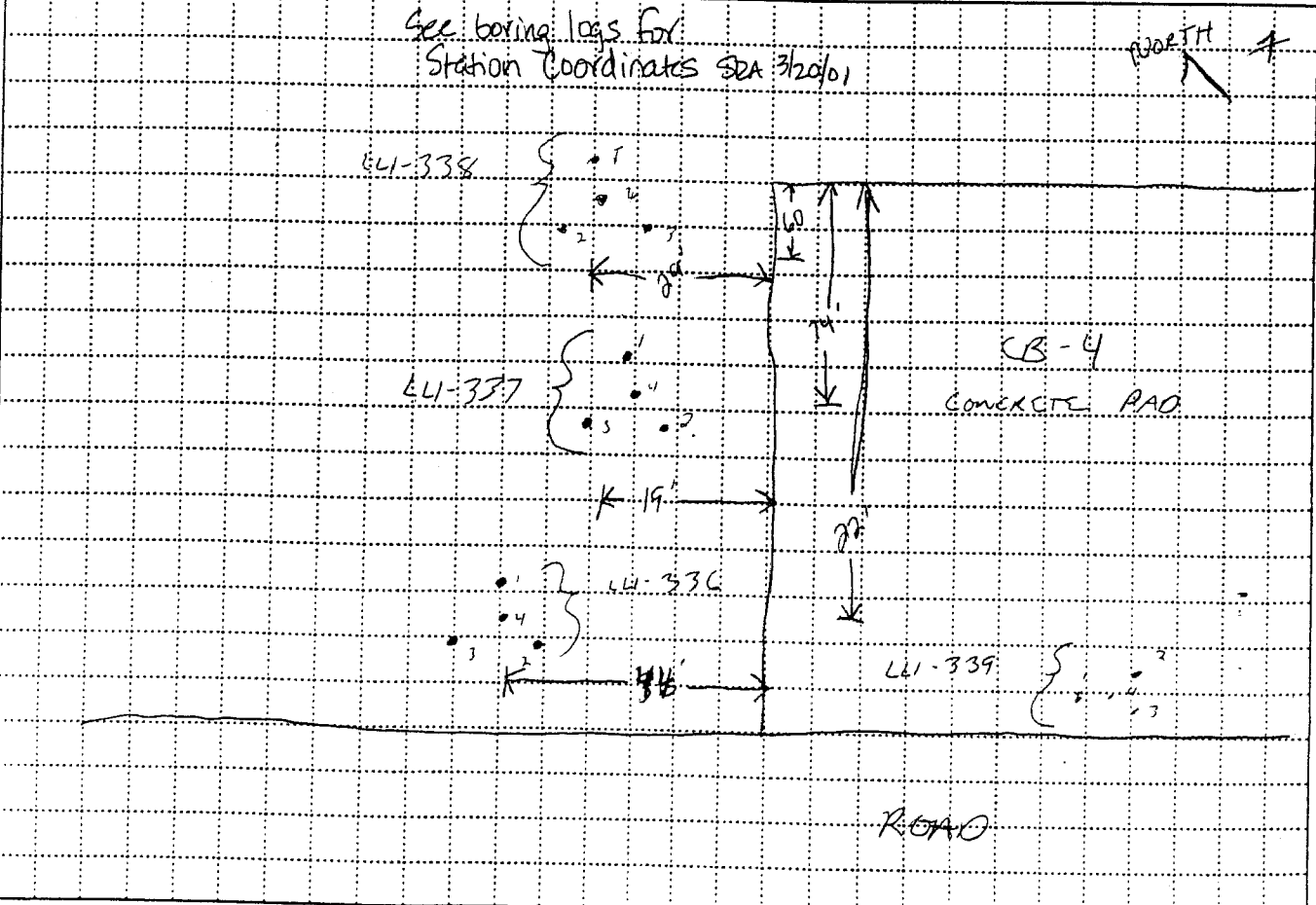


PROJECT RVAAP: LLI/PHASE II R.I.		HOLE NO LI-334, 332, 333, 331	
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* - SEE TTALS LLI-336, LLI-337, LLI-338, LLI-339 3

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER LLI ↑	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP; LLI/PHASE II R.1.			4. LOCATION *		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT S.S. SPINDS, BOWLS, BUCKET AULERS		8. HOLE LOCATION *			
9. SURFACE ELEVATION NA					
10. DATE STARTED 09/29/00			11. DATE COMPLETED		
12. OVERBURDEN THICKNESS NA			15. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH DRILLED INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE *			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES *		DISTURBED *	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS *		VOC *	METALS *	OTHER (SPECIFY)	OTHER (SPECIFY)
21. TOTAL CORE RECOVERY NA		OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)
22. DISPOSITION OF HOLE *		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR B. J. Albehn
BENTONITE		NA			

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



PROJECT RVAAP; LLI/PHASE II R.1.	HOLE NO LLI-336, 337, 338, 339
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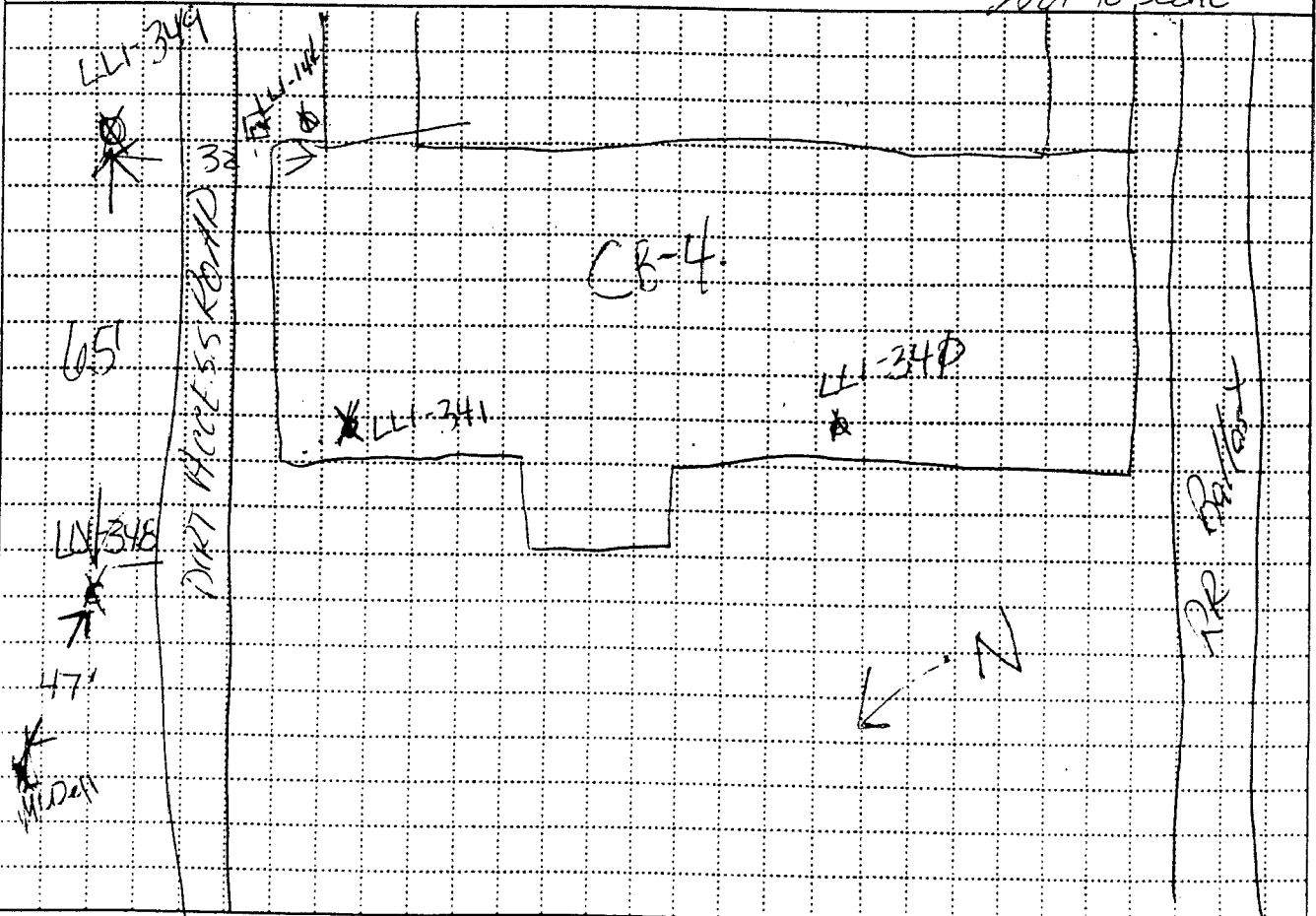
LLI-340, LLI-341, LLI-348,

99

HTRW DRILLING LOG		DISTRICT <i>Louisville COE</i>		HOLE NUMBER <i>LLI-349</i>	
1. COMPANY NAME <i>SALC</i>		2. DRILL SUBCONTRACTOR <i>NA</i>		SHEET # SHEETS <i>1 OF 1</i>	
3. PROJECT <i>RVAAP LLI Phase II RF</i>			4. LOCATION <i>LL-1</i>		
5. NAME OF DRILLER <i>NA</i>			6. MANUFACTURER'S DESIGNATION OF DRILL <i>NA</i>		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT <i>55 Bowl</i>		8. HOLE LOCATION <i>Around CB-4</i>		9. SURFACE ELEVATION <i>NA</i>	
<i>Spoon, Auger</i>		10. DATE STARTED <i>10/2/00</i>		11. DATE COMPLETED <i>10/2/00</i>	
12. OVERBURDEN THICKNESS <i>NA</i>		13. DEPTH (DRILLED INTO ROCK) <i>NA</i>		14. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>NA</i>	
15. DEPTH GROUNDWATER ENCOUNTERED <i>NA</i>		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>NA</i>		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <i>NA</i>	
18. TOTAL DEPTH OF HOLE <i>See Log</i>		19. TOTAL NUMBER OF CORE BOXES <i>NA</i>		20. SAMPLES FOR CHEMICAL ANALYSIS	
DISTURBED		UNDISTURBED		21. TOTAL CORE RECOVERY	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC		METALS	
				<i>X</i>	
		OTHER (SPECIFY) <i>EXP</i>		OTHER (SPECIFY) <i>PROP</i>	
22. DISPOSITION OF HOLE		BACKFILLED		MONITORING WELL	
		<i>wt Bentonite</i>			
				23. SIGNATURE OF INSPECTOR <i>M. Clough</i>	

LOCATION SKETCH/COMMENTS

SCALE: *Not to Scale*



PROJECT <i>RVAAP LLI Phase II RI</i>	HOLE NO. <i>LLI 340, 341, 348, 349</i>
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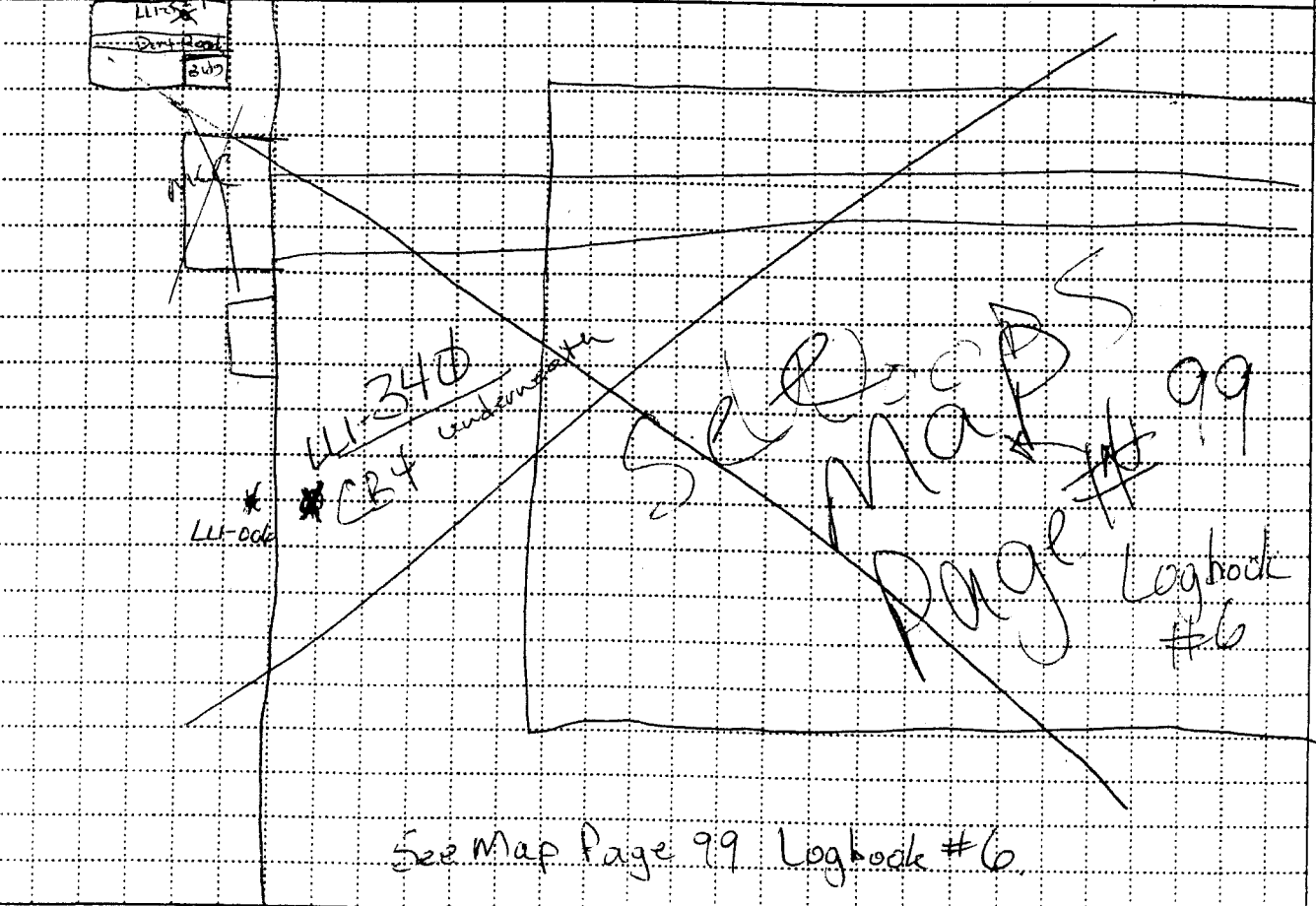
ENG FORM 5056-R, AUG 94

(Proponent CECW-FC)

LLI-340, LLI-349, LLI-341, 3

HTRW DRILLING LOG		DISTRICT <u>Louisville</u>		HOLE NUMBER
1. COMPANY NAME <u>SAC</u>		2. DRILL SUBCONTRACTOR		SHEET <u>1</u> OF <u>1</u> SHEETS
3. PROJECT <u>RUAAP LOADLINE I PHASE II RT</u>		4. LOCATION <u>CB4</u>		
5. NAME OF DRILLER		6. MANUFACTURERS DESIGNATION OF DRILL <u>NA</u>		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8. HOLE LOCATION <u>99</u>		
<u>35' Down and SPOON</u>		9. SURFACE ELEVATION		
10. DATE STARTED		11. DATE COMPLETED		
12. OVERBURDEN THICKNESS <u>NA</u>		15. DEPTH GROUNDWATER ENCOUNTERED		
13. DEPTH DRILLED INTO ROCK <u>NA</u>		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED		
14. TOTAL DEPTH OF HOLE		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)		
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES	
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
21. TOTAL CORE RECOVERY				
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR <u>J Clough</u>

LOCATION SKETCH/COMMENTS SCALE: Not to scale



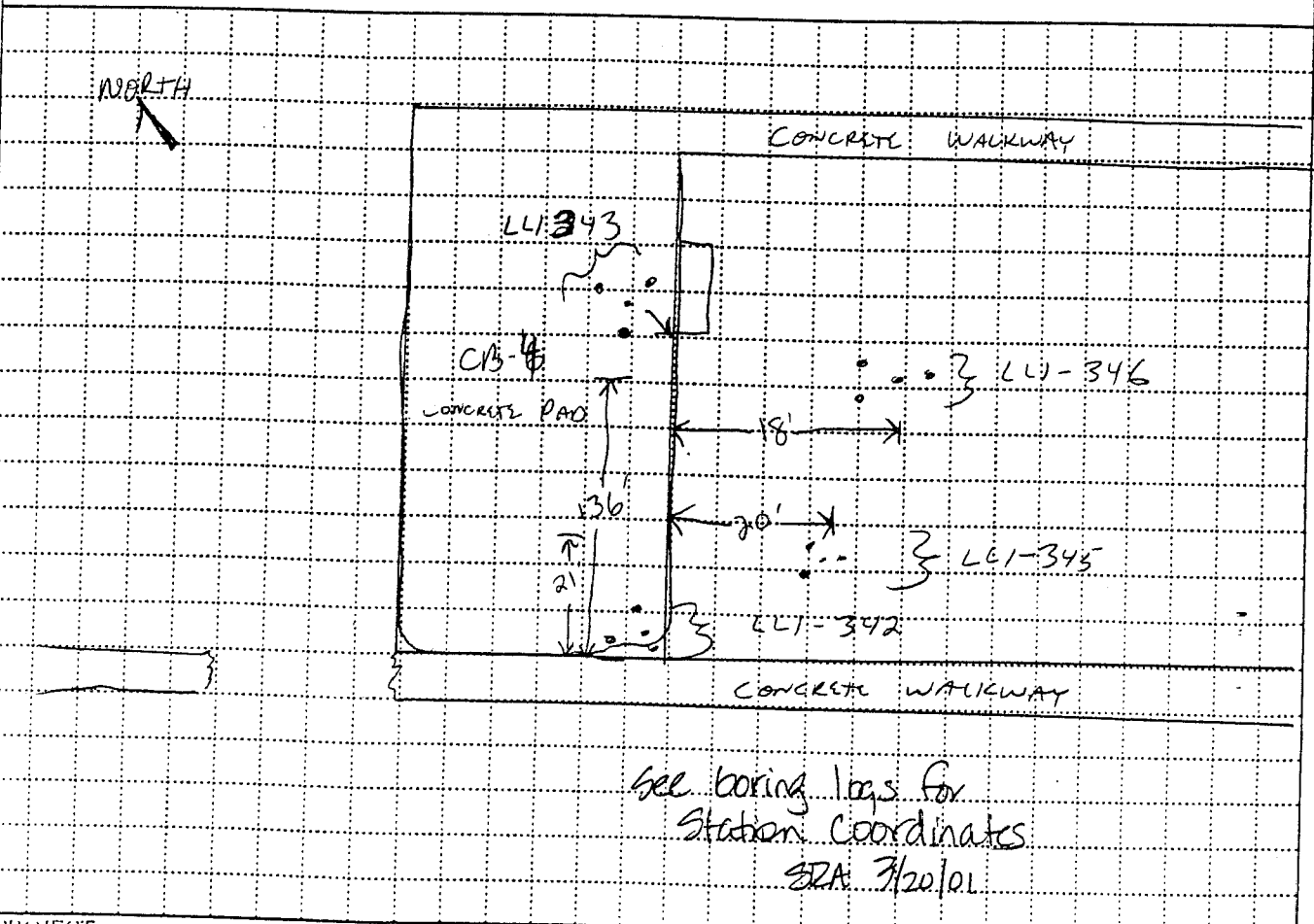
PROJECT <u>RUAAP LOADLINE I PHASE II RI</u>	HOLE NO <u>340, 349, 341</u>
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* - SEE TTALS LI-342, LI-345, LI-346, LI-343

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HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LI/PHASE II R.1.			4. LOCATION *		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 5/8" SPOONS, BOWLS, BUCKET AUGER		8. HOLE LOCATION *			
		9. SURFACE ELEVATION NA			
		10. DATE STARTED 09/29/00		11. DATE COMPLETED 09/29/00	
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE *		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES *		DISTURBED ✓	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS *		VOC	METALS *	OTHER (SPECIFY) *	OTHER (SPECIFY) *
22. DISPOSITION OF HOLE *		BACKFILLED	MONITORING WELL NA	OTHER (SPECIFY) *	21. TOTAL CORE RECOVERY NA
		BENTONITE	NA	*	23. SIGNATURE OF INSPECTOR NOT TO SCALE

LOCATION SKETCH/COMMENTS: SCALE:



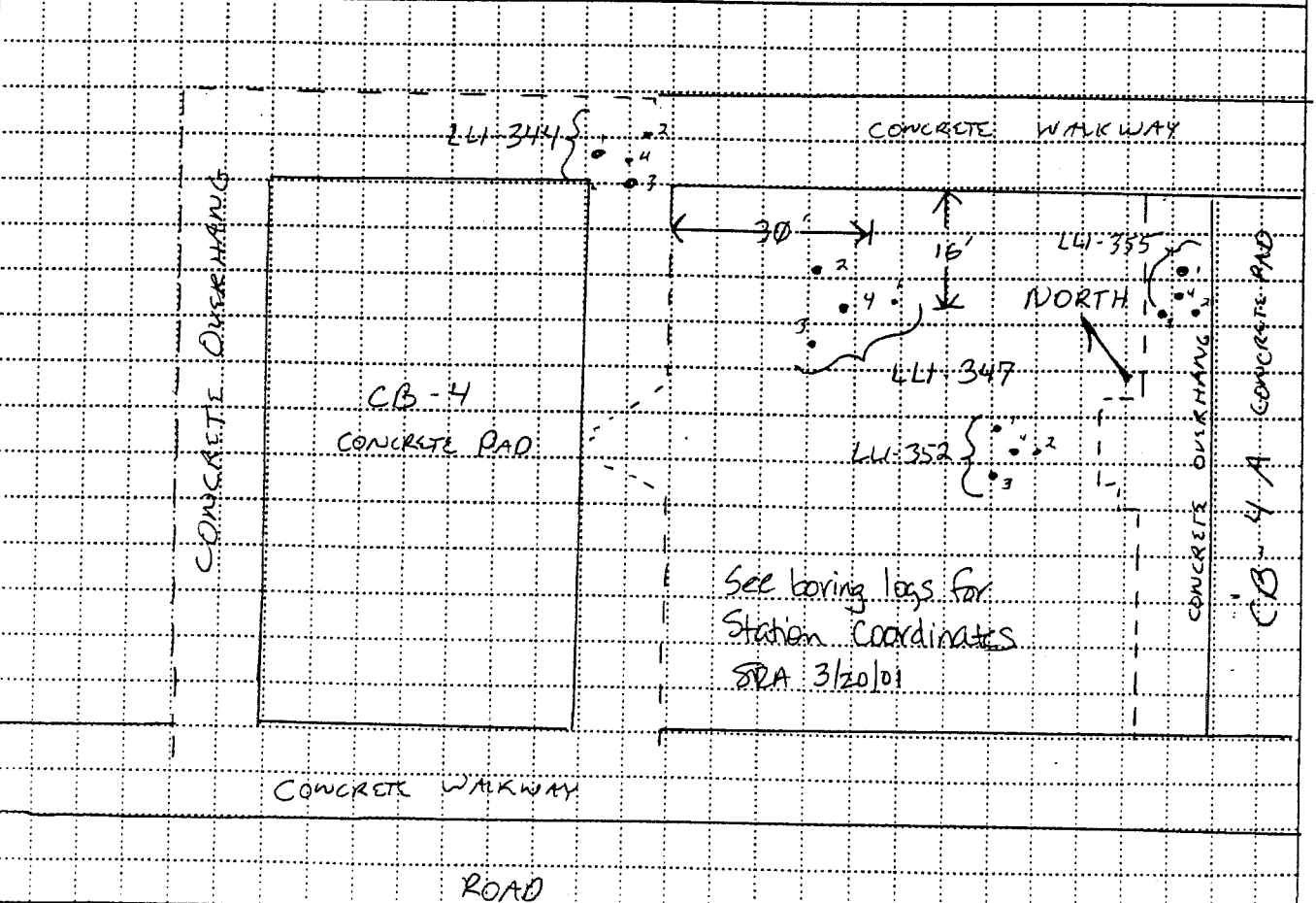
PROJECT RVAAP: LI/PHASE II R.1.		HOLE NO LI-342, 345, 346, 343	
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* - SEE TTALS LLI-347, LLI-344, LLI-352, LLI-355

