

Book 7 of 18

Final Status Survey Final Report Phase VI

Appendix A6 Survey Unit Release Record 9522-0001, Southeast Site Grounds (Non-Protected Area)

February 2007



SAMPLE DATA SUMMARY

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report for

YANK001 Connecticut Yankee Atomic Power Co.

Client SDG: MSR#06-1549 GEL Work Order: 177540

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

ND The analyte concentration is not detected above the detection limit.

The above sample is reported on a dry weight basis except where prohibited by the analytical procedure.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.

Reviewed by

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Certificate of Analysis

							1					
	Company : Address :	Connecticut 362 Injun Ho		tomic Power								
	Contact:	East Hampto Mr. Jack Mc		ticut 06424				Rep	oort Date: Dece	ember 22, 2006		
	Project:	Soils PO# 00	•									
		Client Sam Sample ID Matrix: Collect Dat Receive Da Collector: Moisture:	te:		9522-0001-001F 177540001 TS 09-NOV-06 30-NOV-06 Client 29.3%			Proiect: YANK01204 Client ID: YANK001 Vol. Recv.:				
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date Time Batch		
Rad Gas Flo	w Proportio	nal Counting						·				
GFPC, Sr9 Strontium-	0, solid–ALL –90		-0.0168		0.0147	+/-0.0162	0.0314	pCi/g	KSDI I	12/21/06 1601 597316		
			0.0108	+/-0.0162	0.0147							
		hods were pe		+/-0.0162	0.0147	Analyst	Data	Time	Dwon Ratch	`		
Method	Descr	iption	erformed		0.0147	Analyst	Date	Time	Prep Batch	· · · · · · · · · · · · · · · · · · ·		
Method Dry Soil Prep	Descr p Dry Se	iption oil Prep GL–F	RAD-A-0	21	0.0147	Analyst JMB1	Date		Prep Batch 595082			
Method Dry Soil Prep The followin	Descr p Dry Se	iption oil Prep GL–F I Methods we	RAD-A-0	21						、 		
Method Dry Soil Prep The followin Method	Descr p Dry So ng Analytica Descri EPA 9	iption oil Prep GL–F I Methods we	RAD-A-0 re perforn	21						``````````````````````````````````````		
Method Dry Soil Prep The followin Method	Descr p Dry So ng Analytica Descri EPA 9	iption bil Prep GL—F I Methods we ption 05.0 Modified 05.0 Modified	RAD-A-0 re perforn	21	0.0147		12/12/0			۰, 		
Method Dry Soil Prep The followin Method	Descr p Dry Se ng Analytica Descri EPA 9 EPA 9	iption bil Prep GL–F I Methods we ption 05.0 Modified 05.0 Modified ery Test	RAD-A-0 ere perfore d	21	(JMBI	12/12/00	6 1340		۰ 		
Method Dry Soil Prep The followin Method 1 2	Descr p Dry So ng Analytica Descri EPA 9 EPA 9 Fracer recover 0	iption bil Prep GL–F I Methods we ption 05.0 Modified 05.0 Modified ery Test GFPC	AD-A-0 ere perform d d C, Sr90, so	21 med		JMB1 Recovery%	12/12/00 Accep	6 1340		۰, 		
Method Dry Soil Prep The followin Method I 2 Surrogate/T Strontium-90 Carrier/Trace Notes:	Descr p Dry So ng Analytica Descri EPA 9 EPA 9 Fracer recover 0 er Recovery	iption bil Prep GL–F I Methods we ption 05.0 Modified 05.0 Modified ery Test GFPC	AD-A-0 ere perforn d d C, Sr90, so C, Sr90, so	21 med lid–ALL FSS lid–ALL FSS		JMB1 Recovery% 72	12/12/00 Accep	6 1340 ptable Limits 5%–125%)		۰ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ ـ		

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

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Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch M
		Client Sample ID: Sample ID:	9522-0001-001F 177540001	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Project:	Soils PO# 002332		
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd	, ,	

UI Gamma Spectroscopy-Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun H		tomic Power						
	Contact: Project:	East Hampt Mr. Jack Me Soils PO# 0	cCarthy	cticut 06424				Rep	oort Date: Decem	ıber 22, 2006
	λ.	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	D: ate: Date:		9522-00 1775400 TS 09-NOV 30-NOV Client 28.3%	V-06	Cl		ANK01204 ANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Da	ate Time Batch Mt
	ow Proportio	-								
GFPC, Sr9 Strontium	90, solid–ALL –90		-0.0128	+/-0.0177	0.0162	+/-0.0177	0.036	pCi/g	KSD1 12/	/21/06 1601 597316 1
	ng Prep Met		erformed							
Method	Descr	iption				Analyst	Date	Time	Prep Batch	
Dry Soil Prep	p Dry S	oil Prep GL-	RAD-A-0	21		JMB1	12/12/06	1340	595082	
The followin Method	ng Analytica Descri		ere perfor	med						
1		005.0 Modifie								
2		05.0 Modifie								
3		905.0 Modifie								
Surrogate/]	Fracer recov	ery Test	t			Recovery%	Accep	table Limits		
Strontium-9	0	GFP	C, Sr90, sc	olid-ALL FSS		80	(25	5%-125%)		
Carrier/Trace	er Recovery	GFP	'C, Sr90, so	olid-ALL FSS		80	(25	5%-125%)		
Notes: The Qual	ifiers in this	report are c	defined as	follows :						
< Resi	uality contro ult is less tha ult is greater e TIC is a sus	an value rep than value	orted	-		eptance criteria	ì			

BD Results are either below the MDC or tracer recovery is low

- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mt
		Client Sample ID: Sample ID:	9522-0001-002F 177540002	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Contact: Project:	Mr. Jack McCarthy Soils PO# 002332		
	_	East Hampton, Connecticut 06424		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		tomic Power						
	Contact:	East Hampto Mr. Jack Mc		ticut 06424:				Rep	port Date: Decembe	er 22, 2006
	Project:	Soils PO# 00	02332							
		Client Sam Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:): ite:		9522–00 1775400 TS 09–NOV 30–NOV Client 32.4%	V-06	C	Project: Y Client ID: Y Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	e Time Batch Mtc
Rad Gas Flo	w Proportio	onal Counting	;							
GFPC, Sr90 Strontium-	90, solid–ALL –90	FSS	0.042	+/-0.0207.	0.0136	+/-0.0208	0.0304	pCi/g	KSD1 12/22	2/06 1204 597316 1
The followir Method		thods were per ription	erformed			Analyst	Date	Time	Prep Batch	
Dry Soil Prep		oil Prep GL-R	RAD-A-0)21		JMB1	12/12/06		595082	
		•							~	
Method	ng Analytica Descri	al Methods we ription	re periori	mea						
1		905.0 Modified								
2	EPA 9	905.0 Modified	d							
Surrogate/7	Fracer recove	very Test		`,		Recovery%	Accer	ptable Limits		
Strontium-90	J	GFP(C, Sr90, sc	olid-ALL FSS		72	(2	25%-125%)		· ·
Carrier/Trace	r Recovery	GFPC	C, Sr90 , so	olid-ALL FSS		72	(2	25%-125%)		
* A qu < Resu > Resu A The	uality contro ult is less tha ult is greater TIC is a sus	an value repo r than value re spected aldol	covery is c orted reported il-condens	outside of spec	t	ptance criter	ia			
				sociated blank						
					19 15 10					

- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

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Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt
	,	Client Sam Sample ID:			9522–000 17754000			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	arcut 06424					Report Date. December	
	Company : Address :	Connecticut 362 Injun Ho	ollow Rd						Report Date: December	22, 2006

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

 $^{\circ}$ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		tomic Power						
	Contact:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424				R	eport Date: Dec	ember 22, 2006
	Project:	Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	iple ID: : te:		9522-00 1775400 TS 09-NO' 30-NO' Client 42%	V-06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	·
Parameter	``````````````````````````````````````	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date Time Batch Mt
	-	nal Counting								
GFPC, SrS Strontium	90, solid–ALI –90	L FSS U	0.0319	+/-0.0236	0.017	+/-0.0236	0.0376	pCi/g	KSD1	12/22/06 1204 597316
The followi Method		hods were pe	erformed			Analyst	Date	Time	e Prep Batch	
Dry Soil Pre	p Dry S	oil Prep GL-I	RAD-A-0	21		JMB1	12/12	2/06 1340	595082	
The followi	ng Analvtica	l Methods we	ere perfor	med						
Method	Descr		r					:		
1	EPA 9	05.0 Modified	d							
2		05.0 Modifie								
3	EPA 9	005.0 Modifie	d							
Surrogate/	Fracer recov	ery Test				Recovery%	a Ac	ceptable Limit	5	
Strontium-9				olid-ALL FSS		59		(25%-125%)		
Carrier/Trace	er Recovery	GFP	C, Sr90, so	olid-ALL FSS		59		(25%-125%)		
Notes: The Qual	ifiers in this	report are d	efined as	follows :						
< Rest > Rest A The B Tar	ult is less the ult is greater TIC is a su get analyte v	an value report than value report spected aldo was detected	orted reported l-conden in the ass	outside of spec sation product sociated blank r tracer recove		eptance criter	ia			

- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mt
		Client Sample ID: Sample ID:	9522-0001-004F 177540004	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		tomic Power						
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424				Rep	ort Date: Decer	nber 22, 2006
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	: te:		9522-00 1775400 TS 09-NO 30-NO Client 38.1%	V-06			ZANK01204 ZANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst D	Date Time Batch Mte
Rad Gas Flo	ow Proportio	nal Counting	1							
GFPC, Srs Strontium	90, solid-ALI 1-90	L FSS U	0.0179	+/-0.0179	0.0133	+/-0.0179	0.0296	pCi/g	KSDI 12	2/22/06 1204 597316 1
			с I							
Method		thods were period	erformed			Analyst	Date	Time	Prep Batch	
Dry Soil Pre		oil Prep GL-I	RAD-A-0	21		JMB1	12/12/0	06 1340	595082	<u> </u>
		1 M - 4L - J	c							
Method		l Methods we iption	ere perior	mea				<u> </u>		
	=	905.0 Modifie	h							
2		05.0 Modifie				×.				
3	EPA 9	05.0 Modifie	d							
Surrogate/	Tracer recov	ery Test				Recovery%	Acce	eptable Limits		
Strontium-9	00	GFP	C, Sr90, sc	lid-ALL FSS		73	(2	25%-125%)		
Carrier/Trac	er Recovery	GFPG	C, Sr90, so	olid-ALL FSS		73	(2	25%-125%)		
Notes: The Qual	lifiers in this	s report are d	efined as	follows :						
< Res	ult is less th	ol analyte rec an value report r than value r	orted	outside of spec	cified acco	eptance criteri	a			

- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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Certificate of Analysis

. Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mto
		Client Sam Sample ID			9522-000 17754000			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	ontact: roject:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424]	Report Date: December	22, 2006
	ompany : ddress :	Connecticut 362 Injun Ho		tomic Power						۲