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HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER ↑
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2
3. PROJECT RVAAP: LLI/PHASE II R.1.		4. LOCATION *		
5. NAME OF DRILLER NA		6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT S.S. SPOONS, BOWLS, BUCKET AUGER		8. HOLE LOCATION *		
		9. SURFACE ELEVATION NA		
		10. DATE STARTED 09/29/00	11. DATE COMPLETED 09/29/00	
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE *		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES *	DISTURBED ✓	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS *	VOC *	METALS *	OTHER (SPECIFY) *	21. TOTAL CORE RECOVERY NA
22. DISPOSITION OF HOLE *	BACKFILLED BENTONITE	MONITORING WELL NA	OTHER (SPECIFY) *	23. SIGNATURE OF INSPECTOR B. Albeh

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



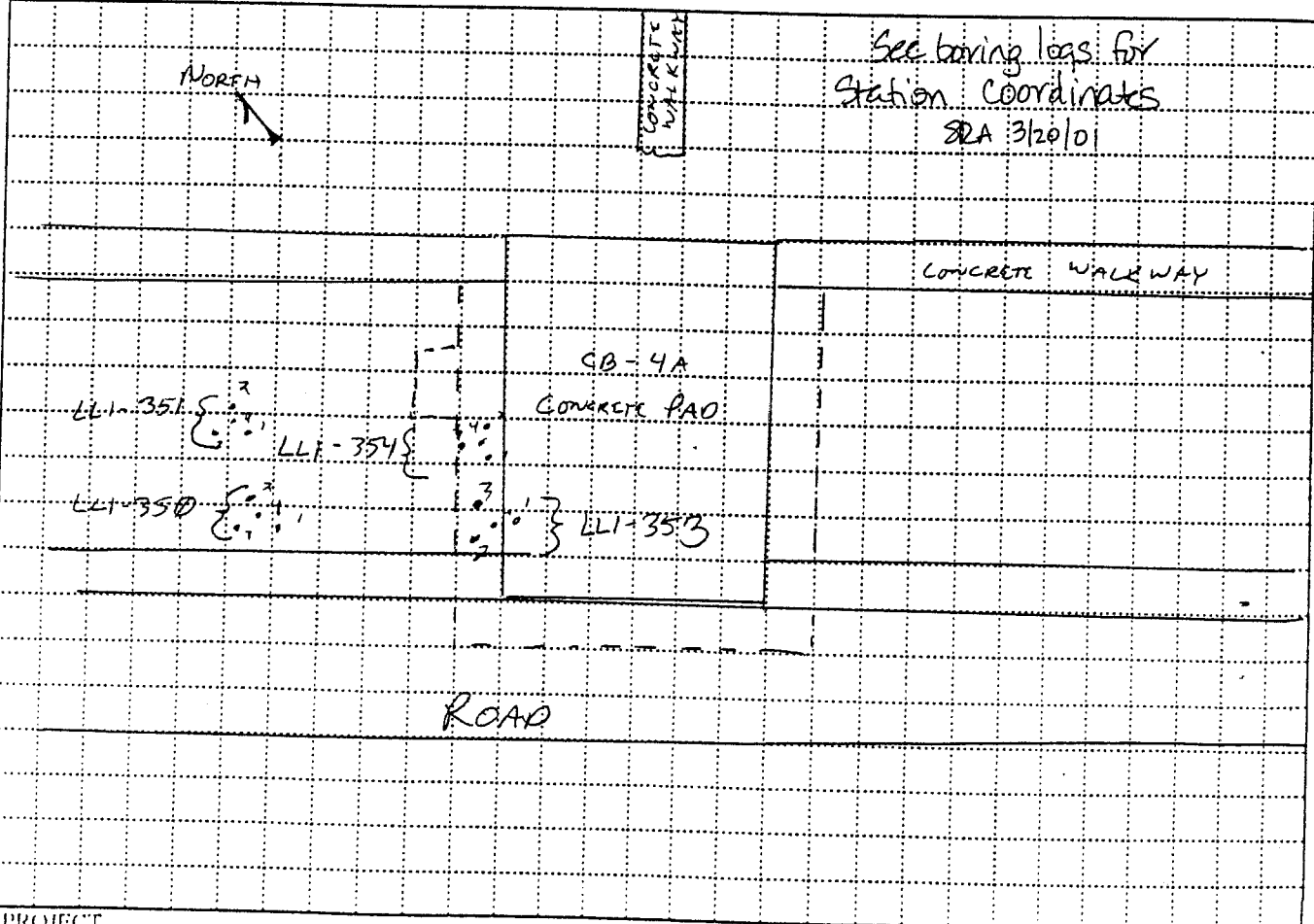
PROJECT RVAAP: LLI/PHASE II R.1.	HOLE NO LLI-347, 344, 352, 355
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* - TTALS LLI-350, LLI-351, LLI-354, LLI-353

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HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER ↑	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI / PHASE II R.1.			4. LOCATION *		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT S.S. spoons, BOWLS, BUCKET AUGER		8. HOLE LOCATION *			
		9. SURFACE ELEVATION NA			
		10. DATE STARTED 09/29/00		11. DATE COMPLETED 09/30/00	
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE *		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES *		DISTURBED ✓	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS *		VOC *	METALS *	OTHER (SPECIFY) *	OTHER (SPECIFY) *
22. DISPOSITION OF HOLE *		BACKFILLED DENTONITE	MONITORING WELL NA	OTHER (SPECIFY) *	21. TOTAL CORE RECOVERY NA
				23. SIGNATURE OF INSPECTOR <i>B. A. ...</i>	

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE

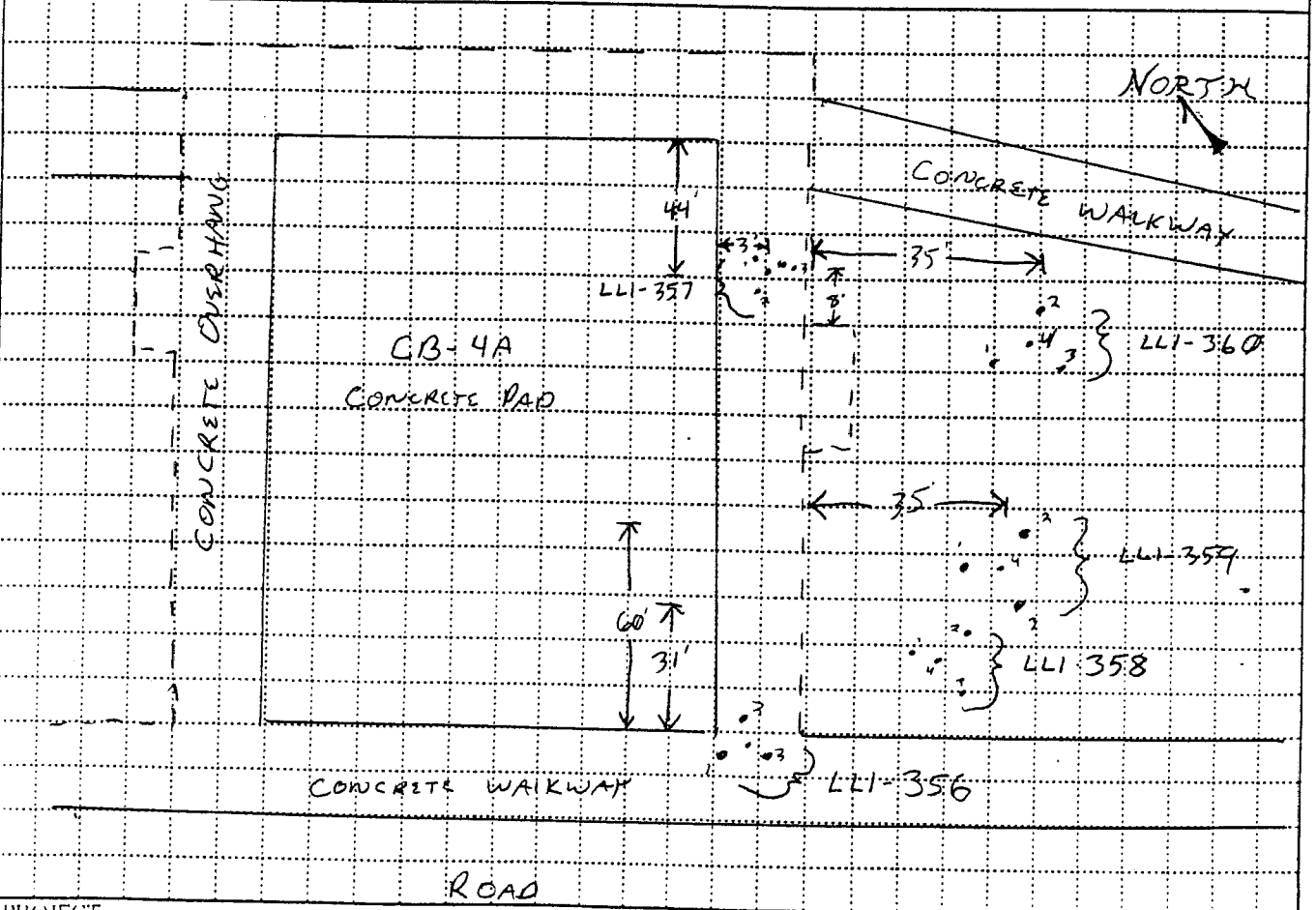


PROJECT RVAAP: LLI / PHASE II R.1.		HOLE NO LLI-350, 351, 354, 353	
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* - SEE TTALS / LLI-356, LLI-357, LLI-358, LLI-359, 38

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER LLI-360	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI / PHASE II R.1.			4. LOCATION *		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT S.S. SPOONS, BOWLS BUCKET AUGERS		8. HOLE LOCATION *			
9. SURFACE ELEVATION NT					
12. OVERBURDEN THICKNESS NA			15. DEPTH GROUNDWATER ENCOUNTERED NA		
11. DEPTH DRILLED INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE *			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES *		DISTURBED ✓	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS *		VOC *	METALS *	OTHER (SPECIFY) *	OTHER (SPECIFY) *
22. DISPOSITION OF HOLE *		BACKFILLED BENTONITE	MONITORING WELL *	OTHER (SPECIFY) *	21. TOTAL CORE RECOVERY NA
				23. SIGNATURE OF INSPECTOR <i>B. B. B.</i>	

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



PROJECT RVAAP: LLI / PHASE II R.1.	HOLE NO. LLI-356, 357, 358, 359, 360
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LLI-362, LLI-361

80

HTRW DRILLING LOG		DISTRICT <i>Louisville COE</i>			HOLE NUMBER	
1. COMPANY NAME <i>SAIC</i>		2. DRILL SUBCONTRACTOR <i>NA</i>			SHEET <i>1</i> OF <i>1</i> SHEETS	
3. PROJECT <i>RVAAP LLI - Phase II RT</i>			4. LOCATION <i>LC-1</i>			
5. NAME OF DRILLER			6. MANUFACTURERS DESIGNATION OF DRILL <i>NA</i>			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8. HOLE LOCATION <i>Near CB4A</i>				
<i>SS Bowl & Spoon</i>		9. SURFACE ELEVATION <i>NA</i>				
		10. DATE STARTED <i>10/2/00</i>		11. DATE COMPLETED <i>10/2/00</i>		
12. OVERBURDEN THICKNESS <i>NA</i>		15. DEPTH GROUNDWATER ENCOUNTERED <i>NA</i>				
13. DEPTH DRILLED INTO ROCK <i>NA</i>		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>NA</i>				
14. TOTAL DEPTH OF HOLE <i>See Logs</i>		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <i>NA.</i>				
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED		19. TOTAL NUMBER OF CORE BOXES <i>NA</i>
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS <i>X</i>	OTHER (SPECIFY) <i>EEP</i>	OTHER (SPECIFY) <i>PROP</i>	OTHER (SPECIFY)
21. TOTAL CORE RECOVERY <i>NA</i>		22. DISPOSITION OF HOLE		23. SIGNATURE OF INSPECTOR		
		<i>Backfilled</i>		<i>H. Clough</i>		

LOCATION SKETCH/COMMENTS:

SCALE: *NOT TO SCALE*



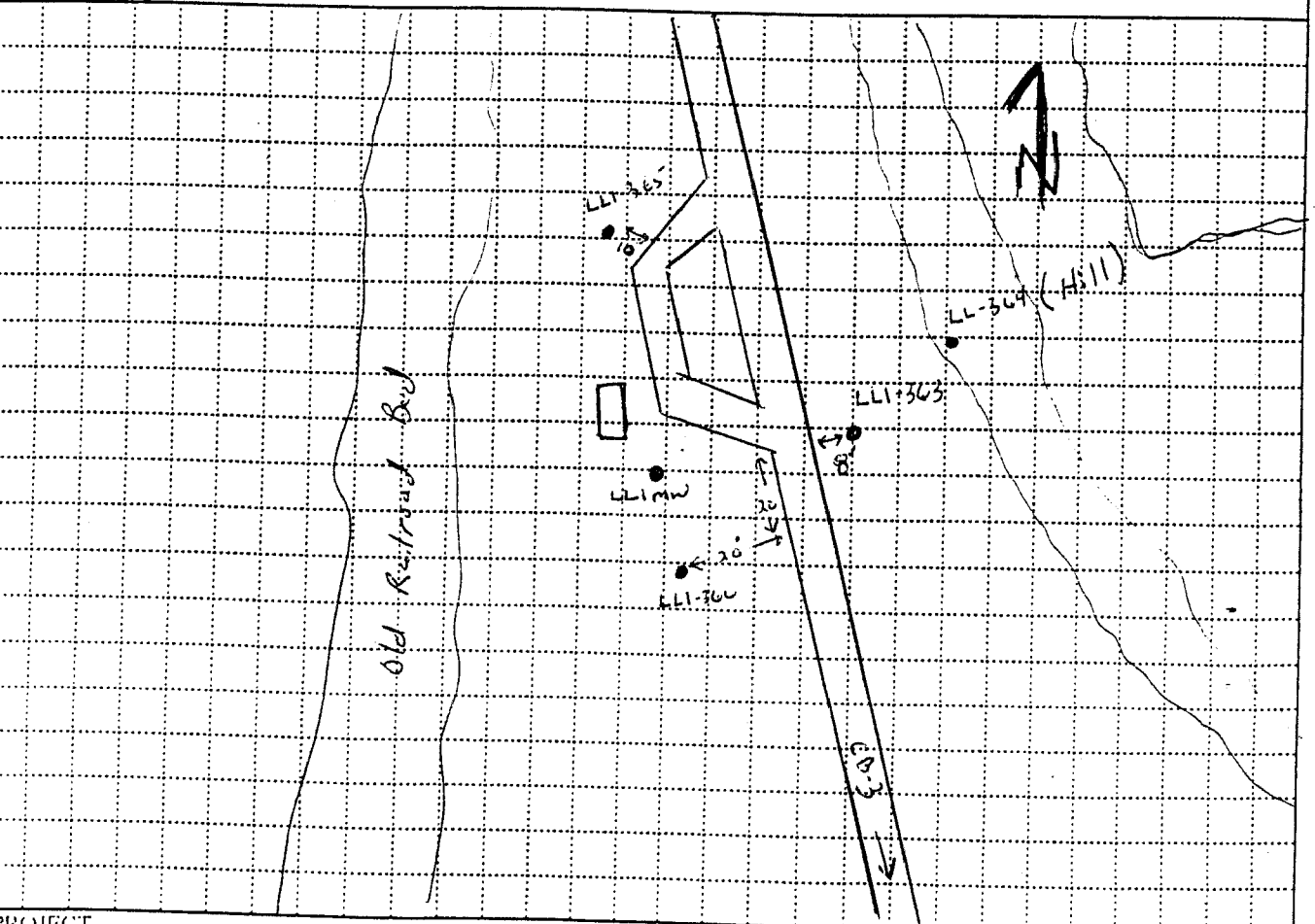
PROJECT <i>RVAAP LLI - Phase II RT</i>		HOLE NO <i>LLI-361, 362</i>	
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LLI-303, LLI-304, LLI-305, LLI-304

17

HTRW DRILLING LOG		EXTRACT LOUISVILLE		HOLE NUMBER LLI-303, 304	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR		SHEET 1 OF 1	
3. PROJECT RVAAP Phase II RI			4. LOCATION Walkway north of CB-3		
5. NAME OF DRILLER			6. MANUFACTURER'S DESIGNATION OF DRILL		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT Hand Auger		8. HOLE LOCATION		9. SURFACE ELEVATION	
12. OVERBURDEN THICKNESS		10. DATE STARTED 9/29/00		11. DATE COMPLETED 7/24/00	
13. DEPTH DRILLED INTO ROCK		15. DEPTH GROUNDWATER ENCOUNTERED		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)			
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED	
19. TOTAL NUMBER OF CORE BOXES		20. SAMPLES FOR CHEMICAL ANALYSIS		21. TOTAL CORE RECOVERY	
22. DISPOSITION OF HOLE		VOC		METALS	
BACKFILLED		MONITORING WELL		OTHER (SPECIFY) TNT/RDX	
				OTHER (SPECIFY) Carbide	
				OTHER (SPECIFY) F, Metals	
				23. SIGNATURE OF INSPECTOR	

LOCATION SKETCH/COMMENTS: SCALE:



PROJECT RVAAP Phase II RI	HOLE NO. LLI-303, 304, 305, 304
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LOG FORM 5056-R, AUG 94

(Proponent CECW-EG)

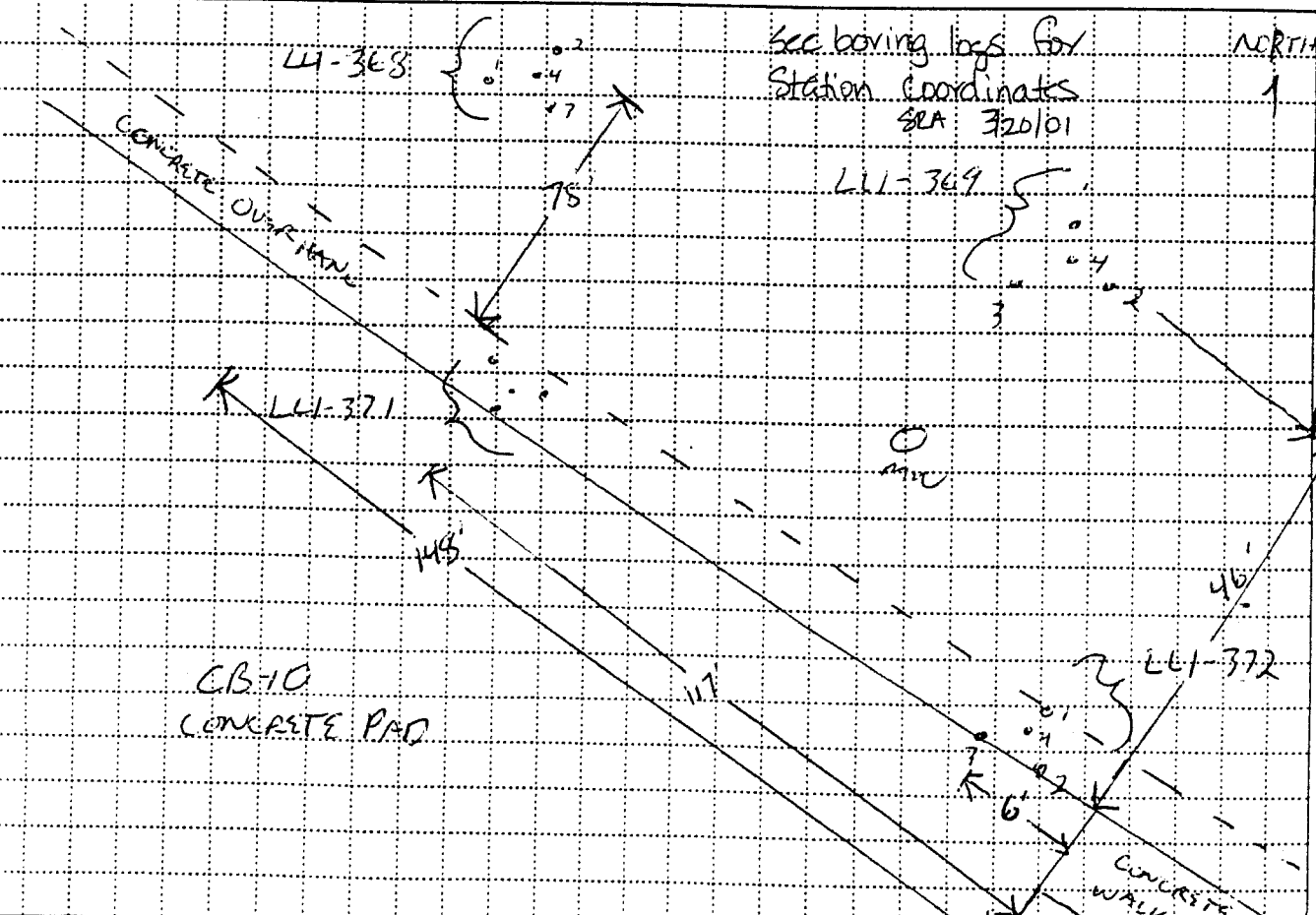
* TTALS LLI-368, LLI-369, LLI-371, LLI-372

38

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER ↑	
1. COMPANY NAME S.AIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP; LLI/PHASE II R.1.			4. LOCATION *		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT S.S. SPEED, ROWL, BUCKET AUGER		8. HOLE LOCATION *			
9. SURFACE ELEVATION SE					
10. DATE STARTED 09/23/00			11. DATE COMPLETED 09/28/00		
12. OVERBURDEN THICKNESS NA			15. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH DRILLED INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE *			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES *		DISTURBED ✓	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS *		VOC *	METALS *	OTHER (SPECIFY) *	OTHER (SPECIFY) OTHER (SPECIFY) OTHER (SPECIFY)
22. DISPOSITION OF HOLE *		BACKFILLED ANTON.3	MONITORING WELL NA	OTHER (SPECIFY) *	21. TOTAL CORE RECOVERY NA
				23. SIGNATURE OF INSPECTOR <i>[Signature]</i>	

LOCATION SKETCH/COMMENTS

SCALE: NOT TO SCALE



PROJECT RVAAP LLI/PHASE II R.1.	HOLE NO LLI-368, 369, 371, 372
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* - SEE TTALS

LLI-373, LLI-374

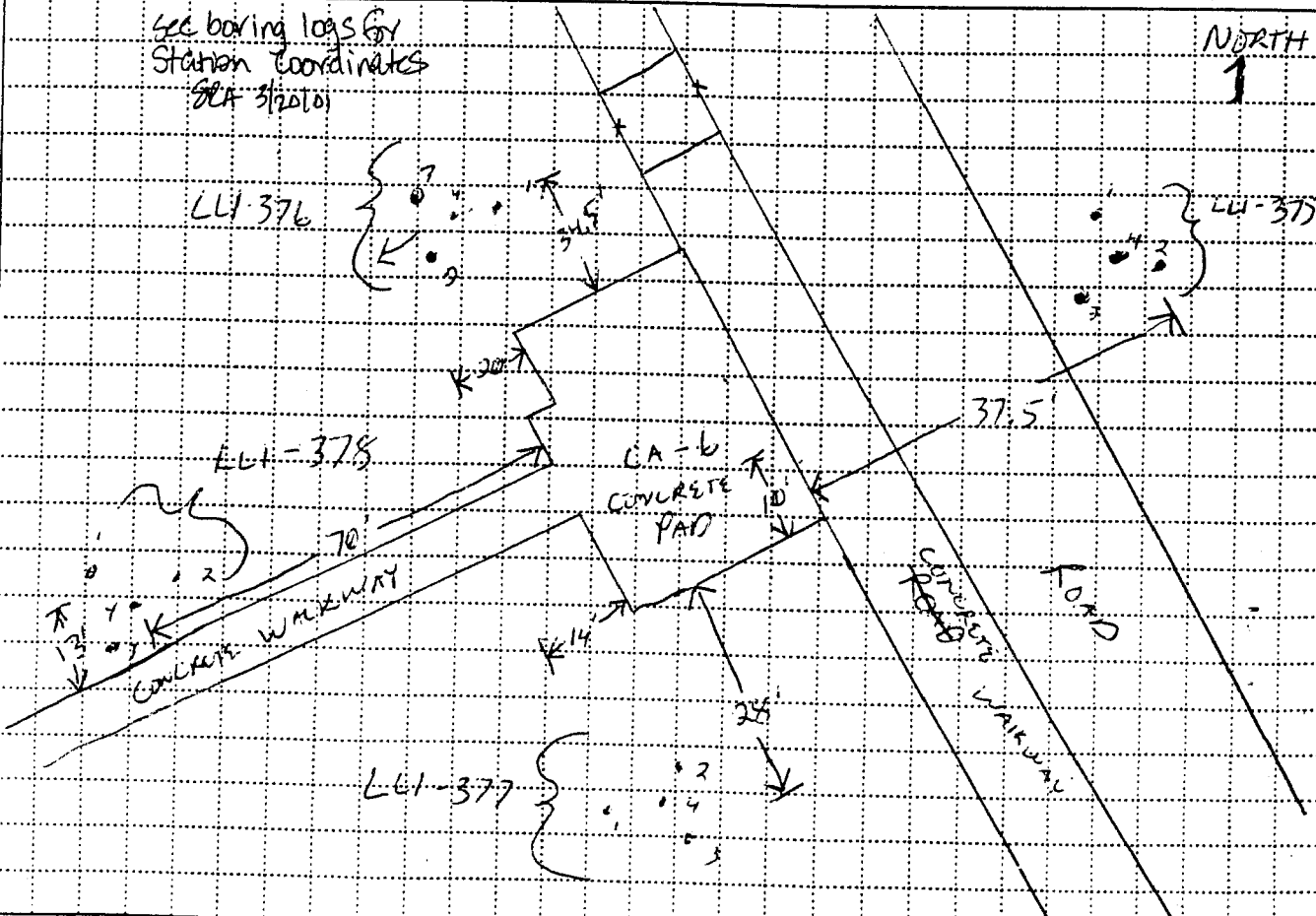
52

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER ↑	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP: LLI / PHASE II R. 1.			4. LOCATION *		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT S.S. SPOONS, BOWLS, BUCKET AUGERS		8. HOLE LOCATION *		9. SURFACE ELEVATION NA	
12. OVERBURDEN THICKNESS NA			10. DATE STARTED 09/30/00		
13. DEPTH (DRILLED) INTO ROCK NA			11. DATE COMPLETED		
14. TOTAL DEPTH OF HOLE *			15. DEPTH GROUNDWATER ENCOUNTERED NA		
18. GEOTECHNICAL SAMPLES *		DISTURBED ✓	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS *		VOC *	METALS *	OTHER (SPECIFY) *	21. TOTAL CORE RECOVERY =
22. DISPOSITION OF HOLE *		BACKFILLED BENTONITE	MONITORING WELL NA	OTHER (SPECIFY) *	23. SIGNATURE OF INSPECTOR B. J. D. [Signature]
LOCATION SKETCH/COMMENTS				SCALE: NOT TO SCALE	
PROJECT RVAAP: LLI / PHASE II R. 1.				HOLE NO LLI-373, 374.	

* SEE TTALS LL1-375, LL1-376, LL1-377, LL1-378, LL1-379

HTRW DRILLING LOG		DISTRICT LOUISVILLE CO2		HOLE NUMBER ↑	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAD: LL1/PHASE II R.1.			4. LOCATION *		
5. NAME OF DRILLER NA			6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 5.5 spoons, molds BUCKET AUGER		8. HOLE LOCATION *			
		9. SURFACE ELEVATION *			
		10. DATE STARTED 09/23/00		11. DATE COMPLETED 09/28/00	
12. OVERBURDEN THICKNESS NA		13. DEPTH GROUND WATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK NA		14. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE *		15. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
15. GEOTECHNICAL SAMPLES *		DISTURBED ✓	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS *		VOC *	METALS *	OTHER (SPECIFY) *	OTHER (SPECIFY) *
21. DISPOSITION OF HOLE *		BACKFILLED REINFORCED	MONITORING WELL NA	OTHER (SPECIFY) *	22. TOTAL CORE RECOVERY NA
				23. SIGNATURE OF INSPECTOR B.A. Decker	

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



PROJECT RVAAD: LL1/PHASE II R.1.		HOLE NO. LL1-375, 376, 377, 378	
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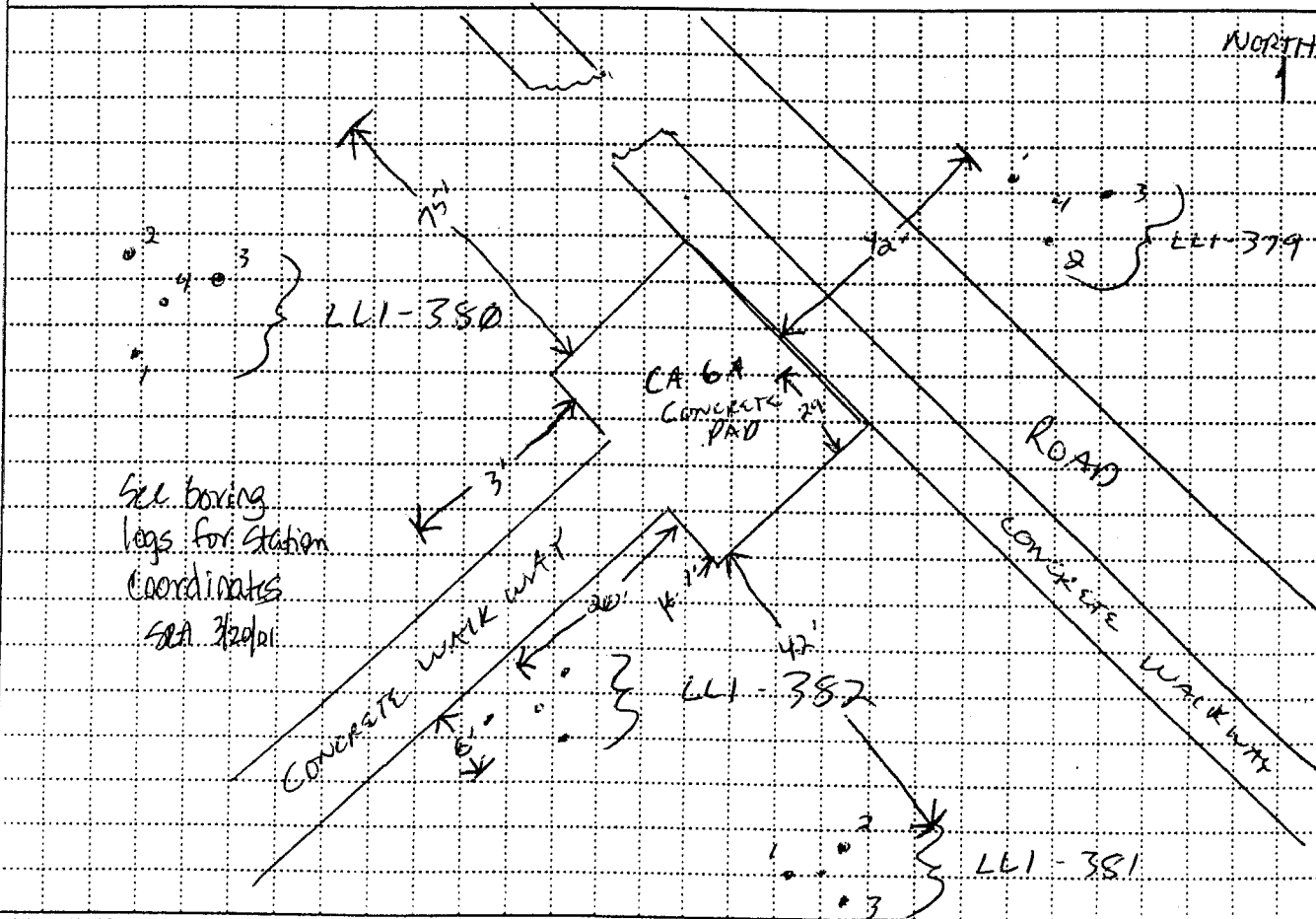
* - SEE TALS LLI-379, LLI-380, LLI-381, LLI-382

50

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER ↑	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR N/A		SHEET SHEETS # OF 2	
3. PROJECT RVAAP: LLI/PHASE II R.1.			4. LOCATION *		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL N/A		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 2 1/2 SPOONS, BOWLS, BEST AUGER		8. HOLE LOCATION *		9. SURFACE ELEVATION *	
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		10. DATE STARTED 09/28/00	
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		11. DATE COMPLETED 09/28/00	
14. TOTAL DEPTH OF HOLE *		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES *		DISTURBED ✓	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS *		VOC *	METALS *	OTHER (SPECIFY) *	21. TOTAL CORE RECOVERY NA
22. DISPOSITION OF HOLE *		BACKFILLED BENTONITE	MONITORING WELL NA	OTHER (SPECIFY) *	23. SIGNATURE OF INSPECTOR B. B. B.

LOCATION SKETCH/COMMENTS

SCALE: NOT TO SCALE



PROJECT RVAAP: LLI/PHASE II R.1.		HOLE NO. LLI-379, 380, 381, 382	
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ENG FORM 5056-R, AUG 94

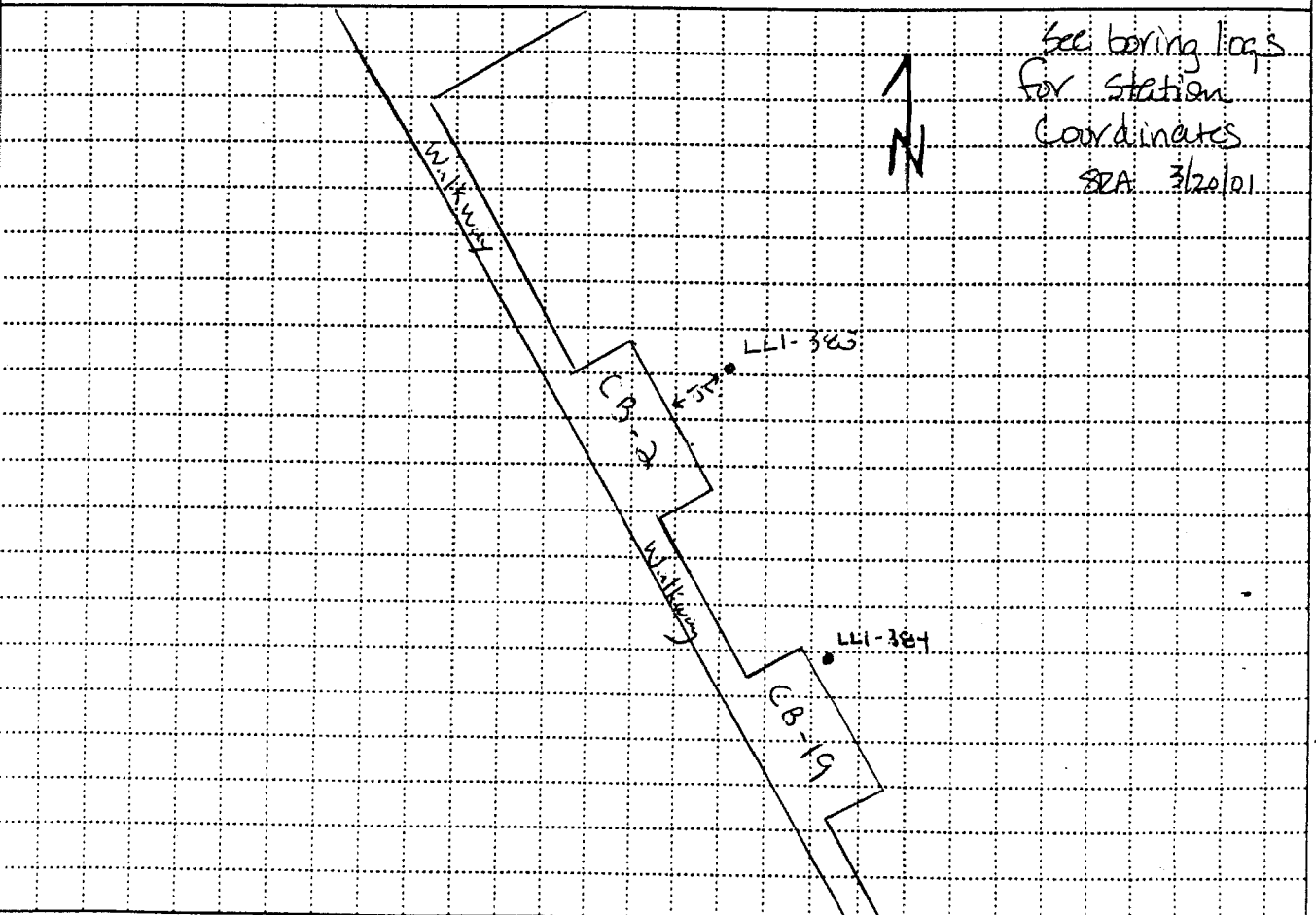
(Proponent CECW-EG)

LLI-384, LLI-383

3

HTRW DRILLING LOG		DISTRICT LOUISVILLE		HOLE NUMBER LLI-384/383	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 1	
3. PROJECT RVAAD Phase II RE			4. LOCATION CB-19		
5. NAME OF DRILLER N/A			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT SS spoons, bucket auger		8. HOLE LOCATION (LLI-384) NE corner of CB-19 / E. of lot CB-2 (LLI-383)			
			9. SURFACE ELEVATION NA		
			10. DATE STARTED 9/28/00		11. DATE COMPLETED 9/28/00
12. OVERBURDEN THICKNESS NA			15. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH DRILLED INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE See boring logs			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC NA	METALS X	OTHER (SPECIFY) explosives	OTHER (SPECIFY) propellants
21. TOTAL CORE RECOVERY = NA		BACKFILLED NA	MONITORING WELL NA	OTHER (SPECIFY) NA	23. SIGNATURE OF INSPECTOR

LOCATION SKETCH/COMMENTS SCALE:

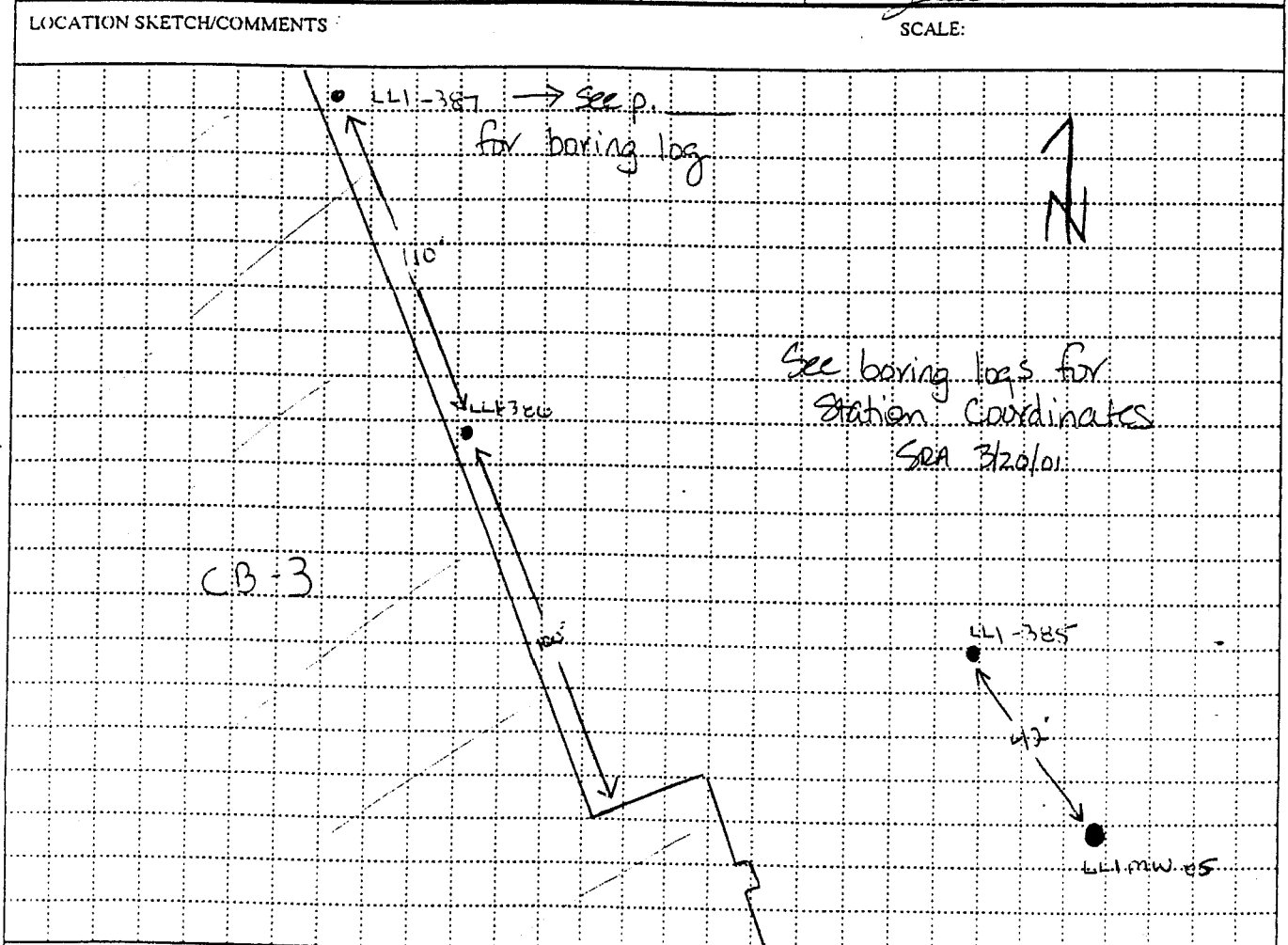


PROJECT RVAAD Phase II RE	HOLE NO LLI-384, 383
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LLI-385, LLI-386, LLI-387

10

HTRW DRILLING LOG		DISTRICT LOUISVILLE		HOLE NUMBER LLI-385, 386, 387	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 1	
3. PROJECT RV/AP Phase II RE			4. LOCATION East of CB-3		
5. NAME OF DRILLER			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT Hand Auger, Spina retrieval		8. HOLE LOCATION see map		9. SURFACE ELEVATION NA	
12. OVERBURDEN THICKNESS NA			13. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH DRILLED INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE see boring log			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
15. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC NA	METALS X	OTHER (SPECIFY) EXPLOSIVES POT/TOX	OTHER (SPECIFY) NOX/CLAMENTS NA
21. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL NA	OTHER (SPECIFY) NA	21. TOTAL CORE RECOVERY NA
				28. SIGNATURE OF INSPECTOR <i>T. S. [Signature]</i>	



PROJECT	HOLE NO LLI-385, 386, 387
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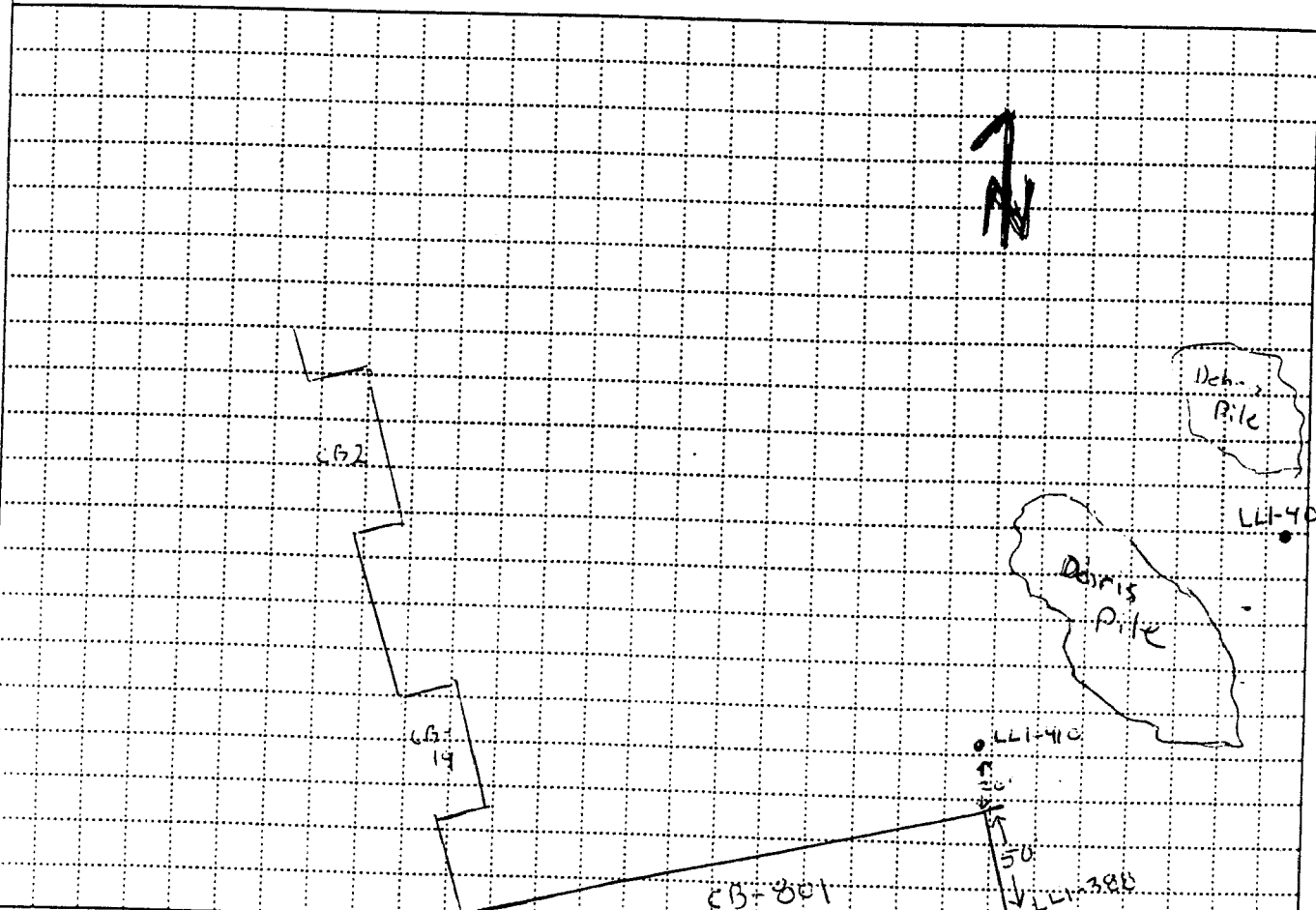
LLI-409, LLI-410, LLI-388