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2		tomic Power						-
: Mr. Jack Mc	cCarthy	ticut 06424:			Report Date: December 22, 20			22, 2006
Sample ID Matrix: Collect Da): ate:		17754000 TS 09-NOV-)6 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch M
rtional Counting	z							
ALL FSS	0.159	+/-0.0263		⊦/−0.0266	0.0264	pCi/g	KSD1 12/22/	06 1204 597316
	 362 Injun H East Hampte Mr. Jack Me Soils PO# 0 Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture: Qualifier	 362 Injun Hollow Rd East Hampton, Connect Mr. Jack McCarthy Soils PO# 002332 Client Sample ID: Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture: Qualifier Result ortional Counting ALL FSS 	 362 Injun Hollow Rd East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332 Client Sample ID: Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture: Qualifier Result Uncertainty ortional Counting ALL FSS 	362 Injun Hollow Rd East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332 Client Sample ID: 9522-000 Sample ID: 17754000 Matrix: TS Collect Date: 09-NOV- Receive Date: 30-NOV- Collector: Client Moisture: 44.9% Qualifier Result Uncertainty LC Descriptional Counting ALL FSS Context State Context State	362 Injun Hollow Rd East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332 Client Sample ID: 9522-0001-006F Sample ID: 177540006 Matrix: TS Collect Date: 09-NOV-06 Receive Date: 30-NOV-06 Collector: Client Moisture: 44.9% Qualifier Result Uncertainty LC Cortional Counting ALL FSS	362 Injun Hollow Rd East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332 Client Sample ID: 9522-0001-006F Sample ID: 177540006 Matrix: TS Collect Date: 09-NOV-06 Receive Date: 30-NOV-06 Collector: 'Client Moisture: 44.9% Qualifier Result Uncertainty LC TPU MDA ortional Counting ALL FSS ALL FSS All	362 Injun Hollow Rd East Hampton, Connecticut 06424 F Mr. Jack McCarthy Soils PO# 002332 F Client Sample ID: 9522–0001–006F Project: Sample ID: 177540006 Client ID: Matrix: TS Vol. Recv.: Collect Date: 09–NOV–06 Vol. Recv.: Collect Date: 30–NOV–06 Vol. Recv.: Moisture: 44.9% Vol. TPU Qualifier Result Uncertainty LC Voltres Vol. Tect Vol. Tect ALL FSS Vol. Tect Vol. Tect	362 Injun Hollow Rd East Hampton, Connecticut 06424 Report Date: December Mr. Jack McCarthy Soils PO# 002332 Project: YANK01204 Client Sample ID: 9522-0001-006F Project: YANK01204 Sample ID: 177540006 Client ID: YANK001 Matrix: TS Collect Date: 09-NOV-06 Collect Date: 30-NOV-06 Vol. Recv.: Collector: Client Moisture: 44.9% Qualifier Result Uncertainty LC TPU MDA Units DF Analyst Date ortional Counting ALL FSS ALL FSS All and the second sec

Method	Description	1	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Pro	ep GL-RAD-A-021	JMB1	12/12/06	1340	595082
The following A	Analytical Met	hods were performed				
Method	Description	· · ·				
1	EPA 905.01	Modified				
2	· EPA 905.0 l	Modified				
3	EPA 905.0	Modified				
Surrogate/Tra	cer recovery	Test	Recovery%	Acceptab	le Limits	
Strontium-90		GFPC, Sr90, solid-ALL FSS	88	(25%-	-125%)	
Carrier/Tracer R	ecovery	GFPC, Sr90, solid-ALL FSS	88	(25%-	-125%)	

Notes:

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
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Certificate of Analysis

Parameter	Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mte
,	Client Sample ID: Sample ID:	9522-0001-006F 177540006	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 22, 2000
Company : Address :	362 Injun Hollow Rd		Report Date: December 22, 2006

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Certificate of Analysis

Company : Address :	Connecticut Yankee At 362 Injun Hollow Rd	omic Power						
Contact:	East Hampton, Connect Mr. Jack McCarthy	ticut 06424				P	Report Date: Decem	ıber 22, 2006
Project:	Soils PO# 002332							
	Client Sample ID: Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture:		9522-000 17754000 TS 09-NOV- 30-NOV- Client 12.7%)7 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	Qualifier Result	Uncertainty 7	ć LC	TPU	MDA	Units	DF Analyst Da	ate Time Batch Mtc
Rad Gas Flow Proportio	onal Counting							
GFPC, Sr90, solid-AL	L FSS							
Strontium-90	U 0.000197	+/-0.0178	0.0149 +	+/-0.0178	0.0327	pCi/g	KSD1 12/	/21/06 1602 597316 1
The following Prep Me	thods were performed					· · · · · · · · · · · · · · · · · · ·	,	

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	12/12/06	1340	595082
The following A	Analytical Methods were performed				
Method	Description				,
1	EPA 905.0 Modified			· · · · · · ·	

EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Strontium-90	GFPC, Sr90, solid-ALL FSS	82	(25%-125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	82	(25%-125%)	

Notes:

2

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- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtc
		Client Sample ID: Sample ID:	9522-0001-009F 177540007	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Project:	Soils PO# 002332		
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy	·	Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		tomic Power								
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424				R	eport Date: De	cember 2	22, 2006	
		Client Sam Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:	le:		9522-0 177540 TS 09-NO 30-NO Client 29.2%	V-06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time Batch	Mt
	-	nal Counting										
GFPC, Sr9 Strontium	90, solid–ALI –90	L FSS U	0.0288	+/-0.0241	0.0173	+/-0.0241	0.0388	pCi/g	KSD1	12/21/0	6 1608 597316	
The followi Method		thods were pe iption	rformed			Analyst	Date	Time	Prep Batc	h		
Dry Soil Pre		oil Prep GL-R	AD-A-0	21		JMB1	12/12/	/06 1340				
The followi	ng Anglytica	l Methods we	ra narfari	mod								
Method	Descr		re periori	iicu								
1	EPA 9	005.0 Modified	1									
2	EPA 9	05.0 Modified	l									
Surrogate/7	Fracer recov	ery Test				Recovery%	Acc	eptable Limits	5			
Strontium-9	0	GFPC	, Sr90, so	lid-ALL FSS		74	1	(25%-125%)				
Carrier/Trace	er Recovery	GFPC	C, Sr90, so	lid-ALL FSS		74	4	(25%–125%)				
* A qu < Resu > Resu	ality contro alt is less the alt is greater	an value repo than value r	overy is o orted eported	outside of spec		eptance criter	ia					
B Tar	get analyte v	was detected	in the ass	sation product sociated blank tracer recove								
		en confirmed			, //							

- C Analyte has been confirmed by GC/MS analysisD Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

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Parameter	Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mt
	Client Sample ID: Sample ID:	9522-0001-010F 177540008	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Contact: Project:	Mr. Jack McCarthy Soils PO# 002332		Report Date. December 22, 2000
Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd East Hampton, Connecticut 06424		Report Date: December 22, 2006

UI Gamma Spectroscopy---Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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	Company : Address :	Connecticut 362 Injun Ho		tomic Power						-1
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424				Rep	oort Date: Decemb	ver 22, 2006
		Client Sam Sample ID Matrix: Collect Dat Receive Da Collector: Moisture:	te:		9522-00 1775400 TS 09-NOV 30-NOV Client 18.5%	V-06	Cl		YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Dat	te Time Batch Mt
	-	nal Counting	;						<i>,</i>	
	0, solid–ALL						* ***	<i>a</i> : <i>i</i>		
Strontium-	-90	U -	-0.00662	+/-0.0149	0.0131	+/-0.0149	0.0289	pCi/g	KSD1 12/2	22/06/1204/597316/1
The followi	ng Prep Met	hods were pe	erformed							
Method	Descr	iption				Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry S	oil Prep GL-F	RAD-A-0	21		JMB1	12/12/06	1340	595082	
The followir	ng Analytica	l Methods we	ere perfor	med						
Method	Descri	ption								
1	EPA 9	05.0 Modified	đ ·							
2	EPA 9	05.0 Modified	d							
Surrogate/T	racer recov	ery Test				Recovery%	Accept	table Limits		
Strontium-90)	GFPG	 C, Sr90, so	lid-ALL FSS	·`	80	(259	%-125%)		
Carrier/Trace	r Recovery	GFPG	C, Sr90, so	lid-ALL FSS		80	(25%-125%)		/	

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

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Certificate of Analysis

Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt
		Client Samp Sample ID:			9522-000 17754000	• • • • • •		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 002	2332							
	Contact:	East Hamptor Mr. Jack McC	•	ticut 06424				1	Report Date: December	22, 2006
	Company : Address : ·	Connecticut Y 362 Injun Hol		tomic Power						

Ul Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

 $^{\circ}$ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		tomic Power							
	Contact: Project:	East Hampto Mr. Jack Mct Soils PO# 00	cCarthy	ticut 06424				Rep	oort Date: Decer	mber 22, 200	16
	P10ject.	Client Sam Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:	nple ID:): 		9522-00 1775400 TS 09-NOV 30-NOV Client 12.5%	V-06	((ANK01204 (ANK001		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst D	Date Time	e Batch Mtc
	0, solid–ALL	onal Counting L FSS	g 0.037	+/-0.0177	0.0118	+/-0.0177	0.026	pCi/g	KSDI I.	2/22/06 1204	i 597316 1
The followin Method		thods were per ription	rformed			· Analyst	Date	Time	Prep Batch		
Dry Soil Prep		Soil Prep GL-R	RAD-A-C			JMB1	12/12/0		595082		
	-	al Methods we									
Method	Descri		Te periori					,			
1 2		905.0 Modified 905.0 Modified									
Surrogate/T	racer recov	very Test	•			Recovery%	Acce	ptable Limits			
Strontium–90 Carrier/Tracer				olid-ALL FSS olid-ALL FSS		88 88		25%–125%) 25%–125%)	-		
* A qua < Resu > Resu A The B Targ BD Res C Anal D Resu H Anal	aality contro ilt is less tha ilt is greater TIC is a sus get analyte v sults are eith lyte has bee ults are repo	an value repo r than value re ispected aldol was detected i her below the en confirmed orted from a c ling time was	covery is o orted reported -condens in the ass e MDC or l by GC/M diluted ali	outside of spec sation product sociated blank r tracer recove AS analysis iquot of the sa	t ery is low	eptance criteria	ì				

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

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Certificate of Analysis

Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt
		Client Sam Sample ID			9522–000 17754001			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	ontact: oject:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ficut 06424				Г	Report Date. December	22, 2000
	ompany : Idress :	Connecticut 362 Injun Ho	ollow Rd					г	Report Date: December	22 2006

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		tomic Power						
	Contact:	East Hampto Mr. Jack Mc		ticut 06424				Rep	ort Date: Decembe	r 22, 2006
	Project:	Soils PO# 00)2332							
		Client Sam Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:	te:		9522-00 1775400 TS 09-NO 30-NO Client 10.1%	V-06	(/ANK01204 /ANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt
	-	nal Counting								
GFPC, Sr9 Strontium	0, solid–ALL –90	. FSS U	0.0335	+/-0.0235	0.0139	+/-0.0235	0.0343	pCi/g	KSD1 12/21	/06 1658 597316 1
The followi Method		hods were pe iption	rformed			Analyst	Date	Time	Prep Batch	
Dry Soil Pre	p Dry S	oil Prep GL-F	RAD-A-0	21		JMB1	12/12/0	6 1340	595082	
The followi Method	ng Analytica Descri	<u>l Methods we</u> iption	ere perfor	med		,	·			
1	EPA 9	05.0 Modified	1							<u></u>
2	EPA 9	05.0 Modified	1							
3	EPA 9	05.0 Modified	đ							
Surrogate/	Fracer recov	ery Test				Recovery%	Acce	ptable Limits		
Strontium-9	0	GFPG	C, Sr90, so	lid-ALL FSS		81	(2	5%-125%)	· · · · · · · · · · · · · · · · · · ·	
Carrier/Trac	er Recovery	GFPG	C, Sr90, s c	lid-ALL FSS		81	(2	5%-125%)		
* A qu < Res > Res A The B Tar	uality contro ult is less tha ult is greater TIC is a su	an value report than value r spected aldol was detected	overy is o orted eported –conden in the ass	outside of spectrum sation products sociated blank	L	eptance criteri	a			

- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 22, 2006
		Client Sample ID: Sample ID:	9522-0001-013F 177540011	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtc

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun H		tomic Power							
	Contact:	East Hampto Mr. Jack Mo		ticut 06424				Re	eport Date: De	cember	22, 2006
	Project:	Soils PO# 0	•								
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:); ite:	ţ	9522-00 1775400 TS 09-NO 30-NO Client 12%	V-06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time Batch Mt
	-	nal Counting	g								
GFPC, SrS Strontium	0, solid–ALL –90		0.000807	+/-0.0199	0.0166	+/-0.0199	0.0381	pCi/g	KSDI	12/21/0	06 1658 597316 1
The followi	ng Prep Met	hods were p	erformed					`	·		
Method		iption				Analyst	Date	e Time	Prep Batc	h	
Dry Soil Pre	p Dry S	oil Prep GL-	RAD-A-0	21		JMB1	12/1	2/06 1340	595082		
The followi Method	ng Analytica Descri	l Methods we	ere perfor	med							
1		05.0 Modifie	d						· · · ·		
2		05.0 Modifie									
3		05.0 Modifie									
Surrogate/	Fracer recov	ery Test				Recovery%	6 Ac	cceptable Limits	5		
Strontium-9	0	GFP	C, Sr90, so	lid-ALL FSS		75		(25%-125%)			
Carrier/Trace	er Recovery	GFP	C, Sr90, so	lid-ALL FSS		75		(25%-125%)			
Notes: The Qual	ifiers in this	report are d	efined as	follows :							
				outside of spec	cified acce	eptance criter	ria				
		an value rep									
		than value is nected aldo		sation product							
				ociated blank							
				tracer recove							
C Ana	lyte has bee	n confirmed	l by GC/N	1S analysis	•						
		orted from a		iquot of the sa	mple						

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

1

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtc
		Client Sample ID: Sample ID:	9522-0001-015F 177540012	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
、	Project:	Soils PO# 002332		
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

ŧ

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

	ompany : .ddress :	Connecticut 362 Injun H		tomic Power									
	ontact: roject:	East Hampto Mr. Jack Mo Soils PO# 0	cCarthy	ticut 06424					Rep	oort Date: Dec	ember 2	2, 2006	
-		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:): ate:		9522-00 1775400 TS 15-NO 30-NO Client 23.5%	V-06		Proiec Client Vol. F		YANK01204 YANK001			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	U	nits	DF Analyst	Date	Time Batch	Mt
Rad Gas Flow	Proportio	nal Counting	3			k							
GFPC, Sr90, Strontium–9			-0.00289	+/-0.0178	0.0153	+/-0.0178	0.0354	. p(Ci/g	KSDI	12/21/0	6 1859 597316	1
The following			erformed										
Method	Descr	iption				Analyst	Date		Time	Prep Batch	1		
Dry Soil Prep	Dry S	oil Prep GL-	RAD-A-0	21		JMB1	12/12	2/06	1340	595082			
The following	Analytica	I Methods w	ere perfor	med									
Method	Descr	iption										_	
1	EPA 9	05.0 Modifie	:d										
2		905.0 Modifie											
3	EPA 9	905.0 Modifie	d										
Surrogate/Tra	acer recov	ery Test				Recovery%	Ac	ceptable	e Limits			,	
Strontium-90		GFP	C, Sr90, so	lid-ALL FSS		105		(25%-1	25%)				
Carrier/Tracer I	Recovery	GFP	C, Sr90, so	olid-ALL FSS		105		(25%-1	25%)				
Notes: The Qualifi	ers in this	report are d	lefined as	follows :									
< Result > Result	is less that is greater	an value report r than value	orted reported	outside of spec		eptance criteri	ia ⁻						

- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected

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Certificate of Analysis

Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mte
		Client Samp Sample ID:	le ID:		9522-000 17754001			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
-	Contact: roject:	East Hampton Mr. Jack McC Soils PO# 002	Carthy	ticut 06424				I	Report Date: December	22, 2006
	Company : Address :	Connecticut Y 362 Injun Holl		omic Power						

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy—Uncertain identification
 X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

 \wedge RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL -

h Preparation or preservation holding time was exceeded

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	Company : Address :	Connecticut 362 Injun Ho		tomic Power									
	Contact:	East Hampto Mr. Jack Mc	Carthy	xticut 06424			Report Date: December 22, 2006						
	Project:	Soils PO# 00)2332										
		Client Sample ID: Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture:			9522-0001-021-1 177540014 TS 16-NOV-06 30-NOV-06 Client 16.3%		Project: YANK01204 Client ID: YANK001 Vol. Recv.:						
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analys	t Date	Time B	atch Mt
Rad Gas Flor	w Proportio	nal Counting	-										
GFPC, Sr9	0, solid-ALI	L FSS											
Strontium-	-90	U	0.0164	+/-0.0169	0.0112 +	+/-0.0169	0.0275	pCi/g		KSD1	12/21/	06 1859 59	97316 1
GFPC, Sr9	0, solid-ALI	L FSS		+/-0.0169	0.0112 -	+/-0.0169	0.0275	pCi/g		KSD1	12/21/	06 1859 5	ç

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	12/12/06	1340	595082
The following A	Analytical Methods were performed			_	
Method	Description				
1	EPA 905.0 Modified				

EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Strontium-90	GFPC, Sr90, solid-ALL FSS	100	(25%-125%);	
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	100	(25%-125%)	

Notes:

2

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded

J Value is estimated

- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

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Certificate of Analysis

Parameter	 Qualifier	Result	Uncertainty	· LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt	
	Client Sam Sample ID			9522∸000 17754001			Project: Client ID: Vol. Recv.:			
Conta Proje	 Mr. Jack Mc Soils PO# 00	Carthy				•.				
Com Addr	 Connecticut 362 Injun Ho East Hampto	ollow Rd					I	Report Date: December	22. 2006	

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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The follow	ing Pren Mai	thods were pe	rformed								
Strontium	n-90	U	0.026	+/-0.0185	0.0119	+/-0.0185	0.0281	pCi/g	KSDI	12/22/06	5 1205 597316
	90, solid–ALI	L FSS									
Rad Gas Fle	ow Proportio	nal Counting									
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	t Date	Time Batch Mt
		Matrix: Collect Dat Receive Da Collector: Moisture:	e:		TS 21-NOV 30-NOV Client 44.9%			Vol. Recv.:			
		Client Sam Sample ID:			9522-000 1775400			Project: Client ID:	YANK01204 YANK001		
	Project:	Soils PO# 00	02332							÷	
	Contact:	East Hampto Mr. Jack Mc		ticut 06424	÷.,			R	eport Date: Dec	cember 2	2, 2006
	Company : Address :	Connecticut 362 Injun Ho		omic Power							
	C	C	XZ 1 A	n anta p							*

Method	Description	1	 Analyst 	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Pro	ep GL-RAD-A-021	JMB1	12/12/06	1340	595082
The following A	Analytical Met	hods were performed				
Method	Description	1				
1	EPA 905.01	Modified				
2	EPA 905.01	Modified				
3	EPA 905.0 I	Modified				
Surrogate/Tracer recovery		Test	Recovery%	Acceptabl	e Limits	
Strontium-90	Strontium–90 GFPC, Sr90		105	(25%-	125%)	
Carrier/Tracer Recovery GFPC, Sr90, solid–ALL FSS		105	(25%-	125%)		

Notes:

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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Parameter		Qualifier Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt
	_	Client Sample ID: Sample ID:		9522-000 17754001:			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Contact: Project:	East Hampton, Connect Mr. Jack McCarthy Soils PO# 002332	icut 06424				· 1	Report Date: December	22, 2006
	Company : Address :	Connecticut Yankee Ato 362 Injun Hollow Rd	omic Power						

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy—Uncertain identification
 X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

 \wedge RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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	Company : Address :	Connecticut 362 Injun H		tomic Power						
	Contact:	East Hampto Mr. Jack Mo	cCarthy	ticut 06424				Rep	oort Date: Decem	ber 22, 2006
	Project:	Soils PO# 0	02332	·		,				
		Client Sam Sample ID Matrix: Collect Da Receive D Collector: Moisture:): ite:		9522-00 1775400 TS 30-OCT 10-NOV Client 18.1%	Г—06	C		(ANK01204 (ANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Da	te Time Batch Mt
Rad Gas Flo	w Proportio	nal Counting	3		<u>-</u>					
	0, solid–ALI	, FSS								
Strontium-		U	-0.0095	+/-0.0171	0.0158	+/-0.0171	0.0366	pCi/g	K5D1 12/	21/06 1859 597316 1
The followin Method		<u>hods were po</u> iption	erformed		<u>,</u>	Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry S	oil Prep GL-	RAD-A-0	21		JMB1	12/12/06	5 1340	595082	
The followir	ng Analytica	l Methods we	ere perfor	med						
Method	Descr						· · · · · · · · · · · · · · · · · · ·			<u> </u>
1	EPA 9	05.0 Modifie	d	·····		· · · · · ·				
2	EPA 9	05.0 Modifie	d							
3	EPA 9	05.0 Modifie	d							
Surrogate/T	racer recov	ery Test				Recovery%	Ассер	otable Limits		
Strontium-90)	GFPC, Sr90, solid-ALL FSS				104	(25%-125%)			
Carrier/Trace	r Recovery	GFP	C, Sr90, so	lid-ALL FSS		104	(25	5%-125%)		
Notes										

Notes:

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

- < Result is less than value reported
- >Result is greater than value reported
- The TIC is a suspected aldol-condensation product А

В Target analyte was detected in the associated blank

- BD Results are either below the MDC or tracer recovery is low
- С Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- Н Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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Certificate of Analysis

Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt
		Client Sam Sample ID:			9522-000 17754001			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
×	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424					Report Date: December	22, 2006
	Company : Address :	Connecticut 362 Injun Ho		tomic Power						

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

Compa Addres	2	icut Yank n Hollow	ee Atomic Power Rd						
Contac Project	t: Mr. Jack	mpton, Co McCarth 0# 002332	•				R	Report Date: Dece	mber 22, 2006
	Client S Sample Matrix: Collect Receive Collecte Moistu	Date: e Date: or:	D: ,	9522-000 17754001 TS 30-OCT- 10-NOV Client 14.1%	17 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	•
Parameter	Qualifi	er Res	sult Uncertainty	LC	TPU	MDA	Units	DF Analyst l	Date Time Batch Mt
Rad Gas Flow Prop	ortional Coun	ting						······	
GFPC, Sr90, solid-	-ALL FSS								
Strontium-90		U 0.003	348 +/-0.0155	0.0125	+/-0.0155	0.0292	pCi/g	KSD1 1	2/22/06 1205 597316 1
The following Prep	Methods wer	e perforn	ned						

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	12/12/06	1340	595082
The following A	Analytical Methods were performed				
Method	Description	•			
1	EPA 905.0 Modified				
2	EPA 905.0 Modified				
3	EPA 905.0 Modified				
Surrogate/Tra	cer recovery Test	Recovery%	Acceptable I	Limits	
Strontium-90	GFPC, Sr90, solid-ALL FSS	107	(25%-12:	5%)	

107

(25%-125%)

Notes:

Carrier/Tracer Recovery

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

GFPC, Sr90, solid-ALL FSS

- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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Certificate of Analysis

Parameter		Qualifier Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtc	
		Client Sample ID: Sample ID:		9522-000 17754001			Project: Client ID: Vol. Recv.:	YANK01204 YANK001		
	Project:	Soils PO# 002332								
	Contact:	East Hampton, Connec Mr. Jack McCarthy	cticut 06424			Report Date: December 22, 2006				
	Company : Address :	Connecticut Yankee A 362 Injun Hollow Rd	tomic Power							

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy---Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

	Company : Address :	Connecticut ' 362 Injun Ho		comic Power								
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424 .				Report Date: December 22, 2006				
		Client Sam Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:	: te:		9522-00 1775400 TS 30-OCT 10-NOV Client 17.1%	18 [°] 06	Cli		ANK01204 ANK001			
		Qualifier			LC	TPU	MDA	Units	DF Analyst I	Date	Time Batch	
	- 90, solid–ALI	nal Counting		Uncertainty +/-0.0237		+/-0.0237	0.0384	pCi/g	KSD1 1		1900 597316	
Rad Gas Fle GFPC, Srg Strontium	90, solid-ALL 1-90 ing Prep Met	nal Counting FSS U hods were pe	0.0267								1900 597316	
Rad Gas Fle GFPC, Sr9 Strontium The follow Method	90, solid-ALL 1-90 ing Prep Met Descr	nal Counting FSS U hods were pe	0.0267 : rformed	+/-0.0237		+/-0.0237 Analyst JMB1	0.0384 Date	pCi/g Time 1340	KSD1 12 Prep Batch 595082		1900 597316	
Rad Gas Fle GFPC, Sr5 Strontium The follow Method Dry Soil Pre	90, solid-ALL n-90 ing Prep Met Descr p Dry S	nal Counting FSS U hods were pe iption oil Prep GL-R	0.0267 erformed RAD-A-0.	+/-0.0237		Analyst	Date	Time	Prep Batch		1900 597316	
Rad Gas Fle GFPC, Sr5 Strontium The follow Method Dry Soil Pre	90, solid-ALL n-90 ing Prep Met Descr p Dry S	nal Counting FSS U hods were pe iption oil Prep GL-R I Methods we	0.0267 erformed RAD-A-0.	+/-0.0237		Analyst	Date	Time	Prep Batch			
Rad Gas Fle GFPC, Srg Strontium The follow Method Dry Soil Pre The follow	90, solid-ALL n-90 ing Prep Met Descr p Dry S ing Analytica Descr	nal Counting FSS U hods were pe iption oil Prep GL-R I Methods we	0.0267 erformed RAD-A-0. ere perform	+/-0.0237		Analyst	Date	Time	Prep Batch			
Rad Gas Fle GFPC, Srg Strontium The follow Method Dry Soil Pre The follow	90, solid-ALL n-90 ing Prep Met Descr p Dry S ing Analytica Descr EPA 9	hods were pe iption Dil Prep GL-R Methods we	0.0267 erformed RAD-A-0. ere perform	+/-0.0237		Analyst	Date	Time	Prep Batch		1900 597316 	
Rad Gas Fle GFPC, Sr5 Strontium Method Dry Soil Pre The followi Method	90, solid-ALL n-90 ing Prep Met Descr p Dry S ing Analytica Descr EPA 9 EPA 9	nal Counting FSS U hods were pe iption oil Prep GL-R I Methods we iption	0.0267 erformed RAD-A-0 ere perform d	+/-0.0237		Analyst	Date	Time	Prep Batch		1900 597316	
Rad Gas Fle GFPC, Sr9 Strontium The follow Method Dry Soil Pre The followi Method 1 2 3	90, solid-ALL n-90 ing Prep Met Descr p Dry S ing Analytica Descr EPA 9 EPA 9	hods were pe iption il Prep GL–R Methods we iption 05.0 Modified 05.0 Modified	0.0267 erformed RAD-A-0 ere perform d	+/-0.0237		Analyst	Date 12/12/06	Time	Prep Batch		1900 597316	
Rad Gas Fle GFPC, Sr9 Strontium The follow Method Dry Soil Pre The followi Method 1 2 3	90, solid-ALL 1-90 ing Prep Met Descr p Dry S ing Analytica Descr EPA 9 EPA 9 EPA 9 EPA 9	hods were pe iption oil Prep GL–R 1 Methods we ption 05.0 Modifiec 05.0 Modifiec ery Test	0.0267 erformed RAD-A-0. ere perform d d	+/-0.0237		Analyst JMB1	Date 12/12/06	Time 1340	Prep Batch		1900 597316	