24

HTRW DRILLING LOG		DISTRICT LOUISVILLE		HOLE NUMBER LLI-409, 410, 388	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR		SHEET 1 OF 1	
3. PROJECT RVAAP Phase II RT			4. LOCATION CB-801		
5. NAME OF DRILLER			6. MANUFACTURERS DESIGNATION OF DRILL		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT Hand Auger		8. HOLE LOCATION			
		9. SURFACE ELEVATION			
		10. DATE STARTED 9/29/00		11. DATE COMPLETED 9/29/00	
12. OVERBURDEN THICKNESS		13. DEPTH GROUNDWATER ENCOUNTERED			
13. DEPTH DRILLED INTO ROCK		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED			
14. TOTAL DEPTH OF HOLE		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)			
15. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED	
19. TOTAL NUMBER OF CORE BOXES		VOC		METALS	
20. SAMPLES FOR CHEMICAL ANALYSIS		OTHER (SPECIFY)		OTHER (SPECIFY)	
21. TOTAL CORE RECOVERY		OTHER (SPECIFY)		OTHER (SPECIFY)	
22. DISPOSITION OF HOLE		TNT/ROX		Geotech.	
		OTHER (SPECIFY)		23. SIGNATURE OF INSPECTOR	

LOCATION SKETCH/COMMENTS

SCALE:



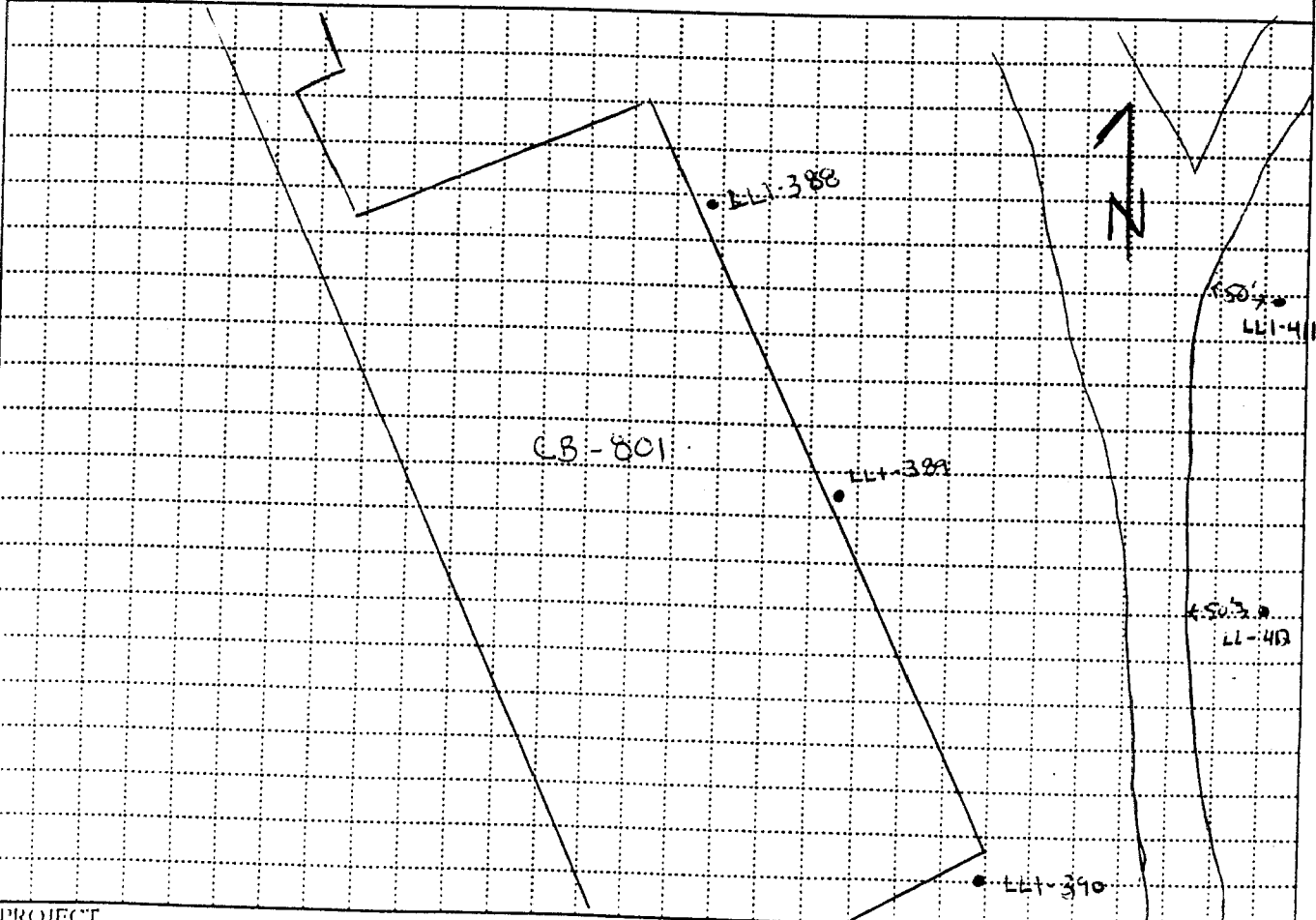
PROJECT	HOLE NO LLI-409, 410, 388
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LLI-389, LLI-390, LLI-412, LLI-411 3)

HTRW DRILLING LOG		DISTRICT LOUISVILLE		HOLE NUMBER ↑	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR		SHEET SHEETS 1 OF 1	
3. PROJECT RVHAP Phase II RI			4. LOCATION CB-801		
5. NAME OF DRILLER			6. MANUFACTURERS DESIGNATION OF DRILL		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		8. HOLE LOCATION Eastern side of CB-801			
		9. SURFACE ELEVATION			
		10. DATE STARTED		11. DATE COMPLETED	
12. OVERBURDEN THICKNESS		13. DEPTH DRILLED INTO ROCK			
		14. TOTAL DEPTH OF HOLE			
15. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED	
16. DEPTH GROUNDWATER ENCOUNTERED		17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED		18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	
19. TOTAL NUMBER OF CORE BOXES		20. SAMPLES FOR CHEMICAL ANALYSIS		21. TOTAL CORE RECOVERY	
		VOC		METALS	
		OTHER (SPECIFY)		OTHER (SPECIFY)	
		OTHER (SPECIFY)		OTHER (SPECIFY)	
22. DISPOSITION OF HOLE		BACKFILLED		MONITORING WELL	
		OTHER (SPECIFY)		OTHER (SPECIFY)	
				23. SIGNATURE OF INSPECTOR <i>Paul G...</i>	

LOCATION SKETCH/COMMENTS

SCALE:

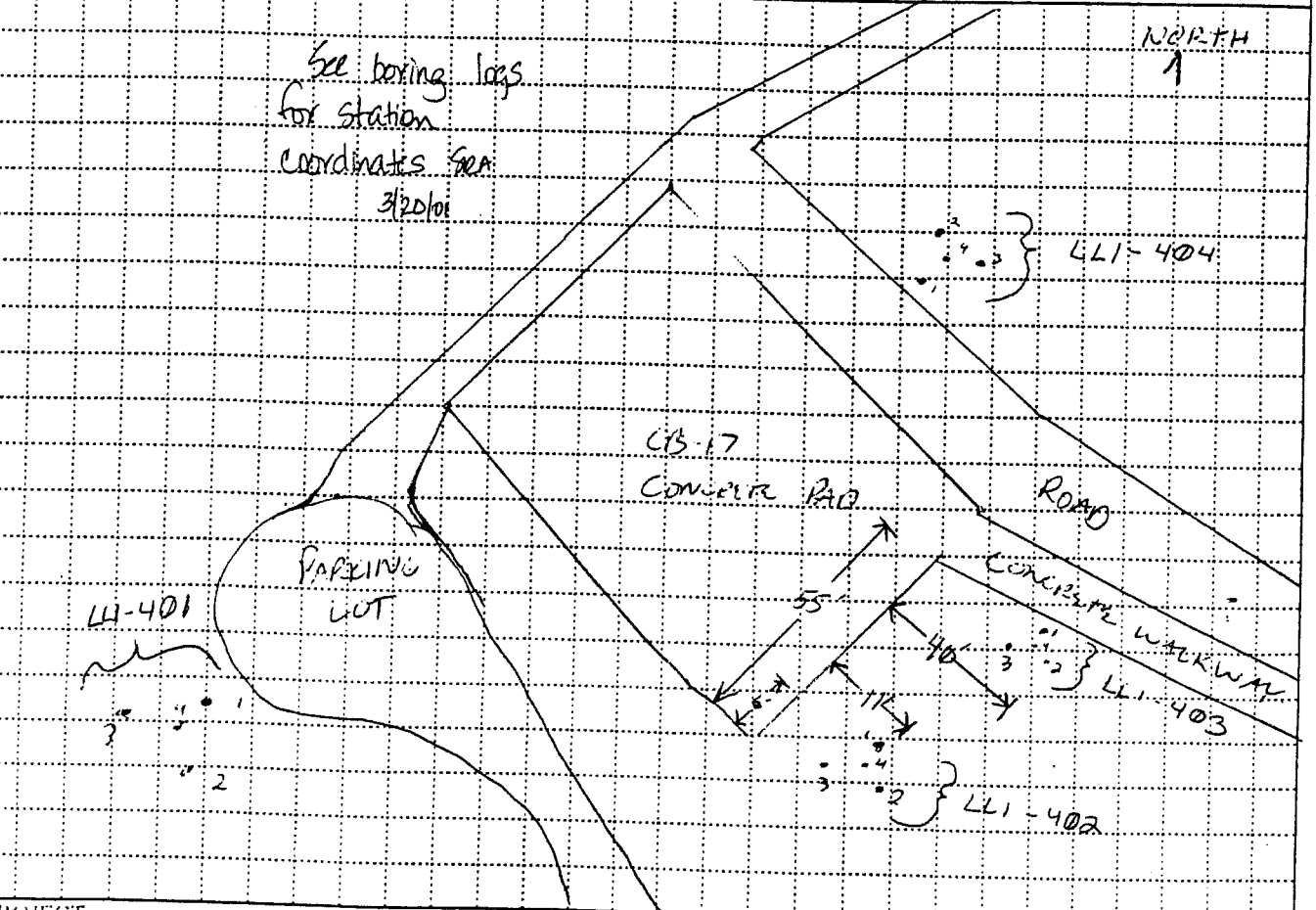


PROJECT	HOLE NO. LLI-389, 390, 412, 411
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* - SEE TTALS LLI-401, LLI-402, LLI-403, LLI-404

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER ↑
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 2 OF 2
3. PROJECT RWAP: LLI/PHASE II R.1.		4. LOCATION *		
5. NAME OF DRILLER NA		6. MANUFACTURER'S DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT S.S. SPURS, 15 WLS, BUCKET AUGER		8. HOLE LOCATION *		9. SURFACE ELEVATION NA
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 09/25/00	11. DATE COMPLETED 09/30/00	
13. DEPTH (DRILLED) INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		
14. TOTAL DEPTH OF HOLE *		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
15. GEOTECHNICAL SAMPLES * DISTURBED <input checked="" type="checkbox"/> UNDISTURBED <input type="checkbox"/>		19. TOTAL NUMBER OF CORE BOXES NA		
20. SAMPLES FOR CHEMICAL ANALYSIS * VOC <input checked="" type="checkbox"/> METALS <input checked="" type="checkbox"/> OTHER (SPECIFY) <input checked="" type="checkbox"/>		OTHER (SPECIFY) <input type="checkbox"/>		21. TOTAL CORE RECOVERY NA
22. DISPOSITION OF HOLE * BACKFILLED <input checked="" type="checkbox"/> MONITORING WELL <input type="checkbox"/> OTHER (SPECIFY) <input checked="" type="checkbox"/>		23. SIGNATURE OF INSPECTOR B. Adell		

LOCATION SKETCH/COMMENTS: SCALE: NOT TO SCALE



PROJECT RWAP: LLI/PHASE II R.1	HOLE NO. LLI 401, 402, 403, 404
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* - SEE TTALS

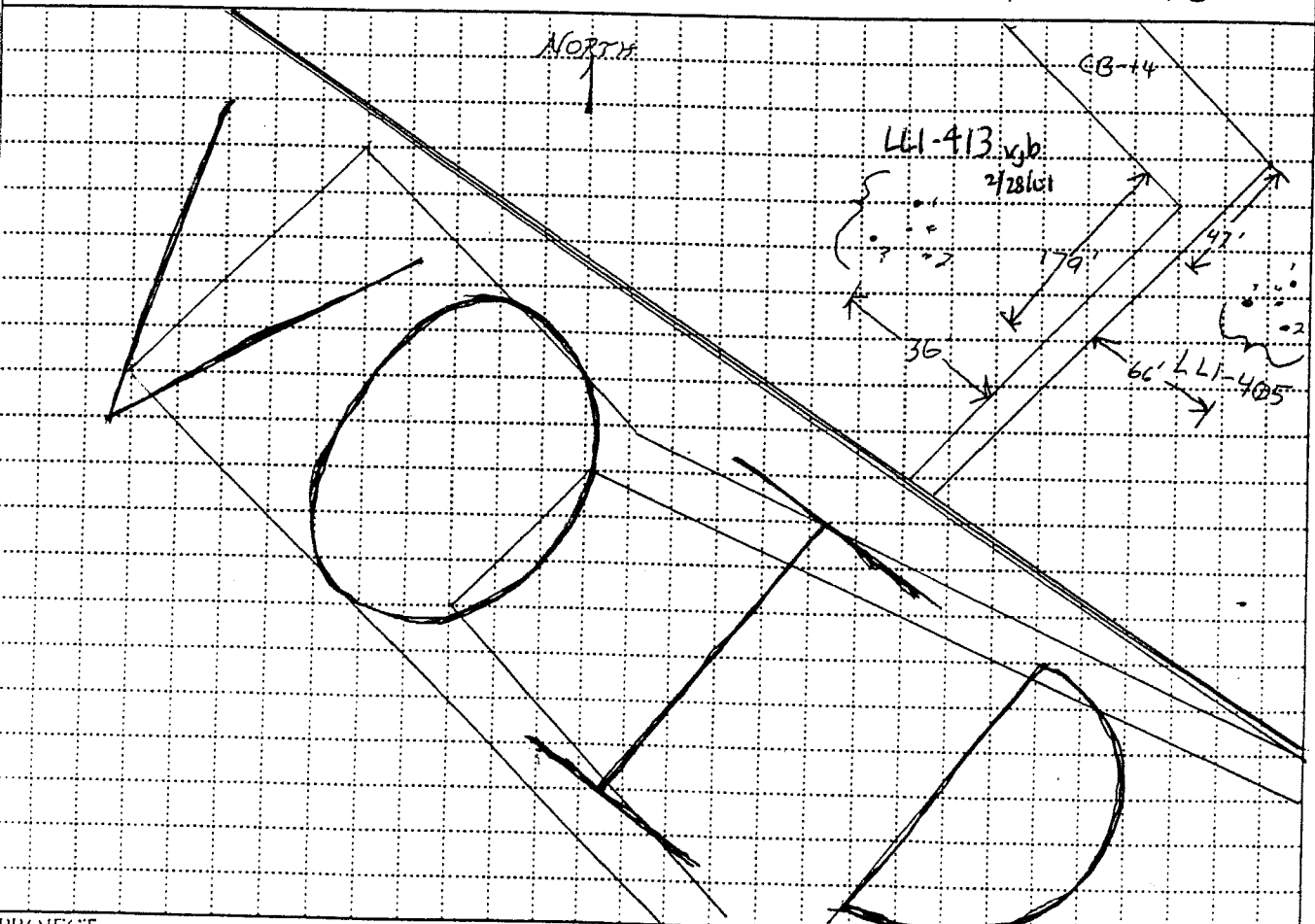
LLI-405, LLI-413

45

HTRW DRILLING LOG		DISTRICT LOUISVILLE COE		HOLE NUMBER	
1. COMPANY NAME SAIC		2. DRILL SUBCONTRACTOR NA		SHEET SHEETS 1 OF 2	
3. PROJECT RVAAP; LLI/PHASE II R.1.			4. LOCATION *		
5. NAME OF DRILLER NA			6. MANUFACTURERS DESIGNATION OF DRILL NA		
7. SIZES AND TYPES OF DRILLING AND/OR SAMPLING EQUIPMENT S, S SPINDS, CORES PICKET, AUGERS		8. HOLE LOCATION *		9. SURFACE ELEVATION NA	
12. OVERBURDEN THICKNESS NA		10. DATE STARTED 09/30/00		11. DATE COMPLETED	
13. DEPTH (DRILLED) INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14. TOTAL DEPTH OF HOLE *		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES *		DISTURBED ✓	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS *		VOC *	METALS *	OTHER (SPECIFY) *	OTHER (SPECIFY) *
21. TOTAL CORE RECOVERY NA		22. DISPOSITION OF HOLE *		23. SIGNATURE OF INSPECTOR B. J. Decker	
		BACKFILLED	MONITORING WELL NA	OTHER (SPECIFY) *	

LOCATION SKETCH/COMMENTS

SCALE: NOT TO SCALE



PROJECT RVAAP; LLI/PHASE II R.1.		HOLE NO LLI-405, 360 413	
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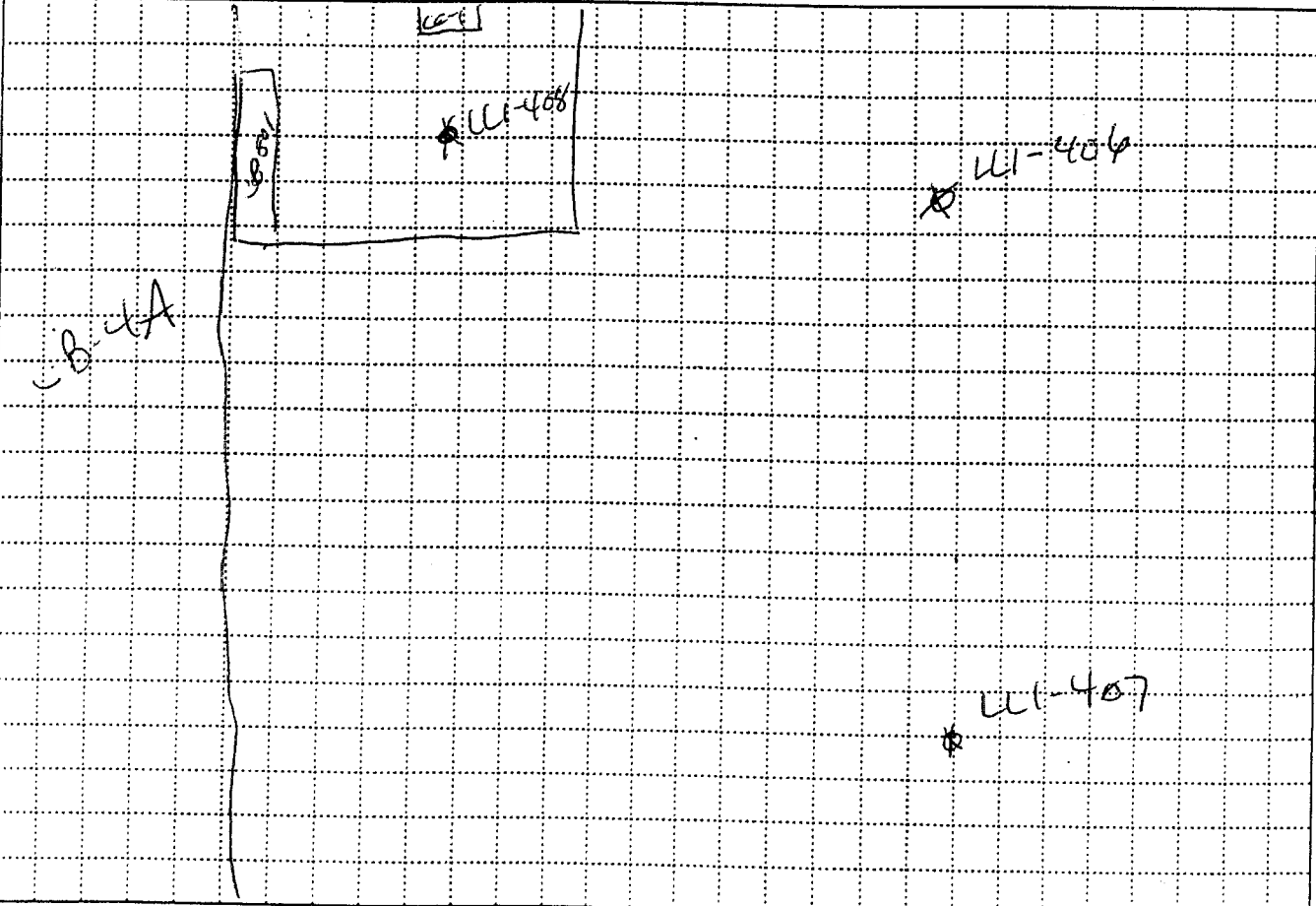
59

LLI-407, LLI-406, LLI-408

HTRW DRILLING LOG		DISTRICT <i>Louisville COE</i>			HOLE NUMBER <i>1</i>	
1. COMPANY NAME <i>SAIC</i>		2. DRILL SUBCONTRACTOR <i>NA</i>			SHEET <i>1</i> OF <i>1</i>	
3. PROJECT <i>RUAAP LLI Phase II RI</i>				4. LOCATION <i>LL-1</i>		
5. NAME OF DRILLER <i>NA</i>				6. MANUFACTURER'S DESIGNATION OF DRILL <i>NA</i>		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		<i>SS Bowl</i>		8. HOLE LOCATION <i>-</i>		
		<i>Spoon, Auger</i>		9. SURFACE ELEVATION <i>-</i>		
				10. DATE STARTED <i>10/1/00</i>		11. DATE COMPLETED <i>10/1/00</i>
12. OVERBURDEN THICKNESS <i>NA</i>				15. DEPTH GROUNDWATER ENCOUNTERED <i>NA</i>		
13. DEPTH (DRILLED) INTO ROCK <i>NA</i>				16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>NA</i>		
14. TOTAL DEPTH OF HOLE <i>-</i>				17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <i>NA</i>		
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED		19. TOTAL NUMBER OF CORE BOXES <i>NA</i>
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)
			<i>X</i>	<i>EXP PROP</i>		21. TOTAL CORE RECOVERY <i>-</i>
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR <i>[Signature]</i>	
		<i>W/Berante</i>				

LOCATION SKETCH/COMMENTS

SCALE: *Not to Scale*



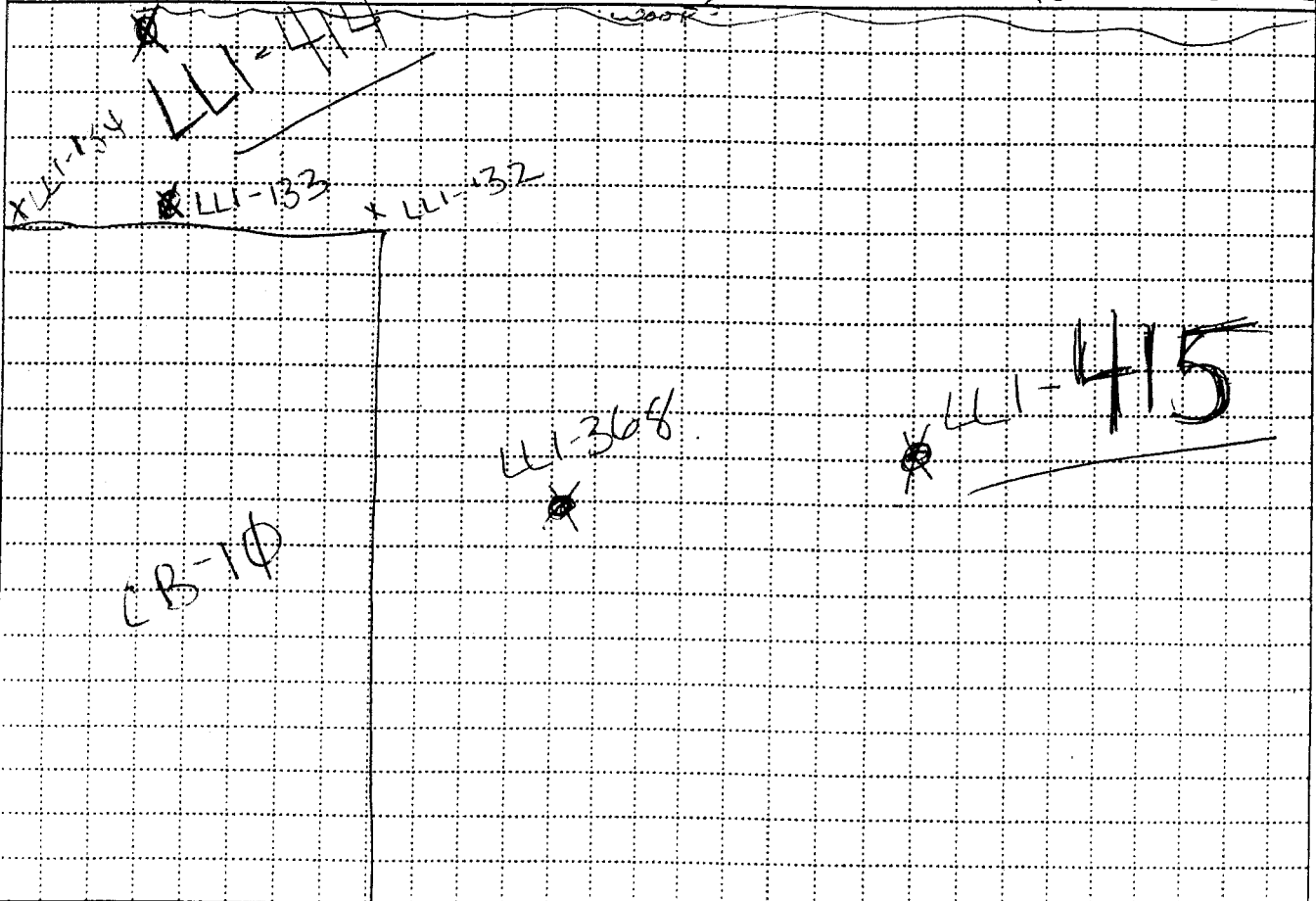
PROJECT <i>RUAAP LLI Phase II RI</i>		HOLE NO <i>LLI-406, 407, 408</i>	
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666

LLI-415, LLI-414

HTRW DRILLING LOG		DISTRICT <u>Louisville</u>		HOLE NUMBER	
1. COMPANY NAME <u>S.A.I.C.</u>		2. DRILL SUBCONTRACTOR <u>NA</u>		SHEET <u>1</u> SHEETS OF <u>2</u>	
3. PROJECT <u>RUAAP Load Line I Phase II RI</u>			4. LOCATION <u>CB-1φ</u>		
5. NAME OF DRILLER <u>NA</u>			6. MANUFACTURER'S DESIGNATION OF DRILL <u>NA</u>		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT <u>55 Hand Auger</u> <u>Beat and Spoon</u>			8. HOLE LOCATION <u>Nea-CB-1φ</u>		
12. OVERBURDEN THICKNESS <u>NA</u>			15. DEPTH GROUNDWATER ENCOUNTERED <u>NA</u>		
13. DEPTH (DRILLED) INTO ROCK <u>NA</u>			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <u>NA</u>		
14. TOTAL DEPTH OF HOLE <u>See logs</u>			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <u>NA</u>		
18. GEOTECHNICAL SAMPLES		DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
		<u>Cl Bentonite</u>		<u>ERP</u>	<u>PROP</u>
				23. SIGNATURE OF INSPECTOR <u>J. Clough</u>	

LOCATION SKETCH/COMMENTS: SCALE: Not to Scale



PROJECT <u>RUAAP LOAD LINE I PHASE II RI</u>	HOLE NO. <u>LLI-415 414</u>
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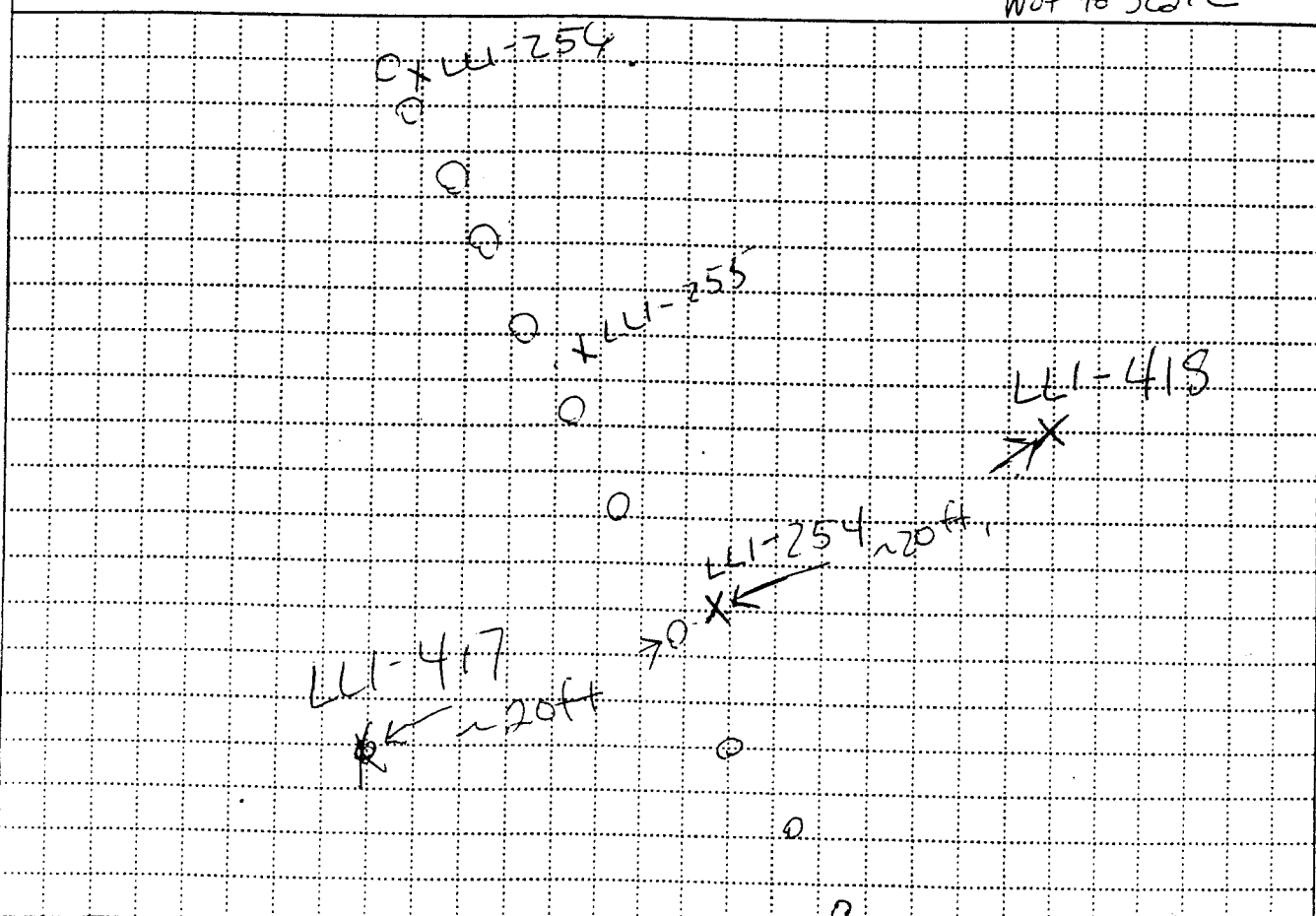
100

41-418, 41-417

HTRW DRILLING LOG		DISTRICT <i>Louisville COE</i>		HOLE NUMBER	
1. COMPANY NAME <i>SAIC</i>		2. DRILL SUBCONTRACTOR		SHEET SHEETS OF	
3. PROJECT <i>RVAAP LLI Phase II RT</i>			4. LOCATION <i>LL-1</i>		
5. NAME OF DRILLER <i>NA</i>			6. MANUFACTURERS DESIGNATION OF DRILL <i>NA</i>		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT <i>SS Bowl, Spoon Auger</i>		8. HOLE LOCATION <i>Near LLI-254</i>		9. SURFACE ELEVATION <i>NA</i>	
12. OVERBURDEN THICKNESS <i>NA</i>		10. DATE STARTED <i>10/3/00</i>		11. DATE COMPLETED <i>10/3/00</i>	
13. DEPTH DRILLED INTO ROCK <i>NA</i>		15. DEPTH GROUNDWATER ENCOUNTERED <i>NA</i>		14. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>NA</i>	
14. TOTAL DEPTH OF HOLE <i>see log</i>		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <i>NA</i>			
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTURBED	
19. TOTAL NUMBER OF CORE BOXES <i>NA</i>		20. SAMPLES FOR CHEMICAL ANALYSIS		21. TOTAL CORE RECOVERY	
22. DISPOSITION OF HOLE		23. SIGNATURE OF INSPECTOR		24. SIGNATURE OF INSPECTOR	

LOCATION SKETCH/COMMENTS

SCALE: *Not to Scale*



PROJECT <i>RVAAP LLI Phase II RT</i>	HOLE NO <i>LLI-418, 417</i>
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ENG FORM 5056-R, AUG 94

(Proponent: CREW-EG)

**HTRW
Drilling Log – Logs**

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DRILLING LOG

HOLE NUMBER
CBX-1

PROJECT
LL1 / CBX-1 POTENTIAL DISPOSAL

INSPECTOR
BEAR WILLIAMS

SHEET
2 of 2

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOCHEM SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	5"	SML SILT w/ SAND, ROOTLETS & ORGANICS, (FINE GRAIN SAND, SUBANGULAR), SOFT, MOIST, NON PLASTIC, ~20% GRAVEL TO PR 3/3 DARK BROWN	0.0	N/A	LL 0722	BOB, 1" BGS
<p style="font-size: 2em; opacity: 0.5;">A-107</p> <p style="font-size: 2em; opacity: 0.5;">N 562934.7108 E 2376223.905</p> <p style="font-size: 2em; opacity: 0.5;">BW 11-9-99</p>						

PROJECT
LL1 DISPOSAL (POTENTIAL) AREA

HOLE NO
CBX-1

45

DRILLING LOG

PROJECT

LL1 POTENTIAL DISPOSAL AREA

INSPECTOR

BEAU WILLIAMS

LOG NUMBER

CB-8-2

SHEET

2 of 2

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
		ML SILT w/ SAND, FINE GRAIN SUB ANGULAR, SOFT, MOIST NON-PLASTIC, LESS THAN	Ø.Ø	N/A	LLP723	
	5"	100% SP PEBBLE 10 YR 3/3 DARK BROWN				BOB 4" BGS
<p style="font-size: 2em; opacity: 0.5;">/</p>						
						N 562910.0173 E 2376171.343

BW
11-4-98

A-108

PROJECT

LL1 - POTENTIAL DISPOSAL AREA

HOLE NO

CB 8-2

OB 8-3

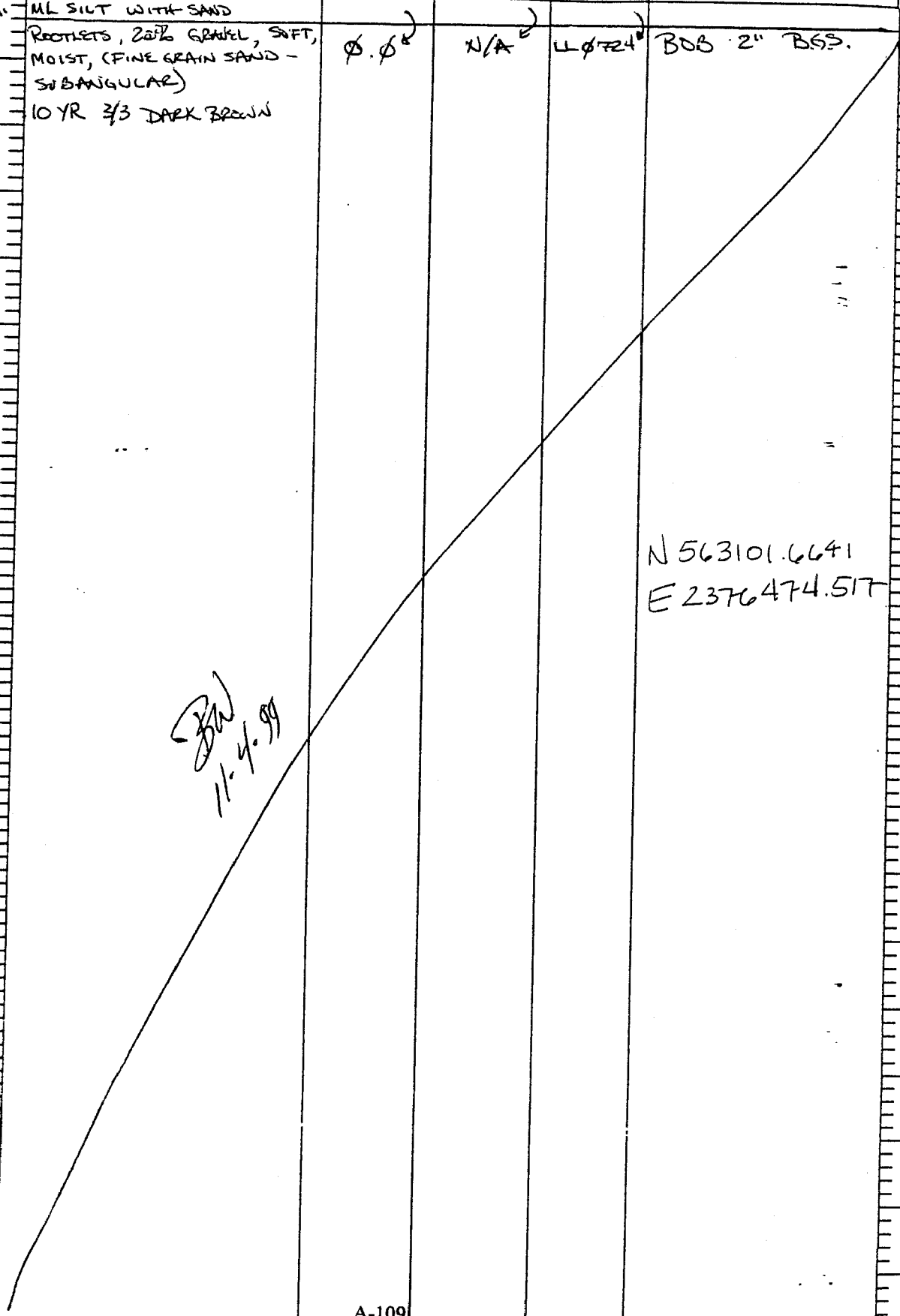
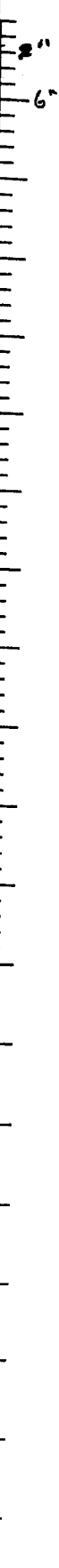
DRILLING LOG

PROJECT **LL1/CB 2" LL1 Pot. Dis. Area** INSPECTOR **BEAU WILLIAMS**

HOLE NUMBER **LL1/CB 2" LL1** SHEET **2 of 2**

DEPTH (ft)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEO TECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
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2"	ML SILT WITH SAND				
6"	ROOTERS, 20% GRAVEL, SIFT, MOIST, (FINE GRAIN SAND - SUBANGULAR) 10YR 3/3 DARK BROWN	φ.φ	N/A	LL φ 724	BOB 2" BSS.



BW
11-4-99

N 563101.6641
E 2376474.517

A-109

PROJECT **LL1 POTENTIAL DISPOSAL AREA**

HOLE NO **LL1/CB 8-3**

DRILLING LOG

15

PROJECT LL-1 Potential Disposal Area INSPECTOR HW. Miller HOLE NUMBER CB12-01
 SHEET 2 of 2

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEO TECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	5'	ML silt, w/ sand, wet, soft, subangular no subrounded gravel, variable in size, sand f-in grain, matrix 10YR 3/2 v. dk. greyish brown.	0.0	N/A	LL0725	water at bottom of hole
						B.O.B. 3' bgs
						N 564001.3316 E 2375584.6

5'

A-110

PROJECT LL1 Potential Disposal Area HOLE NO CB12-01

DRILLING LOG

18

PROJECT LLI - Potential Disposal Area INSPECTOR John D. Moore HOLE NUMBER CB12-02

SHEET 2 of 2

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
		rocklets, mc silt w/ sand, soft	0.0	N/A	LL0726	Bedrock encountered
	0.5'	moist, sand fr. grain, subangular 10YR 3/2 v. dk. greyish brown.				B.O.B. 3" bgs
<p style="font-size: 2em; transform: rotate(-45deg); opacity: 0.5;">John D. Moore 11/04-99</p>						
					<p>N 564052 .3878 E 2375531.435</p>	

A-111

PROJECT LLI - Potential Disposal Area

HOLE NO CB12-02

DRILLING LOG

21

PROJECT **LL1 - Potential Disposal Area** INSPECTOR **J.W. Moore** HOLE NUMBER **CB12-03**
 SHT 1 **20F2**

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOLOGIC SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
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0.5'

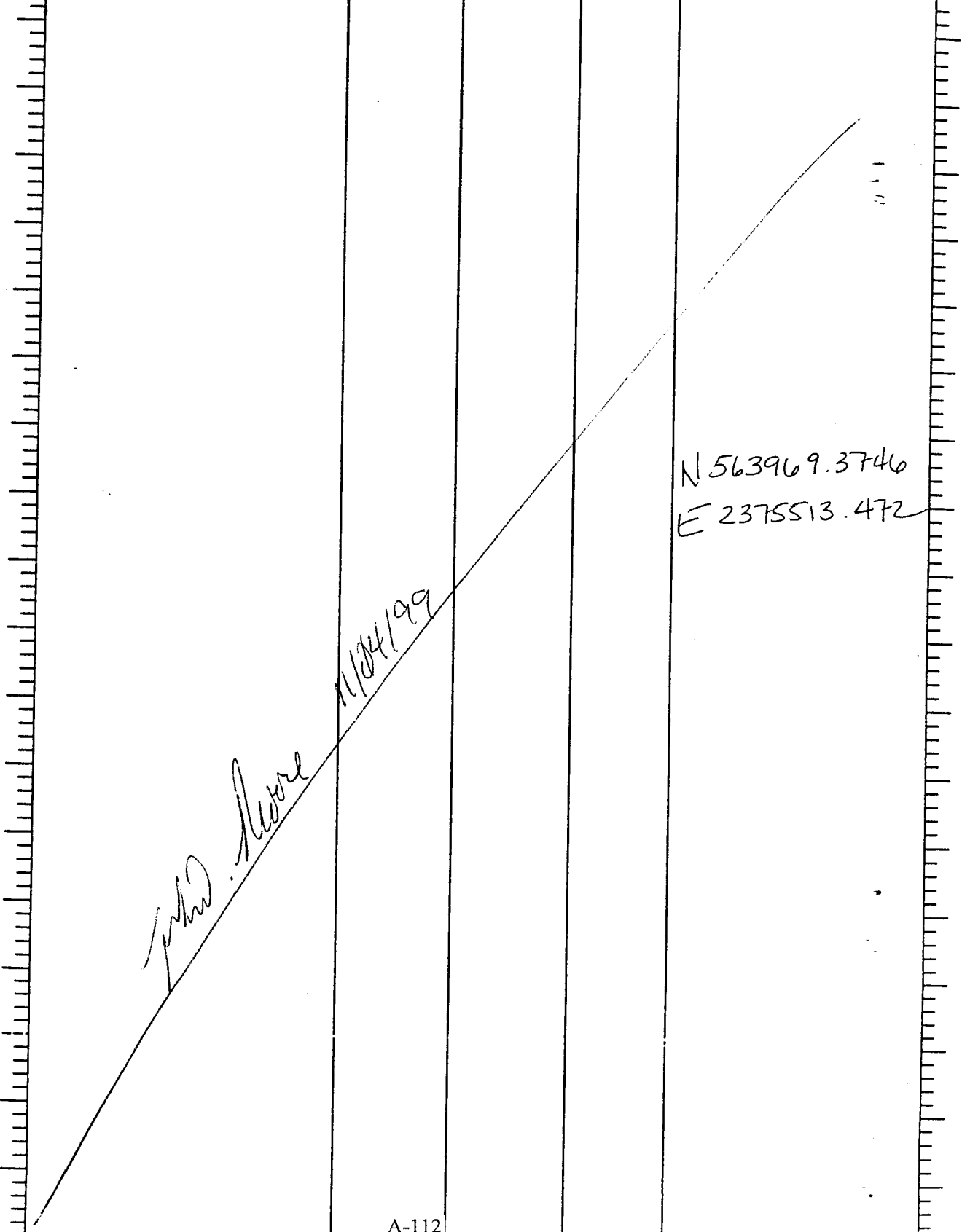
M/L silt w/ sand (30%) - M grain, subangular, 0.0
 50% gravel, subrounded pebbles.
 wet, soft, 1 1/2 R 3/2 v. cl. k.
 grayish brown, soft, wet.