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

- Result is less than value reported <
- Result is greater than value reported >
- The TIC is a suspected aldol-condensation product Α

В Target analyte was detected in the associated blank

- BD Results are either below the MDC or tracer recovery is low
- Analyte has been confirmed by GC/MS analysis С
- Results are reported from a diluted aliquot of the sample D
- Η Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

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Parameter		Qualifier Result Uncertainty	y LC TPU	MDA Units DF Analyst Date Time Batch, Mt
		Client Sample ID: Sample ID:	9522-0002-005F 177540018	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Project:	Soils PO# 002332	ς	
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^. RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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	Company : Address :	Connecticut 362 Injun He		omic Power						
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424				Rep	ort Date: Decembe	r 22, 2006
	rojeci.	Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	nple ID: : te:		9522-00 1775400 TS 30-OCT 10-NOV Client 20.3%	-06	Cli		7ANK01204 7ANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt
GFPC, Sr9 Strontium	90, solid–ALL 1–90	FSS U	0.00433	+/-0.0171	0.0137	+/-0.0171	0.0322	pCi/g	KSD1 12/21	/06 1900 597316
The followi Method	ing Prep Metl Descri		erformed			Analyst	Date	Time	Prep Batch	
Dry Soil Pre		il Prep GL-I	RAD-A-0	21		JMBI	12/12/06	1340	595082	
The followi	ng Analytical	Methods we	ere nerfori	ned						
Method	Descri			incu						
1	EPA 9	05.0 Modifie	d							
2	EPA 9	05.0 Modifie	d							
2		05.0 Modifie	d							
	EPA 9									
3	EPA 9 Tracer recove					Recovery%	Accept	able Limits		
3	Tracer recove	ery Test		lid-ALL FSS		Recovery%		able Limits %–125%)		
3 Surrogate/7	Fracer recove	ery Test GFP0	C, Sr90, so	lid-ALL FSS lid-ALL FSS			(25%	<u> </u>		

Result is less than value reported >

- Result is greater than value reported
- The TIC is a suspected aldol-condensation product Α

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

- С Analyte has been confirmed by GC/MS analysis
- D Results are reported' from a diluted aliquot of the sample
- Analytical holding time was exceeded Η

Value is estimated J

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

Sample results are rejected R

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mt
		Client Sample ID: Sample ID:	9522-0002-007F 177540019	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Project:	Soils PO# 002332		
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy---Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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	Company : Address :	Connecticut V 362 Injun Ho		tomic Power								
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424				Rep	oort Date: Dec	cember 22	2, 2006	
		Client Sam Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:	le:		9522-00 1775400 TS 30-OC 10-NO Client 28.1%	T-06	(YANK01204 YANK001			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date	Time Bate	h M
GFPC, Srs Strontium		, FSS U	0.0235	+/-0.0229	0.0164	+/-0.0229	0.0375	pCi/g	KSDI	12/21/06	1900 5973	16
The followi Method	ing Prep Met Descri	hods were per iption	rformed			Analyst	Date	Time	Prep Batcl	1		
Dry Soil Pre		oil Prep GL-R	AD-A-0	21		JMB1	12/12/0		595082			_
The followi	ing Analytica	l Methods we	re nerfor	med	×	t						
Method	Descri		<u>re perio.</u>									-
1 2 3	EPA 9	05.0 Modified 05.0 Modified 05.0 Modified	i									
	Tracer recove					Recovery%		ptable Limits				
Strontium–9 Carrier/Trac				olid-ALL FSS olid-ALL FSS		107 107		25%–125%) 25%–125%)				
* Aq	uality contro	report are de l analyte reco n value repo	overy is c	follows : outside of spec	cified acc	eptance criteri	ia					
> Res A The B Tar BD Re C Ana	sult is greater e TIC is a sus get analyte v esults are eith alyte has bee	than value re spected aldol- vas detected in her below the n confirmed	eported -condens in the ass MDC or by GC/M	sation product sociated blank r tracer recove 1S analysis iquot of the sa	ery is low						Ş	

Analytical holding time was exceeded Н

,

Value is estimated J

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

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Certificate of Analysis

Parameter	Qualifier Result Uncerta	inty LC TPU	MDA Units DF Analyst Date Time Batch Mte
·	Client Sample ID: Sample ID:	9522-0002-008F 177540020	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Contact Project:	5	4	Report Date: December 22, 2006
Compa Address	: 362 Injun Hollow Rd		

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy-Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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	Company : Address :	Connecticut 362 Injun Ho		tomic Power							
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	cCarthy	ticut 06424			Report Date: December 22, 2006				
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:): ate:		9522-00 1775400 TS 30-OCT 10-NOV Client 9.97%	Г—06	C		ANK01204 ANK001		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt	
GFPC, Sr9 Strontium	90, solid–ALL –90	ı	0.0584	+/-0.0287	0.0155	+/-0.0288	0.0374	pCi/g	KSD1 12/15.	/06 1439 595174 I	
The followi Method		thods were pe ription	erformed			Analyst	Date	Time	Prep Batch		
Dry Soil Pre		Soil Prep GL-F				JMB1	12/12/00		595084	<u></u>	
The following Method	Descr	al Methods we iption 905.0 Modified		med			í				
- Surrogate/	Fracer recov					Recovery%	Acce	ptable Limits			
Strontium-9				lid-ALL FSS	(72		25%-125%)			
Carrier/Trace				lid-ALL FSS		72		25%-125%)		-	

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

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Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtd
		Client Sample ID: Sample ID:	9522-0002-010F 177540021	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier Х

Y QC Samples were not spiked with this compound

 $^{\wedge}$ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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	ompany : ddress :	Connecticut 362 Injun Ho		tomic Power						
Ci	ontact:	East Hampto Mr. Jack Mc		ticut 06424				Rep	oort Date: Decemb	per 22, 2006
P	roject:	Soils PO# 00	02332							
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	te:	,	9522-0 177540 TS 30-OC 10-NO Client 20.3%	Т-06			YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Dat	te Time Batch Mt
Rad Gas Flow	Proportio	nal Counting								
GFPC, Sr90, Strontium-9			-0.0187	+/-0.0244	0.021	+/-0.0244	0.0433	pCi/g	KSD1 12/1	5/06 1823 595174 1
The following			erformed							
Method		iption				Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry S	oil Prep GL–I	KAD-A-0	21		JMB1	12/12/	06 1237	595084	
The following Method	Analytica Descri		ere perfor	med						
1		05.0 Modifie	d							
Surrogate/Tra	icer recov	erv Test				Recovery%	Acc	eptable Limits		
Strontium-90		•	C. Sr90. sc	lid-ALL FSS	1 (1999	65		(25%-125%)		
Carrier/Tracer I	Recovery			lid-ALL FSS		65		(25%-125%)		
Notes: The Qualifi	ers in this	report are d	efined as	follows :						
				outside of spec	cified acc	eptance criter	ia			
		an value repo than value i								
A The T	IC is a su	spected aldo	l–conden	sation product						
				ociated blank						
		her below the in confirmed		r tracer recove	ery is low					
				is analysis	mala					

- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtc
		Client Sample ID: Sample ID:	9522-0002-011F 177540022	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Project:	Soils PO# 002332		
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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			,									
	npany :			tomic Power	\subset							
Add	ress :	362 Injun H	Iollow Rd									
_		East Hampt		ticut 06424			Report Date: December 22, 2006					
Con		Mr. Jack M	-									
Proj	ect:	Soils PO# (02332									
		Client Sar	nple ID:			002–012F	Project: YANK01204 Client ID: YANK001 Vol. Recv.:					
		Sample II Matrix:):		1775400 TS	023						
		Collect Date:				Γ-06						
		Receive D			10-NO	√-06						
		Collector: Moisture:			Client 23%	•						
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	e Time Batch Mte		
Rad Gas Flow Pr	-		g							,		
GFPC, Sr90, so. Strontium-90	nd-ALL		-0.0332	+/-0.0184	0.019	+/-0.0184	0.0387	pCi/g	VSD1 12/15	5/06 1823 595174 1		
The following Pi Method	Descr		er tor meu			Analyst	Date	Time	Prep Batch			
Dry Soil Prep	Dry S	oil Prep GL-	RAD-A-0	21		JMB1	12/12/06	1237	595084			
The following A	nalvtica	l Methods w	vere perfor	med								
Method	Descri		<u>ere perior</u>									
	EPA 9	05.0 Modifie	ed									
Surrogate/Trace	er recov	ery Test	t			Recovery%	Accept	able Limits				
trontium-90		GFF	PC, Sr90, so	lid-ALL FSS		65	(259	%-125%)				
Carrier/Tracer Re	covery	GFF	PC, Sr90, so	lid-ALL FSS		65	(259	%-125%)				
Notes:												
The Qualifiers	Qualifiers in this report are defined as follows :	follows :										
* A quality	A quality control analyte recovery is outside of spec Result is less than value reported			cified acce	eptance criteri	a						
< Result is												
	Result is greater than value reported											
				sation produc								
B Target a	Target analyte was detected in the associated blank											

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Certificate of Analysis

Parameter	×.	Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtc
		Client Sample ID: Sample ID:	9522-0002-012F 177540023	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Contact: Project:	Mr. Jack McCarthy Soils PO# 002332		
		East Hampton, Connecticut 06424		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

Y QC Samples were not spiked with this compound.

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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	Company : Address :	Connecticut 362 Injun He		tomic Power				•				
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424			Report Date: December 22, 2006					
	N	Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	te:		9522-00 1775400 TS 30-OC 10-NO Client 22.5%	Г—06	C		YANK01204 YANK001 -			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst D	Date Time Batch Mt		
	-	onal Counting	,							· · · · ·		
GFPC, Sr: Strontium	90, solid-AL n-90	L FSS	0.0663	+/-0.0236	0.015Å	+/-0.0237	0.0335	pCi/g	KSD1 12	2/15/06 1823 595174		
Method	Desci	thods were peription	,			Analyst	Date	Time	Prep Batch			
Dry Soil Pre	ep Dry S	oil Prep GL-I	RAD-A-0	21		JMB1	12/12/06	5 1237	595084			
		l Methods we	ere perfor	med			·····					
Method		iption										
1	EPA	905.0 Modifie	d									
Surrogate/	Tracer recov	very Test				Recovery%	Accep	table Limits				
Strontium-9	90	GFP	C, Sr90, so	lid-ALL FSS		75	(2:	5%-125%)				
Carrier/Trac	er Recovery	GFP	C, Sr90, so	lid-ALL FSS		75	(2:	5%-125%)				
		s report are d bl analyte rec		follows : outside of spec	cified acce	eptance criter	a					
< Res > Res A The	sult is less th sult is greate e TIC is a surget analyte	an value repo r than value r spected aldo	orted reported l-conden in the ass	sation product	t							

- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Certificate of Analysis

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Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtt
		Client Sample ID: Sample ID:	9522-0002-013F 177540024	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
e e	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

Y QC Samples were not spiked with this compound

 \wedge RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

Preparation or preservation holding time was exceeded h

The above sample is reported on a dry weight basis.