N/A

LL0727

Bedrock encountered

0.5'



J.W. Moore 11/04/99

N 563969.3746
 E 2375513.472

A-112

PROJECT **LL1 - Potential Disposal Area** HOLE NO **CB12-03**

24

DRILLING LOG

PROJECT

LL1

INSPECTOR

P. Lucot

HOLE NUMBER

LL1-CB22-1

SHEET

1 of 1

ELEV (A)

DEPTH (B)

DESCRIPTION OF MATERIALS (C)

FIELD SCREENING RESULTS (D)

GEOLOGIC SAMPLE OR CORE BOX NO (E)

ANALYTICAL SAMPLE NO (F)

REMARKS (G)

2 of 2

ORGANIC SILT, wet, loose, black 0.5'
 Sandy SILT (ML), Fine grained sand light gray variegated yellowish brown 0.9'
 Bottom of Boring = 0.4'

NA

NA

LL0729
1650

vjb 11/19/99

Refusal in all 3 holes @ 0.4'

N 562051.3804
E 2376614.908

PSJ
11/19/99

1.0'

A-114

PROJECT

LL1

HOLE NO

LL1-CB22-1

DRILLING LOG

HOLE NUMBER LL1-CB22-2

18

PROJECT

LL1

INSPECTOR

R. West

SHEET

1 of 1

vjb
11/9/99

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEO TECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
		Silty CLAY (CL), moist, soft, plastic, olive brown (SY4/A)	NA	NA	LL0730 1605	2 of 2 Refusal @ 0.3', 0.5', and 0.5'
	1.0'	Bottom of Boring = 0.5'				
<p>DR 11/4/99</p>						
						<p>N 562131.2209 E 2376635.092</p>

PROJECT

LL1

A-115

HOLE NO

LL1-CB22-2

DRILLING LOG

30

PROJECT *LL1 Potential Disp Area*

INSPECTOR *Bow Williams*

HOLE NUMBER *CB22-4*

SHEET *2 of 2*

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
		<i>0.25 silt w/ sand, < 10% gravel</i>	<i>φφ</i>	<i>n/A</i>	<i>LL0732</i>	<i>bedrock encountered</i>
	<i>0.5'</i>	<i>rootlets, moist, soft, 10% C 3/4 dark brown</i>				<i>B.O.B. 4" bgs</i>
<i>John D. Moore 11/24/99</i>						
						<i>N 562270.8533 E 2376860.179</i>

A-117

PROJECT *LL1 Potential Disp Area*

HOLE NO *CB22-4*

DRILLING LOG

HOLE NUMBER CB23-01

PROJECT LLI - Potential Disposal

INSPECTOR *John Moore*

SHEET 2 OF 2

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD PRELIMINARY RESULTS (D)	GEOLOGIC SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
		all silt w/ sand. f. grain,	φ. φ.	N/A	LLP 733	Bedrock encountered
	0.5'	Subangular, coarset, moist to dry, loose, 100% 3/4 dark brown				B.O.B. 1' hgs.
						N 563288.8911 E 2375956.356
		<i>John Moore 11/04/99</i>				
			A-118			

PROJECT LLI - Potential Disposal Area

HOLE NO CB23-01

DRILLING LOG

HOLE NUMBER CB23-02

39

PROJECT LL1 - Potential Disposal Area

INSPECTOR *W.W. Wood*

SHEET 2 OF 2

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOLOGIC SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
		ML silt w/ sand, 50% gravel, soft,	0.0	N/A	LL0734	Bedrock encountered
	0.5'	moist, 10R 3/3, dark brown, organics and rootlets				B.O.B. 2" bags
<p><i>W.W. Wood</i></p> <p><i>11/04/97</i></p> <p>N 563243.6993 E 2376012.764</p>						

A-119

PROJECT LL1 - Potential Disposal Area

HOLE NO CB23-02

DRILLING LOG

33

PROJECT *LL1 - Potential Disposal Area*

INSPECTOR *Ph.D. Moore*

HOLE NUMBER *C23-04*

SHEET *2 of 2*

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD CORRECTION RESULTS (D)	GEO TECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
		<i>ML silt w/sand, moist soft, fine grain, subangular sand.</i>	<i>Φ. Φ</i>	<i>N/A</i>	<i>LL 0736 0744 - duplicate</i>	<i>Bed rock encountered</i>
	<i>0.5'</i>	<i>10 ft 2 3/3 dark brown, rootlets, <10% gravel.</i>			<i>0746 - split</i>	<i>B.O.B. 3' bgs</i>
						<i>N 563353.847 E 2376328.791</i>

Ph.D. Moore

11/04/99

A-121

PROJECT *LL1 - Potential Disposal Area*

HOLE NO *C23-04*

DRILLING LOG

27

PROJECT		INSPECTOR			HOLE NUMBER	
LL1- Potential Disposal Area		J.W. Moore			CB23-05	
ELV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
		ML silt w/ sand, F. grain, subangular, rootlets, moist to dry, loose, 10% 3/3 dark brown	0.0	N/A	LL0728	Redlock encountered B.O.B. 1" bgs
<p><i>J.W. Moore 11/04/99</i></p>						
<p>N 563166.0504 E 2375991.93</p>						

A-122

DRILLING LOG

PROJECT

RVAAP Phase II RT

INSPECTOR

J. De Vaughn

HOLE NUMBER

LL-001

SHEET

1 of 1

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOCHEM SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	0	104R 3/2 sandy silt and gravel, some slag, dry, not plastic	GM			0 ppm collect LL10000 & 1230
	1.0	104R 2/1 Sandy Silt and gravel, with slag, moist, not plastic	GM (note color change to 2.54E3/4 below 6")			(Map pg. 3) TD 9-12-00 ↑
	1.5		GM (Hole caved in after 1.5 feet w/ slag and gravel)			Collect LL20001 @ 0855 PID @ 450 ppm (In hole) TD 9/17/00 ↑
						N563404.2076 E2376611.317 2-23-01

A-123

PROJECT

RVAAP Phase II RT

HOLE NO

LL-001

DRILLING LOG

PROJECT: RVAAP Phase II RI INSPECTOR: J. DeVanahm HOLE NUMBER: LL1-002
 SHEET: 1 of 1

DEPTH (ft)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
0	10YR 4/6 poorly sorted gravelly sand, some silt, loose, not plastic, dry	SM			Open collect LL10803 @ 1300
1.0 - 2.0	10YR 4/6 s. lb fine sand, loose, moist. Sandy Silt, SM SEA 3/20/01	SM			(10YR 4/6) → TD 9-12-00 Collect LL10804 @ 0935 Open Refusal @ 200' →
2.0					TD 9/18/00 N 563397.6741 E 2376587.191 jss 2-23-01

A-124

DRILLING LOG

PROJECT: RVAAP Phase II RI INSPECTOR: E. Martin HOLE NUMBER: LL1-003 em
 SHEET: 1 of 1

27

BLV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	10"	silt sand 7.5 yr 4/3	ML	NA	LL1-0905	Samp. time 15:40 em 9/15 15:35
						refusal @ 10" (Map pg. 24) N563333.0726 E 2376655.54 jss 2-23-01

A-125

DRILLING LOG

PROJECT: RVAAP Phase II RI INSPECTOR: E. MARTIN HOLE NUMBER: LLI-004

SHEET: 1 of 1

26

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1'	silt coarse sand 7.5 yr 4/3 some gravel fill around pipe	ML	N.A.	LLI-0808	sample time 15:15 no refusal
	1.0'-1.3'	Silty clay and clay sand, trace gravel 7.5 yr 4/3, soft, moist, slight plasticity (slight mottled)	CL	N.A.	LLI-0809	(Map pg. 24) Collect @ 1315 PID oppm TD 9/19/00
	1.3'					N563311.5532 E 2376601.306 jss 223-01

A-126

PROJECT

RVAAP Phase II RI

HOLE NO

LLI-004

DRILLING LOG

25

PROJECT _____ INSPECTOR E. Martin HOLE NUMBER LCI-005
 SHEET 191

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	3"	10YR ^{3/2} silt loam, organic gravel	ML	N.A.	LCI-005	Pipe 3" refusal
	0.5'	pipe surrounded by ^{gravel} till + sand			LCI0910	samp time 15:00 1435 (Map pg. 24) ^{vjb} 12/11/00
		Refusal @ 0.5' TD 9/19/00				N56243.0056 E 2376478.959 jss 2-23-01

A-127

PROJECT RVAAP Phase II RI

HOLE NO LCI-005

DRILLING LOG

18

PROJECT

RYAAP Phase II RI

INSPECTOR

HOLE NUMBER

LL1-006

SHEET

ELV (A)

DEPTH (B)

DESCRIPTION OF MATERIALS (C)

FIELD SCREENING RESULTS (D)

GEOTECH SAMPLE OR CORE BOX NO (E)

ANALYTICAL SAMPLE NO (F)

REMARKS (G)

1

fine sand clayey silt
7.5 YR 3/2, moist
loose slightly plastic

SC
6AA
MH

collect
LL10913
@ 8:50am

2.0

1.0'-2.0'
7.5 YR 3/2
Fine sand and clayey silt,
loose, moist, slightly plastic

SC

↗
refuse @ 1' e
vib
(Map pg. 17) 12/1/00
Collect LL10814 @ 1002

(Hole caves in at 2.0' with gravel (wet) ↗)

TO 9/19/00 ↗

N 563357.874
E 2376522.997
ISS
2-23-01

A-128

PROJECT

RYAAP Lead Line I Phase II RI

HOLE NO

LL1-006

DRILLING LOG

PROJECT

RVAAP Phase II RI

INSPECTOR

J. DeVanglin

HOLE NUMBER

LL1-007

SHEET

1 of 1

12

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	0	10YR 3/4 silt/sand/gravel, loose, dry, not plastic	Gm			Collect LL0815 @ 1555 (Map pg. 10)
	1.0'	Refusal @ 1.0' <i>vjb 12/11/00</i>				
	1.0-1.5'	10YR 3/4 silty sand w. fine gravel, loose, moist, not plastic	Gm			TD 9-12-88 Collect LL0816 @ 0945 @ ppm
	1.5'	Refusal @ 1.5'				TD 9/19/00 ↑
						N563385.0301 E 2376558.887 jss 2-23-01

A-129

PROJECT

RVAAP Phase II RI

HOLE NO

LL1-007

DRILLING LOG

PROJECT: **RVAAP** INSPECTOR: **J. DeVaughn** HOLE NUMBER: **LL1-008**

20

SHEET: **1 of 1**

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEO TECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	0	Silty clay, some sand and gravel, trace concrete fragments upper 6', 10YR 11/3, dry, firm (10YR 6/6 lower 6" mottled)				collect LL10817 @ 1345 (Map A-17) TD 9-13-00
	1.0'	1.0' - 1.3' Silty clay (mottled), 10YR 7/1 w/ 10YR 6/6 low plasticity, soft, moist				Collect LL10818, LL11113, LL11163 @ 1025 PID 0877m
	1.3'	Refract @ 1.3'				TD 9/18/00 9/19/00 N563409.2188 E 2376469.134 jss 2-23-01

A-130

DRILLING LOG

PROJECT: **RVAAP: LLI / PHASE II R.I.** INSPECTOR: **M. J. Root** HOLE NUMBER: **LLI-0029**

SHEET: **2 OF 2**

35

DEPTH (A) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (M)	GEOCHEM SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
1.0	SP-SM SAND WITH SIG, POORLY GRADED, COARSE SUSPENDED QUARTZ, V. MOIST, REDDISH- BLACK (2.5YR 2.5/1) WITH FINE GRANULAR INCLUSIONS, RED (2.5YR 5/8)	PID=0.3 ppm		LL10829	BZ=0 ppm TD@ 0.3' 09/14/00
2.0	REFUSAL @ 0.3' END OF BORING				<p style="text-align: right;">N562958.8712 E2376836.787 ISS 2-23-01</p> <p style="text-align: center; font-size: 2em; transform: rotate(-45deg); opacity: 0.5;">(Lio) 09/30/00</p>
3.0					

A-131

DRILLING LOG

PROJECT: RVAAP LLI / PHASE II R.I. INSPECTOR: M. J. ROSE HOLE NUMBER: LLI-010
 SHEET: 2 OF 2

ELEV (A)	DEPTH (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEO TECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
		SP-SM SAND WITH SILEX, POORLY GRADED, FINE, DRY, YELLOWISH BROWN (10YR 5/4)	PID = 0 ppm		LL10832	BL = 0 ppm
					METALS	TDC @ 0.3' 09/14/00
					CN-	(REFUSAL)
	1.0	REFUSAL @ 0.3' END OF BORING			EXPLOSIVES	
					PROPAGANTS	
					@0710	
	2.0					
	3.0					

LL1 09/30/00

N 562933.9608
 E 2376796.812
 55 2.2301

A-132

DRILLING LOG

011

12

PROJECT RVAAP: LLI / PHASE II RI

INSPECTOR M. J. ROOS

HOLE NUMBER LLI-011

SHEET 3 OF 5

ELEV (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOCHEM SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		0' - 0.5 SP-SC SAND WITH LAY AND GRAVEL, BLACK (10YR 2/1), MOIST	P.D. = 0 ppm		LL10837	BZ = 0 ppm
	1.0	0.5 - SP-SC SAND WITH LAY AND GRAVEL, MOIST, DK. YELLOWISH-BROWN (10YR 4/3)			LL10838 LL1115 LL1165 @ 0100	TO @ 1.0' 09/12/00
	2.0	REFUSAL @ 2.0'	END OF BORING			SAMPLED FOR METALS, CN, EXPLOSIVES, AND PROPAGANTS TO @ 2.0' 09/12/00
	3.0					

CLW 09/30/00

N562886.9167
E2376863.126
J 222.01

A-133

PROJECT

RVAAP: LLI / PHASE II RI

HOLE NO

LLI-011
09/12/00

DRILLING LOG

47

PROJECT RVAAP LLI/PHASE II RI. INSPECTOR M. J. ROSE HOLE NUMBER LLI-013

SHEET 3 OF 5

DEPTH (ft)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
1.0	GM GRAVEL, SILTY GRAVEL WITH SAND, WET, SUBRounded BROWN (10YR 5/3)	NO PID TRAINING	M.C.	LL10834 METALS CN- EXPLOSIVES PERMITS @ 1050	TD @ 1.0' 09/15/00
2.4 3.0	REFUSAL @ 1.0' END OF BORING				

09/30/00

N 562857.4711
E 2376656.201
J 2.27.01

A-134

DRILLING LOG

PROJECT: RVAAP: LI / P II RI INSPECTOR: M. J. Root HOLE NUMBER: LI-014
 SHEET: 5 OF 5

DEPTH (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)	
	1.0	SP-SM SAND WITH SILT, GRAVELY, POORLY GRADED, DAMP, BROWN (10YR 3/3)	NO PID		LI10839 VOCS, SVCS, PCB'S, CN METALS, EXPLOSIVES, PROPELLANTS	(RAINING) TD = 1.0' @ 1/2/00	
	2.0	GP GRAVEL WITH SAND, POORLY GRADED. PERCLES SUBROUND, < 10 mm, DAMP, BROWN (10YR 2/4)	PID = 0 ppm	M.C.	LI10840 METALS, CN-EXPLOSIVES, PROPELLANTS @ 1010	BZ = 0 ppm TD @ 2.4' @ 1/2/00	
	2.5	MH SILT WITH CLAY, TRACE SAND, MOIST, DK. YELLOWISH BROWN (10YR 4/4)					
	3.0	END OF BORING					
						N562851.2214 E2376807.509 JSS 2-23-01	

CLW 09/30/00

A-135

DRILLING LOG

PROJECT

RVAAP: LLI / PII RI

INSPECTOR

M. J. ROSE

HOLE NUMBER

LI-015

SHEET

2 OF 5

ELEV (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOCHEM SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	SM SILTY SAND, MOIST, DK. YELLOWISH-BROWN, (10YR 4/6)	PID=0 ppm		LL10841 METALS CN- EXPLOSIVES PERPELLANTS @1520	LOCATED 1' IN FRONT OF TERRACE WITH PIPE. BZ=0 ppm TD=1.0' 09/12/00
	2.0	REFUSAL @ 1.8'	END OF BORING		LL10835 @0945	METALS, CN-, EXPLOSIVES, PERPELLANTS, M.C. TD @ 1.8' 09/19/00
	3.0					

09/30/00

N562874.55
E2376345.203
j 2, 23 01

Note: Based on the information here and also at the bottom of p. 9 of this logbook, sample LL10835 should be associated with station LI-015. In Table 5-1 of the workplan, sample LL10835 was originally assigned to Station LI-013. I have marked up the table and will advise Marie Simpson to change the database.

Urbli Brumback
12-11-00

A-136

PROJECT

RVAAP: LLI / PHASE II RI

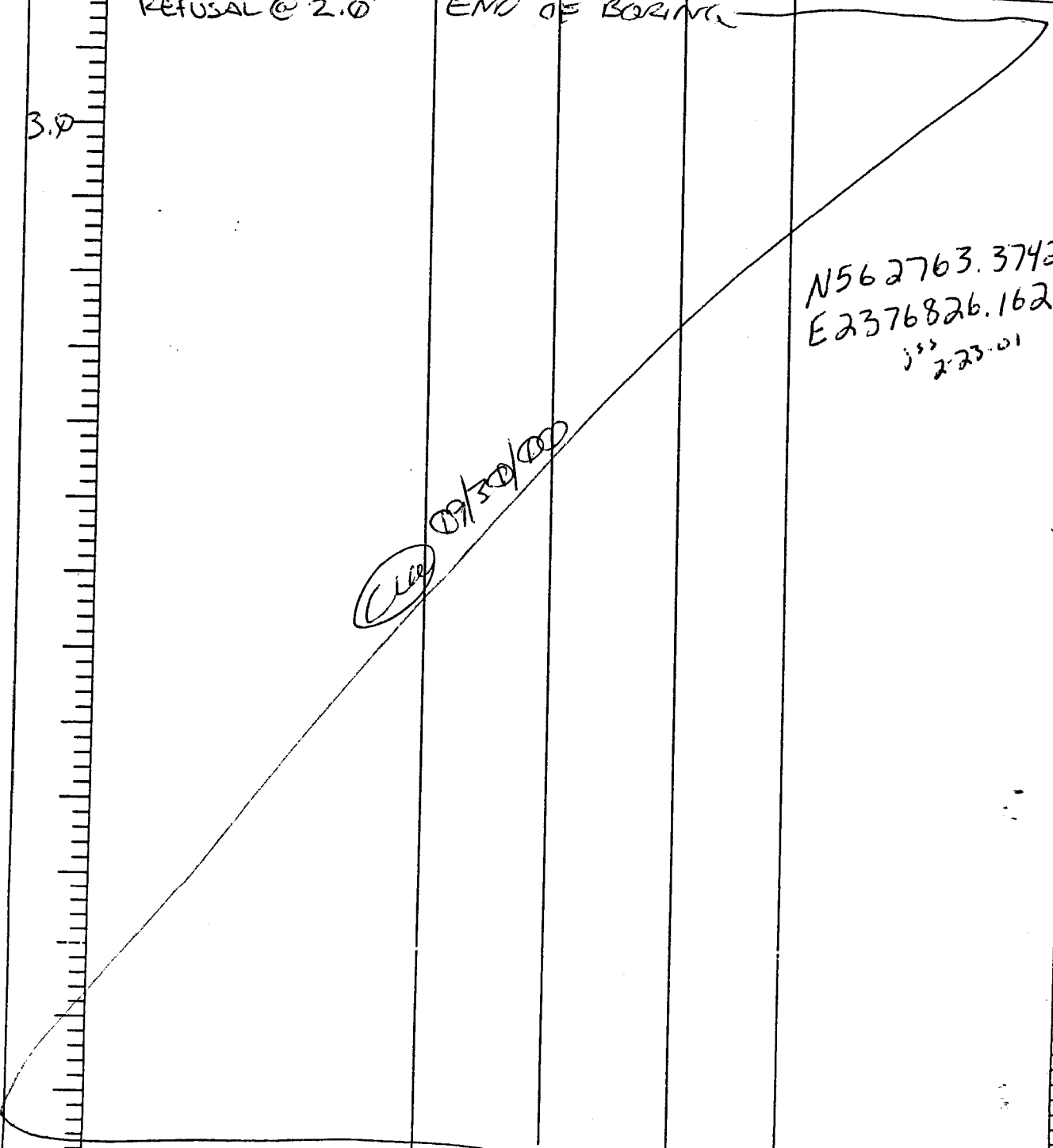
HOLE NO

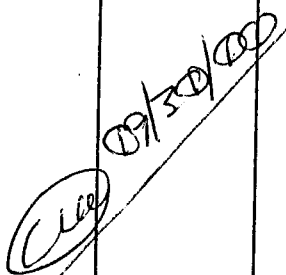
LI-015

DRILLING LOG

19

PROJECT: **RVAAP LLI/PII RI** INSPECTOR: **M. J. ROSE** HOLE NUMBER: **LI-016**
 SHEET: **3 of 5**

DEPTH (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	ML SILT WITH SAND AND TRACE LAY. DAMP. BROWN (7.5% R 4/3)	PID = 1.2 ppm		LI0857	BZ = 8 ppm TD @ 1.0' 09/13/00
	2.0				@ 0745 LI0858 @ 1050	METALS, CN-, EXPLOSIVES, PROPELLANTS, M.C. TD @ 2.0' 09/13/00
	3.0	REFUSAL @ 2.0'	END OF BORING			 <p>N562763.3742 E2376826.162 33 223.01</p>



A-137

DRILLING LOG

PROJECT

RVAAP Phase II RI

INSPECTOR

E. Martin

HOLE NUMBER

LL1-033

SHEET

54

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEO TECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0'	Silty clay some gravel plastic w/ mottling 10YR 3/3	CL	N/A	LL10788	Sample time: 13:50 13:50
01 1.3'	1.3'	1.0'-1.3' - 10YR 3/3 Silty clay (mottled - Brown with red) slight plasticity, moist, soft	CL	N/A	LL10789	9/15/00 Sample time: 0143 PID 0 ppm
						TD 9/19/00 N563591.3513 E 2376984.329 J's 2-23-01

A-138

PROJECT

RVAAP Phase II RI

HOLE NO

LL1-033

DRILLING LOG

HOLE NUMBER LLI-027

PROJECT RVAAP: LLI/PHASE II R.I.

INSPECTOR M.J. ROY

SHEET 2 of 2

ELEV (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEO TECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
		SP-SM SAND WITH SILT, POORLY GRADED, DAMP, BROWN (7.5 YR 4/4)	PID=0 ppm	M.C.	LLI0882	BZ=0 ppm TD=0.7' 07/17/00
	1.0	REFUSAL @ 0.7' END OF LOGGING			LLI0882 VOL, SVCS PCB, CN METALS EXPLOSIVES P/PRESENTS @1418	
	2.0					
	3.0					
						N561915.6751 E 2377148.271 JSS 223-el

LLI 027/30/00

A-140

PROJECT

RVAAP: LLI/PHASE II R.I.

HOLE NO

LLI-027

DRILLING LOG

HOLE NUMBER **LLI-029**

SHEET **2 of 2**

PROJECT **RVAAP: LLI / PHASE II R.I.**

INSPECTOR **M. J. Ross**

ELEV (A)	DEPTH (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLI. NO (F)	REMARKS (G)
	0.0	OL/OH ORGANIC MUCK, SAPRIL WITH MANY FINE ROOTS, SATURATED, BLACK (10 YR 2/1)	N/A		LL10865 METALS CN- EXPLOSIVES PROPAGANTS @ 0920	SAMPLE COLLECTED FROM SCRAPINGS FROM BOTTOM OF CEMENT BOX @ 0.2'
	1.0					
	2.0	REFUSAL (BOTTOM OF BOX)		@ 40.2'		* (see map pg. 99) SRA 2-8-01
	3.0					
						N562501 E2376830 3/22/01

LL10865/200

A-141

PROJECT

RVAAP: LLI / PHASE II R.I.

HOLE NO

LLI-029

DRILLING LOG

PROJECT: RVAAP: LLI/PHASE II R.I.

INSPECTOR: M. J. Ross

HOLE NUMBER: LLI-030

SHEET: 2 OF 2

7

DEPTH (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOCHEM SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	ROOT MAT ONLY NO SAMPLE PRESENT, HYDROPONIC CROP OF WIRE-STEM MULLY AND OTHER PIONEER SPECIES				(No sample collected) *see map. pg. 99 SRA 3/8/01
	2.0					
	3.0					

LLI-10/CB3 00

A-142

PROJECT

RVAAP: LLI/PHASE II R.I.

HOLE NO

LLI-030

DRILLING LOG

14

PROJECT

RVAAP-LLI/PHASE II R.I.

INSPECTOR

M. ROOT

HOLE NUMBER

21-034

SHEET

2 OF 2

ELEV (A)	DEPTH (B) (FEET)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	(SP) POORLY GRADED FINE SAND W/ MEDIUM SUBANGULAR GRAVEL DAMP - OLIVE BROWN (2.54 4/4)	PID	NA	LL10766	REFUSAL @ 0.3'
	2.0	END OF BORING				
						N 56 3762.4444 E 2376179.721
						M 10/04/00

A-143

PROJECT

RVAAP: LLI/PHASE II R.I.

HOLE NO

21-034

DRILLING LOG

109

PROJECT: RVAAP: LLI/PHASE II R.I. INSPECTOR: M. J. ROBT HOLE NUMBER: LLI-035
 SHEET: 2 OF 2

ELEV (A)	DEPTH (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	(SP-SM) POORLY GRADED FINE SAND W/ SILT AND MEDIUM SUB-ANGULAR GRAVEL DAMP - YELLOWISH BROWN (UYR 5/4)	PI0: 0 ppm	NA	LL10764	REFUSAL @ 0.3'
	2.0	End of Boring				
						N 563826.729 E 2376150.782

DAMP 10/04/00

A-144

DRILLING LOG

25

PROJECT: RVAAP: LLI / PHASE II R.I. INSPECTOR: M. ROOT

HOLE NUMBER: LLI-037
SHEET: 2 OF 2

DEPTH (A)	DEPTH (FE)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	(SP-SM) PECKLY GRADED SAND W/SILT - DAMP - DARK YELLOWISH BROWN (10YR 4/6)	ND = 0 ppm	NA	LLI-037	RESIDUAL @ 0.2'
	2.0	End of Boring				
						N 5639026258 E 2376109.788 33° 2230'
						10/04/08

A-145

PROJECT: RVAAP: LLI / PHASE II R.I.