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		tomic Power							
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424			Report Date: December 22, 2006				
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	: te:	/	9522-00 1775400 TS 30-OCT 10-NOV Client 22.7%	F-06	C		ANK01204 ANK001		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mte	
	=	onal Counting									
GFPC, Sr9 Strontium	90, solid–ALI 1–90	L FSS	0.122	+/-0.0325	0.0134	+/-0.0327	0.0319	pCi/g	KSD1 12/15/	06 1824 595174 1	
		thods were pe	erformed	· · · · · · · · · · · · · · · · · · ·							
Method		ription				Analyst	Date	Time	Prep Batch		
Dry Soil Pre	p Dry S	oil Prep GL-I	RAD-A-0	21		JMB1	12/12/06	1237	595084		
The followi Method		ll Methods we	ere perfor	med							
1	EPA 9	05.0 Modifie	d								
Surrogate/	Tracer recov	ery Test				Recovery%	Accep	table Limits			
Strontium-9	0	GFP	C, Sr90, so	lid-ALL FSS		75	(25	5%-125%)			
Carrier/Trac	er Recovery	GFP	C, Sr90, so	lid-ALL FSS		75	. (25	5%-125%)			
		s report are d				· .					
< Res > Res A The B Tar BD Re C Ana D Res H Ana	ult is less th ult is greated e TIC is a su get analyte esults are eit alyte has bee sults are repo	an value report r than value in spected aldo was detected her below the en confirmed ported from a ling time was	orted reported 1-conden in the ass e MDC or by GC/M diluted al	iquot of the sa	ry is low	ptance criteri	а	Ţ			

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtc
		Client Sample ID: Sample ID:	9522-0002-014F 177540025	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Project:	Soils PO# 002332		
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy	,	Report Date: December 22, 2006
<u>``</u>	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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	Company : • Address :	Connecticut 362 Injun Ho		tomic Power						
	Contact: Project:	East Hampton Mr. Jack McC Soils PO# 00	Carthy	ticut 06424				Rep	oort Date: Decem	ber 22, 2006
,		Client Sample ID: Matrix: Collect Date Receive Da Collector: Moisture:	ple ID: : te:		9522-00 1775400 TS 30-OC7 10-NO Client 42.8%	Г—06	C		(ANK01204 (ANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Da	ate Time Batch Mtc
	90, solid–ALL	nal Counting L FSS U	0.0131	+/-0.0182	0.0139	+/-0.0182	0.0311	pCi/g	KSD1 12/	/15/06 1824 595174 1
The followi Method		thods were per ription	rformed	<u> </u>		Analyst	Date	Time	Prep Batch	
Dry Soil Pre		oil Prep GL-R	AD-A-0	21		JMBI	12/12/06		595084	
The <u>followi</u>	ng Analytica	l Methods we	re perfor	med						
Method	Descri	•								
1	EPA 9	905.0 Modified	i							
Surrogate/	Tracer recov	ery Test				Recovery%	Ассер	table Limits		
Strontium-9 Carrier/Trace	-			olid-ALL FSS olid-ALL FSS		79 79		%-125%) %-125%)		
Notes: The Qual	lifiers in this	s report are de	efined as	follows :						
< Rest > Rest A The B Tar BD Res C Ana D Res H Ana J Valu	sult is less that sult is greater e TIC is a sus- get analyte v esults are eith alyte has bee sults are repo- alytical hold ue is estimate	an value repo r than value re spected aldol- was detected i her below the en confirmed orted from a d ling time was ed	orted eported condens in the ass e MDC or by GC/W diluted al: exceeded	iquot of the sa	t ery is low umple			1 by 4X or m	ore	

R Sample results are rejected

- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy-Uncertain identification
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Certificate of Analysis

Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch Mtc
		Client Sam Sample ID			9522-000 17754002			Project: Client ID: Vol. Recv.:	YANK	X01204 X001	
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	cticut 06424			Report Date: December 22, 2006				
r	Company : Address :	Connecticut 362 Injun Ho		tomic Power							

Y QC Samples were not spiked with this compound

 \wedge RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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	Company : Address :	Connecticut 362 Injun Ho		tomic Power						
	Contact:	East Hampto Mr. Jack Mc		ticut 06424				Rep	ort Date: December	22, 2006
	Project:	Soils PO# 00	-							
		Client Sam Sample ID Matrix: Collect Dat Receive Da Collector: Moisture:	te:	•	9522-00 1775400 TS 03-NO 10-NO Client 5.5%	V-06	C		ZANK01204 ZANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units .	DF Analyst Date	Time Batch M
ad Gas Flow	v Proportio	nal Counting								
GFPC, Sr90 Strontium-		U FSS	0.0111	+∕−0.0195	0.0156	+/-0.0195	0.0337	pCi/g	KSD1 12/15/0	06 1824 595174
The followin Method	ig Prep Met Descr	hods were pe iption	rformed			Analyst	Date	Time	Prep Batch	·
Dry Soil Prep		oil Prep GL-F	RAD-A-0	21		JMB1	12/12/06		595084	
The followin	σ Analytica	l Methods we	re nerfor	med					·	
lethod	Descri		re perior	incu						
	EPA 9	05.0 Modified	ł					7		
Surrogate/T	racer recov	ery Test				Recovery%	Ассер	table Limits		
trontium–90 Carrier/Tracer				olid–ALL FSS olid–ALL FSS		75 75		%-125%) %-125%)		
		report are de								
< Result > Result A The	It is less that It is greater TIC is a sur	an value repo than value r spected aldol	orted eported -conden	sation product		eptance criteri	a	·		
BD Res C Anal	ults are eith yte has bee	ner below the	e MDC of by GC/M	sociated blank r tracer recove 1S analysis iquot of the sa	ry is low					
		ing time was			mpie	ĸ	χ.			

H Analytical holding timJ Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Certificate of Analysis

Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mte
		Client Sam Sample ID			9522-000 17754002			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Contact: Project:	Mr. Jack Mc Soils PO# 00	•							
		East Hampto	,	ticut 06424				H	Report Date: December	22, 2006
	Company : Address :	Connecticut 362 Injun Ho		tomic Power						

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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	Company : Address :	Connecticut 362 Injun Ho		tomic Power								
		East Hampton Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424	·		Report Date: December 22, 2006					
		Client Samp Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:	te:		9522–00 1775400 TS 03–NOV 10–NOV Client 8.78%	/-06	Cl		ANK01204 ANK001			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst D	ate Time Batch Mtd		
	w Proportion	-										
GFPC, Sr9 Strontium	0, solid–ALL –90	FSS	0.121	+/-0.0277	0.0158	+/-0.028	0.0344	pCi/g	KSD1 12	2/15/06 1824 595174 1		
Method	Descri	ntion				Amolycet						
Dry Soil Prep The followin		oil Prep GL-R				Analyst JMB1	Date 12/12/06	Time 1237	Prep Batch 595084			
	p Dry So ng Analytical Descrij	oil Prep GL–R Methods we								· · · · · · · · · · · · · · · · · · ·		
The followin	ng Analytical Descrij	oil Prep GL–R Methods we	ere perfori							·		
The followin Method	ng Analytical Descrij	bil Prep GL–R Methods wer ption 05.0 Modified	ere perfori				12/12/06					
The followin Method	ng Analytical Descrij EPA 90 Fracer recove	oil Prep GL–R Methods wer ption 05.0 Modified ery Test	ere perforr			JMB1	12/12/06 Accept	1237				
The followin Method I Surrogate/T	ng Analytical Descrij EPA 90 Fracer recove	bil Prep GL–R Methods wer ption 05.0 Modified ery Test GFPC	re perforn 1 C, Sr90, so	med		JMB1 Recovery%	12/12/06 Accepta (25%	1237 able Limits				

BD Results are either below the MDC or tracer recovery is low

- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

- R Sample results are rejected
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Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtc
		Client Sample ID: Sample ID:	9522-0003-002F 177540028	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		tomic Power									
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424				Report Date: December 22, 2006					
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	te:		9522-00 1775400 TS 03-NOV 10-NOV Client 19.8%	/-06	Cl		/ANK01204 /ANK001				
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst D	ate Time Batch Mt			
	-	nal Counting	[
GFPC, Sr9 Strontium	0, solid–ALI –90	L FSS	0.0478	+/0.0239	0.0163	+/-0.024	0.0359	pCi/g	KSDI 12	/15/06 1824 595174 1			
		hods were pe	erformed										
Method		iption				Analyst	Date	Time	Prep Batch				
Dry Soil Prep	Dry S	oil Prep GL–I	RAD-A-0	21		JMB1	12/12/06	1237	595084				
		l Methods we	ere perfor	med				·					
Method	Descr	-											
	EPA 9	05.0 Modified	d										
Surrogate/T	racer recov	ery Test				Recovery%	Accept	able Limits					
Strontium-90)	GFP	C, Sr90, so	lid-ALL FSS	,	69	(25	%-125%)					
Carrier/Trace	er Recovery	GFP	C, Sr90, so	lid-ALL FSS		69	(25)	%-125%)					
Notes: The Qual	ifiers in this	report are d	efined as	follows :									
< Result > Result A The	alt is less the alt is greater TIC is a su	an value repo than value r spected aldo	orted reported 1-conden	outside of spec sation product ociated blank		ptance criteri	a	-					
BD Re	sults are eit	her below the	e MDC of	r tracer recove	ry is low								

- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
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Certificate of Analysis

Parameter	Qualifi	er Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtc
	Client Sample	Sample ID: ID:		9522-000 17754002			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	· .
Contac Projec	et: Mr. Jack	McCarthy # 002332						•	,
	East Han	npton, Conne	ecticut 06424				I	Report Date: December	22, 2006
Compa Addre	2	cut Yankee / n Hollow Rd	Atomic Power						

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		tomic Power						
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424				Rep	ort Date: Decem	ıber 22, 2006
		Client Sam Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:): ite:		9522-00 1775400 TS 03-NOV 10-NOV Client 19.6%	v-06	(ANK01204 ANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Da	ate Time Batch Mtc
Rad Gas Fl	low Proportio	nal Counting	;							
GFPC, Sr Strontiun	r90, solid-ALL n-90	FSS	0.0504	+/-0.0263	0.0167	+/0.0263	0.038	pCi/g	KSD1 12/	/15/06 1824 595174 1
	ving Prep Met		erformed						D. D. d.L	
Method	Descri	•				Analyst	Date	Time	Prep Batch	
Dry Soil Pro	ep Dry So	oil Prep GL-R	RAD-A-0	21		JMB1	12/12/0	6 1237	595084	
-	ing Analytical	l Methods we	ere perfor	med						
wiernog										
Method 1		iption	1							
1		iption 905.0 Modified	`			Recovery%	Accep	ptable Limits		
1	EPA 9	iption 905.0 Modified ery Test	``````````````````````````````````````	lid-ALL FSS		Recovery%		ptable Limits 25%–125%)		
l Surrogate/ Strontium-	EPA 9	iption 005.0 Modified ery Test GFPC	C, Sr90, so	olid-ALL FSS olid-ALL FSS			(2	• • • • • • • • • • • • • • • • • • • •		
I Surrogate/ Strontium- Carrier/Trac Notes:	EPA 9 / Tracer recov 90	iption 005.0 Modifiec ery Test GFPC GFPC	C, Sr90, so C, Sr90, so	olid-ALL FSS		63	(2	.5%-125%)		

- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Parameter		Qualifier Result Uncertaint	y LC TPU	MDA Units DF Analyst Date Time Batch Mtc
		Client Sample ID: Sample ID:	9522-0003-004F 177540030	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Project:	Soils PO# 002332		
	Contact;	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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	Company : Address :	Connecticut 362 Injun Ho		tomic Power						
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	cCarthy	:ticut 06424				Rep	oort Date: Decembe	er 22, 2006
		Client Sam Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:): ite:		952200 1775400 TS 03-NOV 10-NOV Client 9.28%	V-06	Cli		ZANK01204 ZANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	e Time Batch Mtd
Rad Gas Flo	w Proportio	nal Counting	;							
GFPC, Sr9 Strontium	90, solid–ALL –90	, FSS	0.0377	+/-0.0217	0.0146	+/-0.0217	0.0327	pCi/g	KSD1 12/15	5/06 1824 595174 1
		thods were pe	erformed						D Datak	
Method		ription				Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry Se	oil Prep GL-F	RAD-A-0	21		JMBI	12/12/06	1237	595084	
		l Methods we	ere perfor	med						
Method	Descri	-				,				·
1	EPA 9	905.0 Modified	d							
Surrogate/7	Fracer recove	ery Test	< · ·			Recovery%	Accept	able Limits		
Strontium-90			C, Sr90, sc	olid-ALL FSS		75		%-125%)		
Carrier/Trace	r Recovery	GFP	C, Sr90, so	olid-ALL FSS		75	(25°	%-125%)		
* A qu < Resu > Resu A The B Targ BD Res	ality contro alt is less that alt is greater TIC is a sus get analyte v sults are eith	an value repo than value r spected aldol was detected her below the	covery is c orted reported l-condens in the ass e MDC or	outside of spec sation product sociated blank r tracer recove	t	ptance criteri	a			
C Ana D Resi	lyte has bee ults are repo	en confirmed	by GC/M diluted ali	AS analysis liquot of the sa	-					

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

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Certificate of Analysis

Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtc
		Client Sam Sample ID			9522-000 17754003			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	eticut 06424				R	eport Date: December	22, 2006
	Company : Address :	Connecticut 362 Injun Ho		tomic Power						

Х Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

١,

Y QC Samples were not spiked with this compound

 \wedge RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

Preparation or preservation holding time was exceeded h

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	Company : Address :	Connecticut 362 Injun Ho		tomic Power						
	Contact:	East Hampto Mr. Jack Mc		ticut 06424				Re	port Date: December	22, 2006
	Project:	Soils PO# 00	•							
•		Client Sam Sample ID Matrix: Collect Dat Receive Da Collector: Moisture:	te: ate:		9522-00 1775400 TS 03-NOV 10-NOV Client 19.4%	/-06	(YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mte
	ow Proportio	0								
GFPC, Sr. Strontiun	90, solid-ALL 1-90	<i>FSS</i> U	-0.0227	+/-0.0165	0.0153	+/-0.0165	0.0328	pCi/g	} KSD1 12/15/	06 1824 595174 1
The follow Method	ing Prep Met Descr		erformed			Analyst	Date	Time	Prep Batch	
Dry Soil Pre	ep Dry S	- oil Prep GL-F	RAD-A-0	21	1928 - 1929 - 1929 - 1929 - 1929 - 1929 - 1929 - 1929 - 1929 - 1929 - 1929 - 1929 - 1929 - 1929 - 1929 - 1929 -	JMB1	12/12/0	1237	595084	
The followi Method	ing Analytica Descri		re perfor	med						
	····	05.0 Modified	d							
Surrogate/	Tracer recov	ery Test				Recovery%	Acce	ptable Limits		
Strontium-9	90	GFPG	C, Sr90, sc	lid-ALL FSS		77	(2	25%-125%)		
Carrier/Trac	er Recovery	GFPG	C, Sr90, sc	olid-ALL FSS		77	. (2	25%-125%)		
Notes: The Qua	lifiers in this	report are de	efined as	follows :		,				
< Res > Res A The B Tar	sult is less that sult is greater e TIC is a sur	in value repo than value r spected aldo vas detected	orted reported l-conden in the ass	outside of spec sation product sociated blank	:	ptance criteri	a			

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy-Uncertain identification

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Parameter		Qualifier Result Uncertair	ty LC TPU	MDA Units DF Analyst Date Time Batch Mtd
		Client Sample ID: Sample ID:	9522-0003-007F 177540032	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd	r	

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Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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	Company : Address :	Connecticut 362 Injun Ho		omic Power						
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	cCarthy	ticut 06424			-	Rep	ort Date: Decembe	r 22, 2006
		Client Sam Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:): ite:		9522-00 1775400 TS 03-NOV 10-NOV Client 26.9%	V-06	C		ANK01204 ANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mte
	low Proportio 1 [,] 90, solid-ALL m-90	-	g 0.0447	+/-0.0138	0.0102	+/-0.0139	0.0212	pCi/g	KSD1 12/15	/06 1929 595174 1
The follow Method	ving Prep Met	thods were pe ription	erformed			Analyst	Date	Time	Prep Batch	
Dry Soil Pre		oil Prep GL-F				Analyst JMB1	12/12/06		595084	
	ving Analytica Descri	al Methods we	ere perfori					·		
						T 0/	•	· 11 · 7 · • 4		
	Tracer recov					Recovery%		otable Limits		
Strontium-9 Carrier/Trac	cer Recovery			olid-ALL FSS olid-ALL FSS		73 73		5%-125%) 5%-125%)	, · · · ·	
* A q < Res > Res A The B Tat BD Re C An D Res	sult is less tha sult is greater he TIC is a sus rget analyte v lesults are eith halyte has bee	ol analyte reco an value report than value report spected aldol was detected her below the en confirmed orted from a conter	covery is o orted reported of-condens in the ass e MDC or l by GC/M diluted ali	outside of spec sation product sociated blank r tracer recove 1S analysis iquot of the sa	t ery is low	ptance criteri	a	· · ·		

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy-Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Certificate of Analysis

Com Addr		Connecticut 862 Injun Ho		omic Power						
Conta Proje	tact; N	East Hampton Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424				I	Report Date: December	22, 2006
		Client Samj Sample ID:			9522-000 17754003			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		tomic Power						
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	cCarthy	ticut 06424				Rep	oort Date: Decemb	er 22, 2006
		Client Sam Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:): ate: bate:		9522-00 1775400 TS 06-NOV 10-NOV Client 10.9%	V-06	С		(ANK01204 (ANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Dat	e Time Batch Mt
Rad Gas Flo	ow Proportion	nal Counting	5							
GFPC, Sr9 Strontium	90, solid-ALL 1-90	FSS	0.024	+/-0.0122	0.00949	+/-0.0122	0.0197	, pCi/g	KSD1 12/1	5/06 1928 595174 1
The followi Method	ing Prep Metl Descri		erformed			Analyst	Date	Time	Prep Batch	
Dry Soil Prep	p Dry Sc	oil Prep GL-R	RAD-A-0	<i>i</i> 21		JMB1	12/12/06	1237	595084	
The followi	ing Analytical	I Methods we	ere perfor	med						
Method	Descri									
1	ÉPA 9	05.0 Modified	d							
Surrogate/?	Tracer recove	ery Test				Recovery%	Accep	table Limits		
Strontium-90	0	GFP	C, Sr90, sc	olid-ALL FSS		74	(25	;%-125%)		
Carrier/Trace	er Recovery	GFPG	C, Sr90, so	olid-ALL FSS		74	(25	5%-125%)		
Notes: The Qual	lifiers in this	report are d	lefined as	follows :						
< Resu > Resu A The B Targ BD Res C Ana	bult is less that sult is greater e TIC is a sus get analyte w	an value report than value r spected aldol vas detected her below the on confirmed	orted reported ol-condens l in the ass ne MDC or l by GC/M		t ery is low	-	a			

- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Certificate of Analysis

	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd								
·	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 2						
		Client Sample ID: Sample ID:	9522-0003 177540034	-009F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter		Qualifier Result Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtc		

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Y QC Samples were not spiked with this compound

 \wedge RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

Preparation or preservation holding time was exceeded h

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	ompany : ddress :		cut Yankee At Hollow Rd	tomic Power						
Cc	ontact:	East Hamp Mr. Jack M	pton, Connec McCarthy	ticut 06424				Rep	oort Date: Decemb	er 22, 2006
. Pro	oject:	Soils PO#	-							
		Client Sa Sample I Matrix: Collect I Receive Collector Moisture	Date: Date: r:		9522-00 1775400 TS 06-NO' 10-NO' Client 4.79%	V-06			(ANK01204 (ANK001	
Parameter		Qualifier		Uncertainty	LC	TPU	MDA	Units	DF Analyst Dat	e Time Batch Mto
Rad Gas Flow F GFPC, Sr90, s Strontium-90	solid-ALL 0	<i>L FSS</i> U	J -0.00579	+/-0.0111	0.00953	+/-0.0111	0.0198	pCi/g	KSDI 12/1	5/06 1928 595174 I
The following Method		<u>thods were</u> ription	performed			Analyst	Date	Time	Prep Batch	
Dry Soil Prep			-RAD-A-0			JMB1	12/12/		595084	<u> </u>
The following A Method		al Methods								,
1		905.0 Modif								
Surrogate/Tra	cer recov					Recovery%		ceptable Limits		
Strontium-90 Carrier/Tracer R	lecovery			olid-ALL FSS olid-ALL FSS		72 72		(25%–125%) (25%–125%)		
Notes: The Qualifie	ers in this	s report are	e defined as	follows :			,			
 < Result i > Result i A The TI B Target BD Result C Analyte D Results H Analyte J Value is N/A Spike R Sample 	is less that is greater IC is a sur- analyte v Its are eith te has been s are repo- tical hold is estimate e recovery e results a	an value re r than value ispected ald was detecte her below en confirme orted from ling time w red y limits do are rejected	eported the reported dol-condense ed in the ass the MDC or led by GC/M a diluted ali vas exceeded o not apply. d	sation product sociated blank r tracer recove 1S analysis iquot of the sa d	t ery is low ample entration e	exceeds spike	, concentrat:	ion by 4X or m	nore	·

- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- Ul Gamma Spectroscopy---Uncertain identification

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X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mte
		Client Sam Sample ID			9522000 17754003			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	cticut 06424					Report Date: December	22, 2006
	Company : Address :	Connecticut 362 Injun Ho	ollow Rd		·	,				

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

	Company : Address :	Connecticut Yankee . 362 Injun Hollow Rd	Atomic Power						
		·	ations 06474				Dom	oort Date: December	22 2006
	Contact:	East Hampton, Conne Mr. Jack McCarthy	ecticul 06424				Kep	on Date. December	22, 2008
	Project:	Soils PO# 002332	r						
3		Client Sample ID: Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture:		9522-0 177540 TS 06-NO 10-NO Client 8.03%	V-06	C		ANK01204 ANK001	
Parameter		Qualifier Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt
Rad Gas Flo	ow Proportic	onal Counting						<u> </u>	
GFPC, SrS Strontium	9 <i>0, solid-AL</i> 1–90	L FSS U -0.00757	+/-0.0129	0.0111	+/-0.0129	0.0229	pCi/g	KSD1 12/15/	06 1928 595174
		thods were performed							
Method	Desci	ription			Analyst	Date	Time	Prep Batch	
Dry Soil Pre	p Dry S	Soil Prep GL-RAD-A-	021		JMB1	12/12/06	5 1237	595084	
The followi	ing Analytica	al Methods were perfo	rmed						
Method		ription							
l	EPA	905.0 Modified	ر		· · · · · · · · · · · · · · · · · · ·				
Surrogate/	Tracer recov	very Test			Recovery%	Accep	otable Limits		
Strontium-9	0	GFPC, Sr90, s	olid-ALL FSS		73	· (2:	5%-125%)		
Carrier/Trac	er Recovery	GFPC, Sr90, s	olid-ALL FSS		73	(2:	5%-125%)		
Notes:									
	lifiers in this	s report are defined a	s follows :						
* A qu < Res > Res	uality contro ult is less th ult is greate	ol analyte recovery is an value reported r than value reported	outside of spec		eptance criter	ia			
B Tar	get analyte	spected aldol-conde was detected in the as her below the MDC	ssociated blank						
D Res	sults are rep	en confirmed by GC/ orted from a diluted a ling time was exceed	liquot of the sa	mple					
	ue is estimat		u						
		y limits do not apply	Sample conce	entration e	exceeds spike	concentratio	n by 4X or m	nore	
		are rejected alyzed for, but not de	tested shows the	ha MDI	MDA or LO	D			
		oscopyUncertain i		ie wide,	MDA, 01 LU	D.			

UI Gamma Spectroscopy---Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Certificate of Analysis

Parameter		Qualifier Result Uncertaint	ty LC TPU	MDA Units DF Analyst Date Time Batch M
	·	Client Sample ID: Sample ID:	9522-0003-011F 177540036	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

2

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

Company Address :		-	tomic Power							
Contact:	East Hampt Mr. Jack M		cticut 06424				R	eport Date: Dec	ember :	22, 2006
Project:	Soils PO# 0	02332								
	Client Sar Sample II Matrix: Collect Da Receive D Collector: Moisture:	D: ate: Date:		9522-00 1775400 TS 06-NOV 10-NOV Client 12.5%	/-06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001		
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date	Time Batch Mto
Rad Gas Flow Proport	tional Counting	g								
GFPC, Sr90, solid-A	LL FSS									
Strontium-90	U	-0.0083	+/-0.0114	0.00982	+/-0.0114	0.0204	pCi/g	KSDI	12/15/0	06 1928 595174 1
The following Prep M	lethods were p	erformed								

Method	Description	1	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Pr	ep GL-RAD-A-021	JMB1	12/12/06	1237	595084
The following A	Analytical Met	hods were performed				
Method Description						
1	EPA 905.0	Modified				
Surrogate/Trac	cer recovery	Test	Recovery%	Acceptab	le Limits	
Strontium-90		GFPC, Sr90, solid-ALL FSS	75	(25%-	-125%)	
Carrier/Tracer R	ecovery	GFPC, Sr90, solid-ALL FSS	75	(25%-	-125%)	

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- Result is less than value reported <
- > Result is greater than value reported
- The TIC is a suspected aldol-condensation product Α
- В Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- Analyte has been confirmed by GC/MS analysis С
- D Results are reported from a diluted aliquot of the sample
- Analytical holding time was exceeded Н
- Value is estimated J
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy-Uncertain identification
- Х Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtc
		Client Sample ID: Sample ID:	9522-0003-012F 177540037	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd	÷ .	• •

Y QC Samples were not spiked with this compound

 \wedge RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

Preparation or preservation holding time was exceeded h

The above sample is reported on a dry weight basis.

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		tomic Power						
	Contact:	East Hampto Mr. Jack Mc	cCarthy	:ticut 06424				Rep	port Date: December	22, 2006
r	Project:	Soils PO# 00 Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	nple ID:): ate:		9522-000 17754003 TS 06-NOV- 10-NOV- Client 14.2%	38 7-06	Cl		YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mte
Rad Gas Flow GFPC, Sr90, Strontium-9	, <i>solid–ALL</i> 90	L FSS U	0.00789	+/-0.00969	0.00786 +/	/0.00969	0.0163	pCi/g	KSD1 12/15/0	06 1928 595174 1
The following Method		thods were pe ription	erformed			Analyst	Date	Time	Prep Batch	
Dry Soil Prep		soil Prep GL-F	RAD-A-()21		JMB1	12/12/06	1237	595084	
The following	1 Analytica	Methods w	ere nerfor	med						
Method	<u>Descri</u>		ere perie.	meu						
1	EPA 9	905.0 Modified	:d							
Surrogate/Tr	acer recov	very Test				Recovery%	Accep	table Limits		
Strontium-90		-	C, Sr90, sc	olid-ALL FSS		87		5%-125%)		
Carrier/Tracer	Recovery	GFP	C, Sr90, sc	olid-ALL FSS		87	(25	5%-125%)		
Notes: The Qualifi	iers in this	s report are d	lefined as	follows :		ί	ì			
 Result Result A The T B Targe BD Result C Analy D Result H Analy J Value N/A Spik R Samp U Analy UI Gamming 	t is less that t is greater FIC is a sus et analyte v alts are eith yte has bee lts are repor- ytical hold is estimate ce recovery ble results a yte was an ma Spectro	an value report r than value r rspected aldo was detected her below the en confirmed orted from a ling time was red y limits do no are rejected nalyzed for, b oscopyUn	orted reported bl-conden l in the ass ne MDC o d by GC/M diluted al s exceeden not apply.	liquot of the sa d Sample conce tected above th	ery is low ample entration ex he MDL, M	aceeds spike 1DA, or LOI	concentration		nore	

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Parameter	Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mt
	Client Sample ID: Sample ID:	9522-0003-013F 177540038	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Project:	Soils PO# 002332		
Contact	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: December 22, 2006
Compare Address	~		

Y QC Samples were not spiked with this compound

 $^{\wedge}$ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Certificate of Analysis

	Company : Address :	Connecticu 362 Injun		tomic Power								
	Contact:	East Hamr Mr. Jack N	oton, Connec AcCarthy	ticut 06424	,			•	Rep	ort Date: De	cember	22, 2006
	Project:	Soils PO#	002332									
	,	Client Sa Sample I Matrix: Collect D Receive I Collector Moisture	D: Date: Date:		9522-00 1775400 TS 06-NO 10-NO Client 4.71%	/-06		Proje Clier Vol.		ZANK01204 ZANK001		
Parameter	_ _~	Qualifier	Result	Uncertainty	LC	TPU	MDA		Units	DF Analys	t Date	Time Batch M
The followi Method	ng Prep Met Descr	hods were	performed			Analyst	Date		Time	Prep Batc	h	
Dry Soil Prej	p Dry S	oil Prep GL	-RAD-A-0	21		JMB1	12/12	/06	1237	595084		
The followi Method	ng Analytica Descr		were perfor	med								
		005.0 Modif	ied						<u></u>			
Surrogate/]	Fracer recov	ery Tes	st			Recovery%	Aco	eptab	ole Limits			
Strontium-9	0	GF	PC, Sr90, so	lid-ALL FSS		75		(25%-	-125%)			
Carrier/Trace	er Recovery	GF	PC, Sr90, so	lid-ALL FSS		75		(25%-	-125%)			
Notes: The Qual	ifiers in this	report are	defined as	follows :								·
< Resi	ult is less th		ported	outside of spec	ified acce	ptance criteri	a					

- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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	Company : Address :	Connecticut Yankee 362 Injun Hollow Ro							
	Contact: Project:	East Hampton, Conr Mr. Jack McCarthy Soils PO# 002332	ecticut 06424				F	Report Date: December	22, 2006
		Client Sample ID: Sample ID:		9522-000 17754003			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier Resul	t Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt

Y QC Samples were not spiked with this compound.

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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	Company : Address :		cut Yankee At Hollow Rd	tomic Power						
	Contact: Project:	East Hamp Mr. Jack N Soils PO#	-	ticut 06424:				Re	port Date: Dec	cember 22, 2006
		Client Sa Sample I Matrix: Collect D Receive I Collector Moisture	Date: Date: r:		9522-00 1775400 TS 06-NO' 10-NO' Client 4.81%	V-06			YANK01204 YANK001	
Parameter		Qualifier		Uncertainty	LC	TPU	MDA	Units	DF Analyst	t Date Time Batch N
	ow Proportion 90, solid-ALL 1–90	L FSS	ing J −0.00651	+/-0.0168	0.0142	+/-0.0168	0.0292	pÇi/g	KSDI	12/15/06 1928 595174
The followi Method	ing Prep Met		performed			Analyst	Data		Deen Batel	
Method Dry Soil Prep		ription	-RAD-A-0	<u> </u>		Analyst JMB1	Date 12/12/0	Time	•	h
						51712-1	,	JU 120,	575001	
The followin Method	ing Analytica Descri		were periori	med						
1	EPA 9	905.0 Modif	ñed			<u></u>				
Surrogate/7	Tracer recove	ery Tes	st			Recovery%	6 Acc	eptable Limits	3	
Strontium-90				olid-ALL FSS		82		25%-125%)		
Carrier/Trace	er Recovery	GF	PC, Sr90, so	olid-ALL FSS		82	(2	(25%-125%)		
Notes: The Qual	lifiers in this	report are	e defined as	follows :	N					
 < Result > Result A The B Targ BD Result C Ana D Result H Ana 	ault is less that bult is greater e TIC is a sus- get analyte v esults are eith alyte has bee	an value re r than value ispected ald was detecte her below t en confirme orted from a ling time wa	eported te reported dol-condens ed in the ass the MDC or ed by GC/M a diluted ali	liquot of the sa	ct k ery is low		ia			

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy---Uncertain identification

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X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Parameter	Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mt
	Client Sample ID: Sample ID:	9522-0003-015F 177540040	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 22, 2006
Company Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

QC Samples were not spiked with this compound Y

 \wedge RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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22, 2006
1
Time Batch M
0

- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

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Parameter	Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtc
	Client Sample ID: Sample ID:	9522-0004-001F 177540041	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date. December 22, 2000
Company Address :	362 Injun Hollow Rd		Report Date: December 22, 2006

UI Gamma Spectroscopy-Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

1

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	Company : Address :		ut Yankee A Hollow Rd	tomic Power									
	Contact: Project:	East Hamj Mr. Jack M Soils PO#	-	cticut 06424		, 1		Report Date: December 22, 2006					
			ample ID: D: Date: Date: r:		9522-00 1775400 TS 22-NOV 30-NOV Client 3.79%	/-06	C		YANK01204 YANK001				
Parameter		Qualifier	r Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	t Date	Time Batch M		
	ow Proportio 90, solid-ALL 1-90		ng 0.0804	+/-0.0265	0.0163	+/-0.027	0.0358	pCi/g	KSDI	12/19/0	6 1849 595177		
The followi Method	ing Prep Met	hods were iption	performed			Apolyot	Date	Time	Bron Data				
Dry Soil Pre		-	-RAD-A-(121		Analyst JMB1	12/12/06		Prep Batcl 595086	IL			
-		-					12,12,00		575000				
Method	ng Analytica Descr		were perfor	mea									
1 2		005.0 Modif 005.0 Modif							· <u></u>				
Surrogate/	Tracer recov	ery Te	st			Recovery%	Accep	table Limits					
Strontium-9 Carrier/Trac				olid-ALL FSS olid-ALL FSS		77 77		5%-125%) 5%-125%)			· · ·		
* A q < Res > Res A The B Tar BD Res C Ana D Res	ult is less the ult is greater TIC is a su get analyte esults are eit alyte has bee	I analyte r an value re than value spected alc was detected her below confirmed ported from	ecovery is of ported e reported dol-conden ed in the ass the MDC of ed by GC/M a diluted al	outside of spect sation product sociated blank r tracer recover AS analysis iquot of the satistic	t ery is low	ptance criteri	a						

J Value is estimated

- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	LC TPU	Vol. Recv.: MDA Units DF Analyst Date Time Batch Mtc			
		Client Sample ID: Sample ID:	9522-0004-002F Project: YANK01204 177540042 Client ID: YANK001				
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 22, 2006			
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd					

UI Gamma Spectroscopy—Uncertain identification
 X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

 $^{\sim}$ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

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Preparation or preservation holding time was exceeded h

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		tomic Power										
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424			Report Date: December 22, 2006							
		Client Sam Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:	e:		9522-00 1775400 TS 22-NOV 30-NOV Client 3.6%	/-06		Proiect: Client ID: Vol. Recv.:	YAN	<01204 <001				
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analys	t Date	Time	Batch	Mte
Rad Gas Flov GFPC, Sr90 Strontium-), solid–ALL		0.0236	+/-0.0222	0.0167	+/-0.0223	0.0367	pCi/g		KSDI	12/18/0	06 1819	595177	71

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	12/12/06	1224	595086
The following A	Analytical Methods were performed				
Method	Description				
1	EPA 905.0 Modified				
2	EPA 905.0 Modified				
Surrogate/Tra	cer recovery Test	Recovery%	Acceptable	Limits	
Strontium-90	GFPC, Sr90, solid-ALL FSS	77	(25%-12	25%)	

77

(25% - 125%)

Notes:

Carrier/Tracer Recovery

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

GFPC, Sr90, solid-ALL FSS

- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded

J Value is estimated

- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

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Certificate of Analysis

Parameter	Qualifier Result Uncertainty	y LC TPU	MDA Units DF Analyst Date Time Batch Mte
	Client Sample ID: Sample ID:	9522-0004-003F 177540043	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Contact: Project:	Mr. Jack McCarthy Soils PO# 002332		
Contact	East Hampton, Connecticut 06424		Report Date: December 22, 2006
Compan Address			