HOLE NO: LLI-037

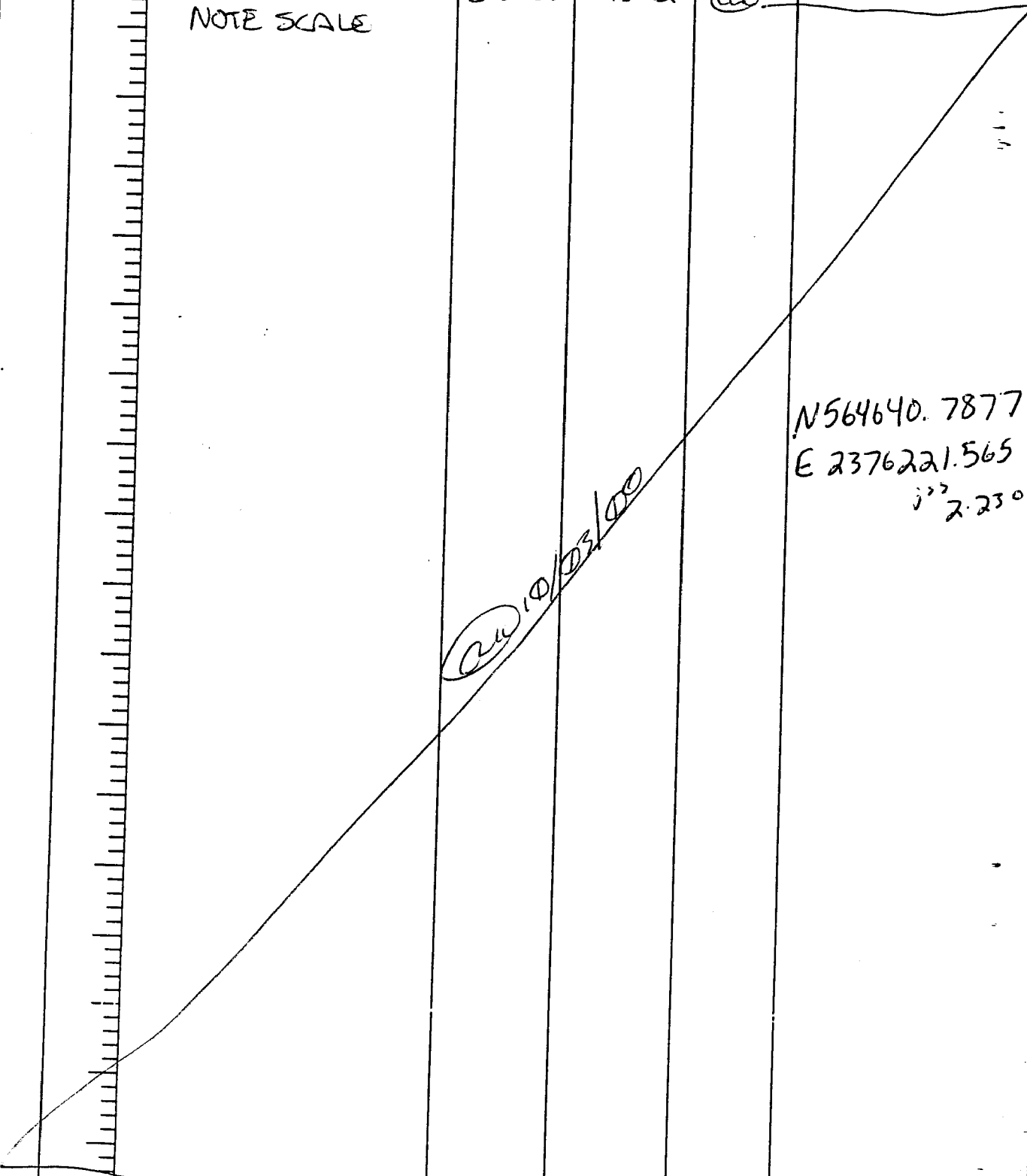
DRILLING LOG

HOLE NUMBER
LL1-038

PROJECT **RVAAP Phase II RI**

INSPECTOR **P. YESCONIS**

SHEET **2 of 2**

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEO TECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	0.0' - 0.7'	0.0'-0.7' to 11/3/77 Sandy silty loam, little fine gravel, 10YR 4/3, Dry (moist at bottom), loose	GM	N/A	LL1-038	Collect LL10735 @ 0837 PID @ ppm TO 9/20/66
		Refusal @ 0.7' NOTE SCALE	END OF	CORING	(CL)	 <p style="text-align: right; font-size: 1.2em;">N564640.7877 E 2376221.565 i²² 2.2301</p>

A-146

PROJECT

RVAAP Phase II RI

HOLE NO

LL1-038

DRILLING LOG

PROJECT: **RVAAP: LL1/PHASE II R.1.** INSPECTOR: **A. J. ROOT** HOLE NUMBER: **LL1-039**
 SHEET: **2 OF 2**

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		(6W-6M) WELL GRADED GRAVEL W/ SILT AND FINE GRADED SAND = DAMP - VERY DARK GRAYISH BROWN (2.5Y 3/2)	PIID=	NA	LL0975	REFUSAL @ 0.6'
<div style="font-size: 2em; font-weight: bold;">End of Boring</div>						
<div style="font-size: 1.5em;">N563704</div> <div style="font-size: 1.5em;">E 2377028</div>						

A-147

DRILLING LOG

PROJECT: **RVAAP: LLI/PHASE II R.1.** INSPECTOR: **M. J. FOOT** HOLE NUMBER: **LI-068** SHEET: **2 OF 2**

40

ELEV (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	(6P-6M) DIRTLY BLENDED GRAVEL W/ SILT AND ORGANIC MATTER VERY DARK GRAYISH BROWN (10 YR 3/2)	FID = 0ppm		LL10748 METALS EXPLOSIVES PROPAGANTS	
	2.0	0.2-1.0' (EH) FAT CLAY W/ FINE SAND AND MUDS MUDS: GRAYISH BROWN (10YR 5/2) MUDS: YELLOWISH BROWN (10YR 7/6)		M.C.	LL10749 METALS EXPLOSIVES PROPAGANTS @ 1500	09/29/00
	3.0					TD @ 3' 09/29/00
	3.0	END OF BURNING (END)				
	4.0					
						N 564466.7534 E 2375873.306 JUL 23 2001
						END

END 10/03/00

A-148

DRILLING LOG

PROJECT

RVAAP: LCI/PHASE II R.I.

INSPECTOR

M. J. ROOT

SHEET NUMBER

LL1-036

SHEET

B OF 2

36

ELEV (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	SP-SM SAND WITH SILT AND GRAVEL, POORLY GRADED FINE SAND, DRY LIGHT OLIVE BROWN (2.54 5/3)	PID=0 PPM		LL10732 METALS EXPLOSIVES PERILLUANS -MOISTURE @0945	
		END OF BORING (CLL)				NO REFUSAL
	2.0					
		<p>N565279.0639 E 2375957.293 S^s 2-23-01</p>				
		A-149				

PROJECT

RVAAP: LCI/PHASE II R.I.

HOLE NO

LL1-036

DRILLING LOG

40

PROJECT: **RVAAP: LLI/PHASE II R.I.** INSPECTOR: **A. J. ROOPE** HOLE NUMBER: **LLI-037**
 SHEET: **2 OF 2**

ELEV (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEO TECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	(CL) GRAVEL LEAN CLAY WITH SAND, MOIST OLIVE BROWN (2.54 4/3)	PIV = 0 PPM		LL10723 -MSTALS -EXPLORERS -PROPULSIONS @ 1050	
	2.0	(GP-6M) WELL GRADED GRAVEL W/ SILT AND SAND - OLIVE BROWN (2.54 4/3)	PIV = 0 PPM	MOISTURE CONTENT	LL11216	REFUSAL = 2.5' 09/25/00
	3.0	REFUSAL @ 2.5' (CL)				
						N 565313.6485 E 2375847.46 1" 233-01
						(CL) 10/03/00
						A-150

PROJECT: **RVAAP: LLI/PHASE II R.I.** HOLE NO: **LLI-037**

DRILLING LOG

LOG NUMBER
LLI-088

41

PROJECT RUAAP: LLI/PHASE II R.I. INSPECTOR M. ROOT

SHEET 20 OF 7

ELEV (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	(SW-SM) SAND WITH SILT AND GRAVEL. WELL GRADED SAND. FINE SUB ROUNDED GRAVEL DAMP. OLIVE BROWN (2.54 4/4)	PID=0 PPM		LL10724 METALS EXPLOSIVES PROPPELLANTS	
	2.0	END OF BORING (LL10)			DUP: LL11117 METALS EXPLOSIVES PROPPELLANTS	NO REFUSE
					SPLIT: LL11107 METALS EXPLOSIVES PROPPELLANTS	
<p>(LL10) 10/03/00</p> <p>N 565319.37 E 2375818.392 J 223.00</p>						

A-151

PROJECT RUAAP: LLI/PHASE II R.I.

HOLE NO LLI-088

DRILLING LOG

PROJECT

RVAAP: LLI/PHASE II R.I.

INSPECTOR

M. J. ROET

HOLE NUMBER

LLI-059

SHEET

2 of 2

42

DEPTH (ft)

(ft)

DESCRIPTION OF MATERIALS (C)

FIELD SCREENING RESULTS (D)

GEOTECH SAMPLE OR CORE BOX NO (E)

ANALYTICAL SAMPLE NO (F)

REMARKS (G)

(CL) LEAN CLAY WITH
COARSE SAND, DAMP
OLIVE BROWN (2.5: 4/4)

PID: DAM

LL10726
METALS
EXPLOSIVES
PROPAGATION

1.0

END OF BORING (CL)

NO REFUSAL

2.0

(CL) 19/03/00

N 565306.2629
E 2375796.068
JSS 2.23' 00"

A-152

PROJECT

RVAAP: LLI/PHASE II R.I.

HOLE NO

LLI-059

DRILLING LOG

PROJECT

RVAAP: LLI/PHASE II R. 1.

INSPECTOR

M. J. ROOT

HOLE NUMBER

LLI-090

SHEET

2 OF 2

46

ELEV (A)	DEPTH (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	(CH) FAT CLAY WITH SILT, DRY OLIVE BROWN (2.54 4/4)	PID = 0PPM	NA	LL10727 METALS EXPLOSIVES PROPELLANTS	
	2.0	END OF BORING (CUR)				NO REFUSAL
<p><i>(LLI) 18/03/00</i></p> <p>N565285 E 2375768 3' 2.23.01</p>						
A-153						

PROJECT

RVAAP: LLI/PHASE II R. 1.

HOLE NO

LLI-090

DRILLING LOG

PROJECT

RVAAP; LLI/PHASE II R.1.

INSPECTOR

M. ROOFT

HOLE NUMBER

LLI-091

SHEET

2 OF 2

41

DEPTH (A)	DEPTH (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	(6W) WELL GRADED GRAVEL WITH SAND; SUB-ANGULAR GRAVEL, DAMP DARK OLIVE BROWN (2.5Y 3/3)	PID: 0 PPM	MOISTURE CONTENT	LL10725 METALS PCB'S VOC'S SVOC'S 3 HALOGENS PROPANES MOISTURE CONTENT	NO REFUSAL
	2.0	END OF BORING (CW)				
<p style="font-size: 2em; transform: rotate(-45deg);">CW 10/03/00</p>						<p>N 565266.4984 E 2375793.625 335 2.220'</p>

A-154

PROJECT

RVAAP; LLI/PHASE II R.1.

HOLE NO

LLI-091

DRILLING LOG

48

PROJECT

RVAAP: LLI/PHASE II R. I.

INSPECTOR

M. J. ROOT

HOLE NUMBER

LLI-092

SHEET

2 OF 2

ELEV (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
		0 - 0.3 FT (GW) WELL GRADED SUB ANULAR GRAVEL W/ COARSE SAND, DAMP - VERY DARK BROWN (7.5 YR 3/3)	PID: 0 PPM		LLI0730 - METALS - EXPLOSIVES - ROPELLANTS	
1.0		0.3 - 0.6 FT (CL) SANDY LEAN CLAY W/ GRAVEL WITH MUDS, DAMP - OLIVE BROWN (2.5 Y 4/4) W/ GREENISH GRAY GLS (10Y5/1) MUDS				END OF BORING (CL) REFUSAL = 0.6'
2.0						N 565232.3513 E 2375812.467 J 2-23-01
						10/03/00 (CL)

A-155

PROJECT

RVAAP: LLI/PHASE II R. I.

HOLE NO

LLI-092

DRILLING LOG

PROJECT: **RVAAP: LLI/PHASE II R.1.** INSPECTOR: **M. ROOT** HOLE NUMBER: **LLI-093**

DEPTH (FEET) DESCRIPTION OF MATERIALS (C) FIELD SCREENING RESULTS (D) GEOTECH SAMPLE OR CORE BOX NO (E) ANALYTICAL SAMPLE NO (F) REMARKS (G) SHEET: **2 OF 2**

49

0.0 - 0.9' (SD-SM) **PORELY**
GRAVEL FINE SAND
WISHT AND GRAVEL, DRY
DARK YELLOWISH BROWN
(DYR 4/4)

1.0 - 1.0' (CL) **LEAN CLAY**
DARK YELLOWISH BROWN
(DYR 4/4)

PO = 0 PPM

LL10731
 METALS →
 EXPLOSIVES
 PROPRIETARY

END OF BORING

NO REFUSAL

2.0

CLL 10/03/00

N 565200.7119
 E 2375839.292
 ISS 2-23-01

A-156

PROJECT: **RVAAP: LLI/PHASE II R.1.**

HOLE NO: **LLI-093**

DRILLING LOG

PROJECT

RVAAP: LLI / PHASE II R. 1.

INSPECTOR

M. J. ROOT

HOLE NUMBER
LLI-095

SHEET
2 OF 2

54

ELEV (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	(MH) ELASTIC SILT WITH FINER SAND, DRY LIGHT OLIVE BROWN (2.54 5/4)	PIE = 0 PPM		LL10734 - METALS - EXPLOSIVES - PROPELLANTS - MOISTURE - CONTAM	NO REFUSAL
	1.0	END OF BORING @				
	2.0					
						N 565244 E 2375902 57° 23' 00"
						(LLI) 10/03/00
						A-158

PROJECT

RVAAP: LLI / PHASE II R. 1.

HOLE NO

LLI-095

DRILLING LOG

HOLE NUMBER: **LLI-096**

32

PROJECT: **RVAAP: LLI / PHASE II R.I.**

INSPECTOR: **PAUL R. YESCONIS**

SHEET: **2 of 2**

ELEV (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	MH SUCT WITH CLAY, MOIST, YELLOWISH-BROWN (10YR 5/6) MATRIX WITH LT. OLIVISH GRAY (5PB 7/1) AND YELLOWISH BROWN (10YR 5/8) MOTTLES	PID = 0 ppm		LLI0737 METALS EXPLOSIVES PERFUMANCES @1220	BZ = 0 ppm TD @ 1.0' 09/26/00
		END OF BORING				
	2.0					
	3.0					
						N 564660.6714 E 2376215.193 S 2.23°
						(Circled) 09/30/00

A-159

PROJECT

RVAAP: LLI / PHASE II R.I.

HOLE NO

LLI-096

DRILLING LOG

33

PROJECT: **RVAAP: LLI / PHASE II R.I.** INSPECTOR: **PAUL R. YESKUNIS** HOLE NUMBER: **LLI-097** SHEET: **2 of 2**

DEPTH (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	MH Silt with clay, dry, LT. YELLOWISH BROWN (10426/4)	PID = OFF		LL10738 METALS EXPLOSIVES PROPPELLANTS C1250	BZ = 0 ppm TD @ 1.0' 09/26/00
	2.0	END OF BORING				
	3.0	<div style="position: absolute; top: 50px; right: 50px; text-align: right;"> N 564 711.6063 E 2376187.829 1'' 2.23.01 </div>				

DRILLING LOG

HOLE NUMBER **LLI-099**

PROJECT **RVAAP: LLI / PHASE II R.I.**

INSPECTOR **PAUL R. YESON'S**

SHEET **2 of 2**

35

ELEV (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	MA SILT WITH CLAY, DRY, LT. YELLOWISH-BROWN (D _{42.6/4})	FI0 = 0 ppm		LLI0740 METALS EXPLOSIVES PROPAGANTS @1330	BZ = 0 ppm ASO COLLECTED W/FLUTE (LLI1118) AT SILT (LLI1168) TD = 1.0' @ 1/26/00
	2.0	SAME AS ABOVE, DUMP		M.C.	LLI1220 METALS EXPLOSIVES PROPAGANTS @1400	NO FI0 READING OUT OF CAL GAS
	3.0	SAME AS ABOVE, SOME MOTTLES				TD @ 3.0' @ 1/29/00
	4.0	END OF BORING				<p>N 564827.307 E 2376125.515 J²² 223.01</p> <p style="transform: rotate(-45deg); border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;">LLI 099 TO 100</p>

A-162

PROJECT

RVAAP: LLI / PHASE II R.I.

HOLE NO

LLI-099

DRILLING LOG

HOLE NUMBER
LL1-100

PROJECT
RVAAP-Phase II RI

INSPECTOR
P. YESIOWIS

SHEET
2 of 9

12

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	0.0'-1.0'	Sandy Silt, 10YR 2/2, Moist. loose	SM	N/A	LL-100	Collect LL10741 @ 0855 PID @ ppm TD - 7/26/00
1.0		END OF BORING	(CC)			
<div style="position: relative; height: 600px;"> <div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); opacity: 0.5;"> <p>CC 10/03/00</p> </div> <div style="position: absolute; bottom: 10%; right: 10%; text-align: right;"> <p>N 564847.537 E 2376092.236 j²⁵ 2.23.01</p> </div> </div>						
A-163						

PROJECT
RVAAP Phase II RI

HOLE NO
LL1-100

DRILLING LOG

HOLE NUMBER **LL1-101**
SHEET **2 of 2**

PROJECT **RVAAP Phase II RI**

INSPECTOR **P. YESCONIS**

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	0.0'-0.5'	Sandy silt and fine gravel, 10%R 4/4, Dry loose		N/A	LL1-101	Collected LL1 0743 @ 0950 hrs PID 0 ppm TD 9/20/00
0.5'		Retest @ 0.5'				
		NOTE SCALE	END OF LOGGING	(CIV)		See page 3 map for location
(CIV) 10/03/00						
						N564835.6497 E 2376060.874 i ^s 223.01
A-164						

PROJECT **RVAAP Phase II RI**

HOLE NO **LL1-101**

DRILLING LOG

PROJECT

RVAAP Phase II RI

INSPECTOR

D. Vescovis

HOLE NUMBER

~~LL1-102~~ LL1-102

SHEET

2 of 2

DEPTH (A)

DEPTH (B)

DESCRIPTION OF MATERIALS (C)

FIELD SCREENING RESULTS (D)

GEOTECH SAMPLE OR CORE BOX NO (E)

ANALYTICAL SAMPLE NO (F)

REMARKS (G)

0.5'

0.0' - 0.5' (0.1R 5/4)
Silty Sand trace gravel, Moist,
loose

SM

N/A

LL1-102

Collect LL10744 @ 1455
PID

TD 9/19/00

NOTE SCALE, END OF BORING

CLW

N564777.4533
E 2376085.797
ISS
122301

CLW 10/03/00

A-165

PROJECT

RVAAP Phase II RI

HOLE NO

LL1-102

LL10795 77 LL1-103

DRILLING LOG

HOLE NUMBER
LL1-103

PROJECT RVAAP Phase II RI

DIRECTOR P. YESCONIS

SHEET 2 OF 2

DEPTH (ft)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
0.0'-1.0'	Silty Sand trace Gravel, 10YR 5/4, loose, dry, (mottled last 0.1'-brown with yellow)	SM	N/A	LL1-103	Collect LL10747 (5) + 1405, PID @ ppm yjb 2/11/00
1.0'	ENC OF BORING	CLM			TD 9/19/00
<p>CLM 10/03/00</p> <p>N564703.9089 E 2376126.317 2.23'01</p>					

A-166

PROJECT RVAAP - Phase II RI

HOLE NO LL1-103

LL1077101

DRILLING LOG

HOLE NUMBER

LL1-104 LL1-104

PROJECT RVAAP Phase II RI

INSPECTOR D. VESCONIS

SHEET 2 of 2

5

DEPTH (ft)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOLOGIC SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLING (f)	REMARKS (g)
0.0-1.0	10YR 5/4 Silty Sand trace gravel, Moist, loose,	SM	N/A	LL1-104	LL10747 @ 1440
1.0	END OF BORING				TD 9/19/00 N 564630.1793 E 2376165.739 i' 2270'

A-167

PROJECT RVAAP Phase II RI

HOLE NO LL1-104

DRILLING LOG

HOLE NUMBER **LLI-105**

63

PROJECT **RVAAP** INSPECTOR **M. ROBIT** SHEET **2022**

ELEV (A)	DEPTH (ft) (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	SP-SM POORLY GRADED SAND W/ SILT AND GRAVEL - OLIVE BROWN (2.5% 4/4)	PID: 00PM END OF BORING <u>CLW</u>		LL 0750 - METALS - EXPLOSIVES - PROPERTIES	
	2.0					
						N564339.0652 E 2375794.167
			<u>CLW</u> 10/03/00			

A-168

PROJECT

RVAAP: LLI / PHASE II R.1.

HOLE NO

LLI-105

DRILLING LOG

68

PROJECT: **RVAAP: LLI / PHASE II R. I.** INSPECTOR: **M. ROOT** HOLE NUMBER: **LLI-107**
 SHEET: **2 OF 2**

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
		0.0-0.2' (ML) SILT w/ SAND AND ORGANIC MUDS - BLACK (7.5 YR 2.5/1)	P10-0248PM	NA	LL10752	
		0.2'-1.0' (CH) FAT CLAY WITH FINE SAND AND MUDS, MUDS, GRAYISH BROWN (10 YR 5/3)			- METALS - EXPLOSIVES - ROPE WANTS	
1.0		MUDS; DARK YELLOWISH BROWN (10 YR 4/6)				No REFUSAL
2.0						
						END OF BORING (CL)
						N 564417.2486 E 2375844.029 533 223.0'
			(CL) 10/03/00			
			A-170			

DRILLING LOG

PROJECT: **RVAAD: LLI/PHASE II R.1.** INSPECTOR: **M. J. ROOT** HOLE NUMBER: **LLI-108**
 SHEET: **2 OF 2**

69

DEPTH (ft)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOCHEM SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
0.0	0.0-0.2' (ML) SILT w/ SAND AND ORGANICS; MOIST - BLACK (7.9 YR 2.5/1)	PID: DPFM	AA 66A	LL10753 LL11120 LL11170	NO REFUSAL
1.0	0.2-1.0' (CH) FAT CLAY w/ FINE SAND AND MUDS; MOIST - GRAYISH BROWN (10YR 4/3) MUDS: DARK YELLOWISH BROWN (10YR 4/6)	END OF BORING <u>CLAY</u>		- METALS - CHLORIDES - VOC'S - PCB'S - PESTICIDES - PROPAGANDS - EXPLOSIVES - MOISTURE CONTENT	
2.0					<p style="text-align: right; font-size: 1.2em;">N564456.7032 E 2375851.479 ISS 22301</p>
<div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); opacity: 0.5;"> <p style="font-size: 1.5em;">10/10/23/2000</p> <p style="font-size: 1.5em; border: 1px solid black; border-radius: 50%; padding: 5px;">CLAY</p> </div>					
A-171					

DRILLING LOG

74

PROJECT: **RVAAP: LL1 / PHASE II R.I.** INSPECTOR: **M. ROY** HOLE NUMBER: **LL1-109**
 SHEET: **2 OF 2**

ELEV (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
		(OL-OH) ORGANIC SOIL W/SAND, SATURATED BLACK (10YR 2/1)	PIID: 0ppm	NA	LL10735	
1.0		(OL-OH) ORGANIC SOIL W/SAND, SATURATED - BLACK (10YR 2/1)	PIID:	MOISTURE CONTENT	LL11735	NO REFUSAL 09/28/00 REFUSAL @ 1.5'
2.0		END OF BORING @				
						N 564414.0156 E 2375857.346 223°
						(CW) 10/3/00
			A-172			

DRILLING LOG

45

PROJECT: RVAAP-LLI/PHASE II R.1. INSPECTOR: M. ROET HOLE NUMBER: LLI-110
 SHEET: 7 OF 2

ELEV (A)	DEPTH (B) (ft)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
		0.0'-0.5' (SP) POZZI: GRADED SAND w/FINE MEDIUM GRAVEL, DAMP - DARK BROWN (10YR 7/3)	PID = 0ppm	NA	LL10756	
1.0		0.5'-1.0' (CH) FAT CLAY WITH COARSE SAND, DAMP - BROWN (10YR 5/3)	Ppm =	MOISTURE CONTENT	LL1234	NO REFUSAL 09/23/02
2.0		(CH) FAT CLAY w/COARSE SAND, DAMP - BROWN (10YR 5/3)				REFUSAL @ 2.0' TD
		END OF BORING (CLW)				
						N 564491.9733 E 2375913.262 1" = 23'01"

CLW 10/03/00

A-173

DRILLING LOG

74

PROJECT: **RVAAP: LLI/PHASE II R.1.** INSPECTOR: **MS ROOT** HOLE NUMBER: **LLI-111**
 SHEET: **2 OF 2**

ELEV (A)	DEPTH (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
		(SW) WELL GRADED FINE SAND W/ FINE SUB-ROUNDED GRAVEL	PIB = 0 PPM		LL10757	REFUSED @ 0.9'
		VERY DARK BROWN (7.5 YR 2.5/3)	END OF BORING		(CW)	
1.0 2.0						<p>N 564529.4756 E 2375895.362 JJJ 22300</p>
			(CW) 10/03/00			
			A-174			

DRILLING LOG

81

PROJECT: RVAAP: LLI/PHASE II R.I. INSPECTOR: M. J. ROOT HOLE NUMBER: LLI-113
 SHEET: 2 OF 2

ELEV (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	<div style="border: 1px solid black; padding: 5px; transform: rotate(-15deg); display: inline-block;"> (LP) POORLY GRADED SUBANGULAR GRAVEL WITH SAND, DAMP - VERY DARK BROWN (7.5YR 2.5/2) </div>	P10 = 0 p/m	NA	LL10759	REFUSAL @ 0.2'
	2.0		<div style="border: 1px solid black; padding: 5px; transform: rotate(-15deg); display: inline-block;"> END OF BORING (CC) </div>			
						N 564776.2154 E 2375759.993 JSS 2-23-01
						(CC) 10/03/00
						A-176

PROJECT: RVAAP: LLI/PHASE II R.I.

HOLE NO: LLI-113

DRILLING LOG

82

PROJECT: RUAAP: LLI/PHASE II R.1. INSPECTOR: M > ROET HOLE NUMBER: LLI-114
 SHEET: 2 OF 2

ELEV (A)	DEPTH (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
		(LH) FINE SAND: FAT CLAY WITH FINE ROUND GRAVEL BROWN (10YR 4/3)	PI: 0.08	NA	LL10760	REFUSAL @ 0.4'
1.0						END OF BORING (CU)
2.0						
						N 564913.6092 E 2375727.35 223°
						(CU) 10/03/00
						A-177

PROJECT: RUAAP: LLI/PHASE II R.1.

HOLE NO: LLI-114

DRILLING LOG

83

PROJECT: **RVAAP: LLI/PHASE II R. I.** INSPECTOR: **M. ROOT** HOLE NUMBER: **LLI-115** SHEET: **2 OF 2**

ELEV. (A)	DEPTH (B) (Ft)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	(SP-SM) POORLY GRADED FINE SAND W/SILT DAMP - DARK YELLOWISH BROWN (10%R 4/4)	PI: 0ppm	NA	LL10761	NO REFUSAL
	2.0	END OF BORING (CW)				
<div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); opacity: 0.5;"> <p>CLW 10/03/00</p> </div> <div style="position: absolute; bottom: 10%; right: 10%; text-align: right;"> <p>N 564822.8563 E 2375629.25 3' 23"</p> </div>						

A-178

PROJECT: **RVAAP: LLI/PHASE II R. I.**

HOLE NO: **LLI-115**

DRILLING LOG

PROJECT: **RVAAP. LLI / PHASE II R.I.** INSPECTOR: **M. ROOT** HOLE NUMBER: **LLI-118**

ELEV (A) DEPTH (FT) DESCRIPTION OF MATERIALS (C) FIELD SCREENING RESULTS (D) GEOTECH SAMPLE OR CORE BOX NO (E) ANALYTICAL SAMPLE NO (F) REMARKS (G)

1.0
2.0

(SP-SM) POORLY GRADED
FINE SAND w/ SILT
AND GRAVEL, DAMP
- VERY DARK GRAYISH
BROWN (2.5Y 3/2)

PID: 0.1m

MOISTURE
CONTENT

LL10764

REFUSED @ 0.3'

ENC OF BORING @

LL10764 10/03/00

(subsurface LLI-118 =
LLI-420)
~~N 564736.411~~
~~E 2375604.717~~
j's
2' 23.01

N 564912
E 2375534
SEA 3/20/01

A-180

PROJECT: **RVAAP. LLI / PHASE II R.I.**

HOLE NO: **LLI-118**

809

DRILLING LOG

PROJECT: **RVAAP : LLI / PHASE II R.I.** INSPECTOR: **M. J. ROOT** HOLE NUMBER: **LLI-119**
 SHEET: **2 OF 2**

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
SEA 9197	1.0	(CP. 6M) POORLY GRADED SUB-ANGULAR GRAVEL W/ SILT AND SAND, MOIST	RID: 0 PAP	NA	LL10765	RESIDUAL @ 0.1'
	1.0	VERY DARK GRAYISH BROWN (2.5Y 3/2)				END OF BORING (Circled)
	2.0					
<div style="position: absolute; top: 10%; left: 10%; transform: rotate(-45deg); font-size: 2em;"> (Circled) 19/03/00 </div>						
(Subsurface LLI-119 = LLI-421) N 564711.4916 E 2375696.908 JUNE 2-23-01 N 564886 E 2375489 SEA 3120101						
			A-181			

90

DRILLING LOG

4

PROJECT: **RVAAP: ULI/PHASE II R.1** HOLE NUMBER: **221-130**
 SURVEYOR: **MJ ROU** SHEET: **2 OF 2**

DEPTH (A)	DEPTH (FE)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
		(SP-5M) POORLY GRADED FINE SAND w/ SILT AND SUB-ANGULAR GRAVEL, DAMP DARK YELLOWISH BROWN (109R 4/4)	PRO: 0.00m	MOISTURE CONTENT	410773	REFUSAL @ 0.3'
	1.00		End of	of	Boring	
	2.00		<div style="position: relative; height: 100px;"> Aug 16/04/08 </div>			
						N 563697.5226 E 2376222.285 j' 227'01

A-182

PROJECT: **RVAAP: ULI/PHASE II R.1** HOLE NO: **221-130**

DRILLING LOG

5

PROJECT: RVAAP: LLI / PHASE II R.I. INSPECTOR: M. ROET HOLE NUMBER: 211-121
 SHEET: 2 OF 2

DEPTH (A)	DEPTH (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOCHEM SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	(SP-5M) POORLY GRADED FINE SAND w/ SILT AND SUBANGULAR GRAVEL, DAMP - DARK YELLOWISH BROWN (LODR 3/4)	PID: 0FFM	MOTURE CONTENT	LL1104	REFUSAL @ 0.9'
	1.5	End OF Boring				
	2.0					
						N563683.321 E 2376218.147 32.2301

A-183

PROJECT: RVAAP: LLI / PHASE II R.I. HOLE NO: 211-121

DRILLING LOG

PROJECT

RVAAP: LL1/PHASE II R.1.

INSPECTOR

M. J. ROBT

HOLE NUMBER

LL1-122

SHEET

2 OF 2

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEO TECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)	
	1.0	(6P-6C) Poorly graded GRAVEL w/ CLAY AND SAND, DAMP - DARK BROWN (UFR 3/3)	PID#	NA	LL10774		
	1.0	END OF Boring					NO REFUSAL
	2.0						
						N563670.5791 E 2376193.062	

A-184

PROJECT

RVAAP: LL1/PHASE II R.1.

HOLE NO

LL1-122

DRILLING LOG

PROJECT

RVAAP: LLI / PHASE II A INSPECTOR M. L. JOT

HOLE NUMBER 241-123

SHEET 2 OF 2

7

DEPTH (A)	DEPTH (B) (Fe)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		(0.5-5M) POORLY GRADED FIN. SAND w/ SILT AND GRAVEL, DAMP - BROWN (10% 4/3)	PI0=	NA	LL10775	
1.0		END OF BORING				
2.0		<div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); opacity: 0.5;"> <p>Jan 10/04/08</p> </div>				
		<p>N 563663.6661 E 2376177.991</p>				

A-185

PROJECT

RVAAP: LLI / PHASE II R. I.

HOLE NO

241-123

DRILLING LOG

12

PROJECT: RVAAP INSPECTOR: M. J. ROOT HOLE NUMBER: 441-125 SHEET: 2 OF 2

ELEV (A)	DEPTH (B) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOCHEM SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0	(MH) ELASTIC SILT W/ ORG. MATTER DRY 0.0-0.5 VERY DARK OLIVE BROWN (25Y 3/2) 0.5-10' LIGHT OLIVE BROWN (2.5Y 5/6)	PID = 0 ppm	NA	LL10777 LL11120 LL11172	No. REFUSAL
	2.0	End of Boring				
						N 563756.7854 E 2376276.119
						<i>[Signature]</i> 10/24/00
						A-187

DRILLING LOG

HOLE NUMBER
LL1-126
SHEET
2 OF 2

13

PROJECT **RVAAP: LL1/PHASE I R.1.**

INSPECTOR

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	(1.0)	(6P) WELL GRADED SUB-ANGULAR GRAVEL W/SAND, DAMP - CLIVE BROWN (2.5Y 4/3)	YID = 0ppm	NA	LL1079	NO REFUSAL
<div style="position: relative; height: 400px;"> <div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); opacity: 0.5;"> <p>10/09/00</p> </div> <div style="position: absolute; bottom: 10%; right: 10%;"> <p>N563744.6294 E 2376198.893</p> </div> </div>						
A-188						

PROJECT

RVAAP: LL1/PHASE II R.1.

HOLE NO

LL1-126

DRILLING LOG

18

PROJECT		INVESTIGATOR		HOLE NUMBER		
RVAAP:LLI/PHASE II R.1		M. J. ROOT		LLI-127		
DEPTH (A)	DEPTH (FE)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	(SP-SM) POORLY GRADED FINE W/SILT DAMP - DARK YELLOWISH BROWN (10YR 3/4)	PID-01PM	NA	LI0750	REFUSAL @ 0.3'
	2.0	END OF BORING				
<p>NS63767.8322 E2376181.803</p> <p>Jan 10/04/00</p>						

A-189

PROJECT RVAAP:LLI/PHASE II R.1

HOLE NO LLI-127

DRILLING LOG

HOLE NUMBER
 441-128
 SHEET
 2 OF 2

20

PROJECT

RVAAP: LLI/PHASSETIA INSPECTOR M. J. ROOT

ELEV (A)

DEPTH (B) (ft)

DESCRIPTION OF MATERIALS (C)

FIELD SCREENING RESULTS (D)

GEOTECH SAMPLE OR CORE BOX NO (E)

ANALYTICAL SAMPLE NO (F)

REMARKS (G)

1.0
 2.0

(SP-SM) POORLY GRADED FINE SAND W/SILT AND FINE GRAVEL - DAMP - VERY DARK BROWN (OYR #2)

PID - 0ppm

NA

LLI 0.791

REFUSAL @ 0.3'

End of Boring

N 563844.4669
 E 2376140.686

~~14/04/00~~

A-190

PROJECT

RVAAP: LLI/PHASSET R. I.

HOLE NO

441-128

DRILLING LOG

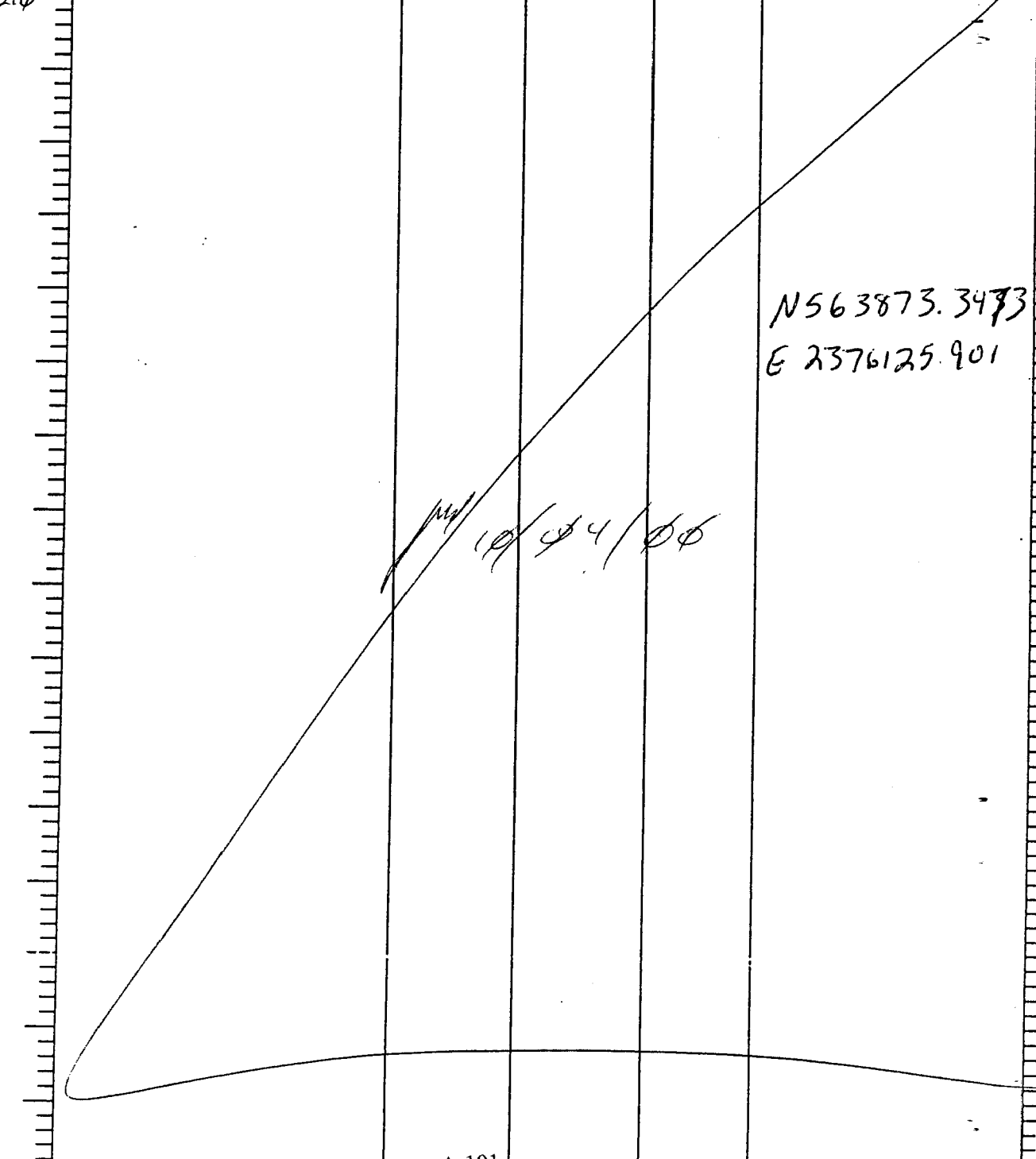
21

PROJECT: **KVAAP LLI/PHASE II R.1.** INSPECTOR: **MJ ROOT** HOLE NUMBER: **LLI-129** SHEET: **2 OF 2**

DEPTH (A) (ft) DESCRIPTION OF MATERIALS (C) FIELD SCREENING RESULTS (D) GEOTECH SAMPLE OR CORE BOX NO. (E) ANALYTICAL SAMPLE NO. (F) REMARKS (G)

1.0 (SP-SM) POORLY GRADED FINE SAND w/SILT AND FINE GRAVEL - DAMP - BLACK (7.5% R 2.5%)
PID: ϕ PPH NA
LL10752
LL1016
LL1116

2.0 End of Boring



N 563873.3473
E 2376125.901

A-191

DRILLING LOG

24

PROJECT

RVAAP: C11/PHASE R.1.

INSPECTOR

MJ ROOT

HOLE NUMBER

C11-130

SHEET

2 OF 2

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	(SP-SM) POORLY GRADDED FINE SAND W/SILT AND ANGULAR GRAVEL - DAMP - VERY DARK GRAYISH BROWN (25Y 7/2)	PID = 0.98	NA	LL10783 LL11171 LL11121	REFUSAL @ 0.2
	2.0	END OF BORING				
						N563944.9003 E 2376087.818
						10/04/00
						A-192

PROJECT

RVAAP: C11/PHASE II R.1.

HOLE NO

C11-130

DRILLING LOG

HOLE NUMBER
241-131
SHEET
2 OF 2

27

PROJECT RVAAP INSPECTOR M. J. ROOT

ELEV (A)	DEPTH (ft) (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1.0	(SP-5M) POORLY GRADED FINE SAND w/ SILT AND LARGE SUB-ROUND GRAVEL, DAMP DARK YELLOWISH BROWN (H ₂ O 4%)	PI 0 = 01mm	NA	2416754	REFUSAL @ 0.2'
	2.0	End of Boring				
						N 563974.4983 E 2376060.367
						10/04/00

A-193

PROJECT RVAAP: ULI PHASE II R. 1.

HOLE NO 241-131

DRILLING LOG

HOLE NUMBER
 201-132
 SHEET
 2 OF 2

28

PROJECT
 RVAAP

INSPECTOR

ELEV (A)	DEPTH (FE)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	0.0 - 0.2 (sf. sm) BESTLY GRADED VERY FINE SAND W/SILT AND ORGANIC MATTER, DARK - BLACK (10YR 2/1)	PID: 0 gpm	NA	LL10755	
	2.0	0.2 - 1.0 (CL) LEAN CLAY (DRY) - DARK YELLOWISH BROWN (10YR 4/4)				NO REFUSAL
End of Boring						

N563989.0796
 E 2376059.818

10/04/04

A-194

PROJECT
 RVAAP: LL1/PHASE II R. 1

HOLE NO
 201-132

DRILLING LOG

33

PROJECT: **RVAAP LLI / PHASE II R. 1.** INSPECTOR: **M. R. COY** HOLE NUMBER: **LLI-134**
 SHEET: **2 OF 2**

ELEV. (A)	DEPTH (FE)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1.0	(SP-SM) POORLY GRADED FINE SAND & SILT AND SUB-ANGULAR GRAVEL (PMP) - DARK YELLOWISH BROWN (10% 3/4)	P10: Oppm	N/A	LL10757	REFUSAL @ 0.6'
	2.0	End of Boring				
						N 563963.8884 E 2376011.79
						JUN 10/08/08

A-196

DRILLING LOG

27

PROJECT: **RVAAP: LI / Phase II R.I** INSPECTOR: **PAUL R. YESCOMIS** HOLE NUMBER: **LI-135**
 SHEET: **2 of 2**

DEPTH (A) (FT)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
1.0	ML SILT WITH SAND, TRACE GRAVEL, WET, DL. BLuish GRAY (SPB 4/1) MATRIX WITH LT. OLIVE BROWN (2.5Y 5/6) MOTTLES			LI0790 NO. 5/10 FCB, CN, MERGUS EXPLOSIVES PICTURE LOGS @ 09/15	NO PID READING. STAGNANT WATER. NO NE SO. TD @ 0.6 @ 09/26/00
2.0	END OF BORING @ REFUSAL 0.6'				
3.0	<div style="position: relative; height: 100px;"> (CW) 09/30/00 </div>				
					N 563540.5255 E 2376946.967 J 2230

A-197

PROJECT

RVAAP: LI / Phase II R.I

HOLE NO

LI-135

DRILLING LOG

HOLE NUMBER
LL1-136

600

PROJECT

INSPECTOR

E. Martin

SHEET 1 of 1

DEPTH (ft)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
8	Silty clay w/ some gravel 10 yr 3/3 10 yr 6/8 in weathered gold sandstone	CL		LL1-0791	weathered rock at refusal @ 8 of 1 for mapping location see p 52
					N 563563 E 2376955 JSS 2-23-01

A-198

PROJECT

RVAAP Phase II R1

HOLE NO

LL1-136

DRILLING LOG

SS

PROJECT: **RVAAAP Phase II RI** INSPECTOR: **E Medina** HOLE NUMBER: **LL1 137**
 SHEET: **1 of 1**

ELEV (A)	DEPTH (B) ft / in	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	1	silty clay some gravel plastic w/mottling 10 yr 3/3	CL		LL1070	Sample time 6:30 refusal
						N 563598.1042 E 2376988.657

A-199

DRILLING LOG

PROJECT **RVAAP Phase II R1**

INSPECTOR **E. Martin**

HOLE NUMBER **41-38 138** 378-0170
 SHEET **L of 1**

DEPTH (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOLOGIC SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1	silty clay plastic some gravel 10 yr 3B	PID = 0.0ppm CL		440793	no refusal sample time 14:10
N56 3553.5812 E 2376995.164 jss 2-23-01						

A-200

PROJECT **RVAAP Phase II**

HOLE NO **41-138**

DRILLING LOG

PROJECT: **RVAAP Phase II RI** INSPECTOR: **E. Martin** HOLE NUMBER: **LL1-139**

SHEET: **7 of 9**

69

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO. (E)	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	4 1/2	silty clay large gravel plastic 10yr 313	PID = 0.0001 CU		LL0794	sample time 11:50 refusal @ .6 of 1ft
						N563546.8061 E 2377011.918

A-201

PROJECT: **RVAAP Phase II RI**

HOLE NO: **LL1-139**

DRILLING LOG

68

PROJECT RVAAP Phase II R1

INSPECTOR E. Martin

HOLE NUMBER
LL1-140
SHEET
6 of 1

ELEV (A)	DEPTH (ft)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	7	silty clay large gravel plastic 10yr 3/3	PID < 9ppm CL		LL10795	Sample time 11:10 re fosa / e. 7d fast
						N563563.1368 E 2377033.61 33' 2-23-01

A-202

PROJECT

RVAAP Phase II R1

HOLE NO

LL1-140

DRILLING LOG

53

PROJECT: **RVAAP Phase II RI** INSPECTOR: **E. Martin** HOLE NUMBER: **LL1-141**

SHEET: **1 of 1**

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	19	silty clay some gravel slightly plastic 10 yr 3/3	CL		LL1-0796	sample time 10:55am refusal @ .9 of 1'
						N563609.2232 E 2377008.985 jss 2-23-01

A-203

DRILLING LOG

54

PROJECT: RVAAP Phase II RI INSPECTOR: E. Martin HOLE NUMBER: 221 142
 SHEET: _____

DEPTH (A)	DEPTH (B) ft/in	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEO TECH SAMPLE OR CORE BOX NO (E)	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
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3

silty clay some gravel
 slightly plastic
 10 yr 3/3

CL

22107B

sample time
 11:25

refusal @ .8 of V

N 563604.2956
 E 2376999.578

A-204

PROJECT: RVAAP Phase II RI

HOLE NO: 221 142