UI Gamma Spectroscopy---Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun H		tomic Power								
	Contact: Project:	East Hampt Mr. Jack M Soils PO# 0	cCarthy	eticut 06424			Report Date: December 22, 2006					
		Client Sar Sample IE Matrix: Collect Da Receive D Collector: Moisture:	D: ate: Date:		9522-00 1775400 TS 22-NO 30-NO Client 5.44%	V-06	· C		(ANK01204 (ANK001			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Da	te Time Batch Mt		
Strontium-	0, solid–ALL -90	U FSS	-0.0234	+/-0.0195	0.017	+/-0.0195	0.0349	pCi/g	KSD1 12/1	4/06 2006 595177		
The followin Method		hods were p iption	ertormeu	······································		Analyst	Date	Time	Prep Batch	· · · · · · · · · · · · · · · · · · ·		
Dry Soil Prep	Dry S	oil Prep GL-	-RAD-A-0	021		JMB1	12/12/06	5 1224	595086			
The followin Method	Descri		_	med								
' Surrogate/T						Recovery%	Accen	table Limits				
Strontium-90				olid-ALL FSS		68		5%-125%)				
Carrier/Trace	r Recovery			olid-ALL FSS		68	•	5%-125%)				
* A qu < Resu > Resu	ality contro alt is less that alt is greater	an value rep than value	covery is o ported reported	outside of spec		eptance criter	ia					
				sation product sociated blank								

C Analyte has been confirmed by GC/MS analysis

- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

~

- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy-Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtd
		Client Sample ID: Sample ID:	9522-0004-005F 177540045	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Project:	Soils PO# 002332		
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

Y QC Samples were not spiked with this compound

 \wedge RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

J

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Certificate of Analysis

C		с <i>і</i>	37 1 4	n		*				
	ompany : .ddress :	362 Injun H		tomic Power						
C	ontact:	East Hampto Mr. Jack Mc		ticut 06424:		·		Reŗ	port Date: Decem	ıber 22, 2006
	roject:	Soils PO# 00	•							
1	rojeci.	5011S FO# 00	32332							
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:); ite:		9522-00 1775400 TS 22-NOV 30-NOV Client 4.7%	V-06	C		YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Da	ate Time Batch Mtc
Rad Gas Flow	Proportio	nal Counting	;				·			
GFPC, Sr90,	solid–ALI	L FSS				•				
Strontium-9	0	U	0.00284	+/0.0147	0.0123	+/-0.0147	0.0253	pCi/g	KSD1 12/	/15/06 1854 595177 1
				<u>.</u>						
The following	Deen Mot	-	formod							
Method		iption	"IVI meu			Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry S	oil Prep GL-I	RAD-A-0)21		JMB1	12/12/06	5 1224	595086	
	-	·								
The following Method	Analytica Descri		ere perform	med						
1		005.0 Modifie								
I		05.0 Wiounic	1							
Surrogate/Tra	acer recov	ery Test			<u>.</u>	Recovery%	Accep	otable Limits		
Strontium-90		GFP	C, Sr90, sc	olid-ALL FSS		77	(2:	5%-125%)	,	
Carrier/Tracer	Recovery	GFP	C, Sr90, so	olid-ALL FSS		77	(25	5%-125%)		
Notes: The Qualifi	ers in this	report are d	efined as	follows :						
* A qual	the contro	l analuta raa			-: find and		:			
		analyte rec		outside of spec	ined acce	plance criteri	а			
		than value r								
				sation product	ι					
				sociated blank					د	
BD Resu	lts are eith	her below the	e MDC or	r tracer recove						
		n confirmed			-	、 、	-			
D Recult	te are rene	rtad from a	diluted al	iquat of the co	impla					

- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Certificate of Analysis

Parameter		Qualifier Result 'Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mte
		Client Sample ID: Sample ID:	9522-0004-006F 177540046	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Project:	Soils PO# 002332		
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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	Company : Address :	Connecticut 362 Injun He		tomic Power						
	Contact:	East Hampto Mr. Jack Mc		cticut 06424				Rep	oort Date: Decembe	er 22, 2006
	Project:	Soils PO# 0	02332							
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:); ite:		9522-00 1775400 TS 22-NOV 30-NOV Client 6.58%	V-06	Cl		ANK01204 ANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	e Time Batch Mte
Rad Gas Flow	-		3							
GFPC, Sr9(Strontium-), solid–ALL •90	U FSS	0.0368	+/-0.0239	0.0174	+/-0.024	0.0378	pCi/g	KSD1 12/18	8/06 1819 595177 1
The followir Method	ng Prep Met Descr	hods were pe	erformed			Analyst	Date	Time	Prep Batch	
Dry Soil Prep		oil Prep GL-I	RAD-A-()21	<u> </u>	JMB1	12/12/06	1224	595086	
The followin	-	•								,
Method	<u>g Analytica</u> Descri		ere perior	incu			<u> </u>			
1	EPA 9	05.0 Modifie	d	<u> </u>				<u>_</u>		
2	EPA 9	05.0 Modifie	d							
Surrogate/T	racer recov	ery Test				Recovery%	Accept	table Limits		
Strontium-90		GFP	C, Sr90, sc	olid-ALL FSS		77	(25	%-125%)		
Carrier/Trace	r Recovery	GFP	C, Sr90, sc	olid-ALL FSS		77	(25	%-125%)		
Notes: The Quali	fiers in this	report are d	lefined as	follows :						
< Resu	It is less that	l analyte rec an value repo than value i	orted	outside of spec	ified acce	ptance criteri	a	·		
A The B Targ BD Res C Anal	TIC is a sum et analyte v sults are eith yte has bee	spected aldo was detected her below the on confirmed	ol-conden in the ass the MDC of by GC/N	sation product sociated blank r tracer recove AS analysis liquot of the sa	ery is low					
H. Anal		ing time was			mpic					

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

•

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtc
		Client Sample ID: Sample ID:	9522-0004-008F 177540047	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Project:	Soils PO# 002332		
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

UI Gamma Spectroscopy---Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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<u>Certificate of Analysis</u>

	Company : Address :	Connecticut 362 Injun Ho		tomic Power						
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424				Rep	ort Date: Decer	mber 22, 2006
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	le:		9522-00 1775400 TS 22-NO' 30-NO' Client 9.4%	V-06	C		ANK01204 ANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst I	Date Time Batch Mt
Rad Gas Flo	ow Proportio	nal Counting								
GFPC, Srs Strontium	90, <i>solid-AL</i> 1-90	<i>L FSS</i> U	0.0343	+/-0.024	0.0182	+/-0.0241	0.0388	pCi/g	KSD1 1	2/15/06 0844 595177 1
		thods were pe	rformed						·	
Method		ription 				Analyst	Date	Time	Prep Batch	
Dry Soil Pre	p Dry S	Soil Prep GL-F	RAD-A-0	21		JMB1	12/12/06	1224	595086	
The followi Method		al Methods we ription	re perfor	med						<u>.</u>
1	EPA	905.0 Modified	1							
Surrogate/	Tracer recov	ery Test				Recovery%	Accept	table Limits		
Strontium-9	0	GFPG	C, Sr90, so	lid-ALL FSS		76		%-125%)		
Carrier/Trac	er Recovery	GFPG	C, Sr90, so	lid-ALL FSS		76	(25	%-125%)		
Notes: The Qual	lifiers in thi	s report are d	efined as	follows :						
< Res > Res A The B Tar BD Re C Ana D Res H Ana	ult is less th ult is greate e TIC is a su get analyte esults are eit alyte has be sults are rep	an value report r than value r ispected aldo was detected her below the en confirmed orted from a ling time was	orted eported –conden in the ass e MDC or by GC/N diluted al	iquot of the sa	ry is low	eptance criteri	a Č			

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy-Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt
		Client Sam Sample ID			9522–000 17754004			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	eticut 06424]	Report Date: December	22, 2006
	Company : Address :	Connecticut 362 Injun Ho		tomic Power	. •)

QC Samples were not spiked with this compound Y

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

Preparation or preservation holding time was exceeded h

The above sample is reported on a dry weight basis.

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		tomic Power								
	Contact:	East Hampto Mr. Jack Mc		ticut 06424				Rep	ort Date: Dec	ember 2	22, 2006	
	Project:	Soils PO# 00)2332 [.]									
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	te:		9522-000 17754004 TS 22-NOV- 30-NOV- Client 5.53%	-06	Ć		ANK01204 ANK001			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date	Time Batch M	tı
Rad Gas Flow	v Proportio	onal Counting										
GFPC, Sr9(L.	
Strontium-	-90	U	0.019	+/0.025	0.020 -	-/-0.0251	0.0424	pCi/g	KSD1	12/15/0	6 0844 595177	1
The fellowin		the de more no	formered									
Method	-	thods were pe ription	riormea			Analyst	Date	Time	Prep Batch	1		
Dry Soil Prep		Soil Prep GL-F	RAD-A-0	21		JMB1	12/12/0		595086			
The followin	g Analytica	al Methods we	re perfor	med								
Method		iption	- portor									
•	ED 4	005014 115	1								<u> </u>	

EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Strontium-90	GFPC, Sr90, solid-ALL FSS	75	(25%-125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	75	(25%–125%)	

Notes:

1

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Certificate of Analysis

Project: Soils PO# 002332	
East Hampton, Connecticut 06424 Report Date: December 22, 2006 Contact: Mr. Jack McCarthy	

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		tomic Power						
(Contact:	East Hampto Mr. Jack Mc		ticut 06424:				Rep	port Date: Dece	ember 22, 2006
	Project:	Soils PO# 00	•							
		Client Sam Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:	D: ate:		9522-00 1775400 TS 22-NO 30-NO Client 8.26%	V-06	C		YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date Time Batch Mt
Rad Gas Flow GFPC, Sr90, Strontium-9), solid–ALL	nal Counting LFSS	g 0.0296	+/-0.0187	0.0131	+/-0.0188	0.029	pCi/g	KSD1	12/18/06 1819 595177
The following Method	g Prep Metl Descri	thods were pe iption	erformed			Analyst	Date	Time	Prep Batch	
Dry Soil Prep	-	oil Prep GL-R			,,	JMBI	12/12/06	6 1224	595086	
The following Method	g Analytical Descri	l Methods we iption	ere perform	med						· · · ·
1		905.0 Modified 905.0 Modified								
Surrogate/Tr	acer recov	ery Test			•	Recovery%	Accer	ptable Limits		
Strontium–90 Carrier/Tracer	Recovery			olid-ALL FSS olid-ALL FSS		87 87		5%-125%) 5%-125%)		
* A qua < Resul > Resul A The T B Targe BD Resu C Analy D Resul	ality control It is less tha It is greater TIC is a sus et analyte w ults are eith yte has been Its are repo ytical holdi	an value report r than value r spected aldol was detected her below the en confirmed	covery is o forted reported bl-condens l in the ass ne MDC or l by GC/M diluted ali	outside of spec sation product sociated blank r tracer recove MS analysis liquot of the sa	t ery is low	eptance criteria	a			

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

*. y

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	y LC TPU	MDA Units DF Analyst Date Time Batch Mt
		Client Sample ID: Sample ID:	9522–0004–011F 177540050	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Contact: Project:	Mr. Jack McCarthy Soils PO# 002332		
		East Hampton, Connecticut 06424		Report Date: December 22, 2006
	Company : . Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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	Company : Address :			Yankee At ollow Rd	comic Power						
	Contact: Project:	East H Mr. Jac Soils P	ck Mc	Carthy	ticut 06424		,		Rep	oort Date: Dece	ember 22, 2006
		Client Samp Matri Collec Recei Collec Moist	le ID: x: ct Dat ve Da ctor:	te:		9522-00 1775400 TS 22-NOV 30-NOV Client 68.2%	/-06	C		ANK01204 ANK001	
Parameter		Quali	fier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date Time Batch Mte
Rad Gas Flo	w Proportio	nal Cou	nting								
GFPC, Sr9	0, solid-ALL	. FSS									
Strontium	-90		U	0.0196	+/-0.024	0.019	+/-0.024	0.0405	pCi/g	KSDI I	2/15/06 0817 595177 1
The followi	ng Prep Met	hods we	ere pe	rformed							
Method	Descr	iption					Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry S	oil Prep	GL-F	RAD-A-0	21		JMB1	12/12/06	5 1224	595086	
The followi	ng Analytica	l Metho	ds we	re perfor	med						
Method	Descr	iption	-	•			•				
1	EPA 9	005.0 Mo	odified	d			•				
Surrogate/7	Fracer recov	ery	Test				Recovery%	Accep	table Limits		
Strontium-9	0		GFPG	C, Sr90, so	lid-ALL FSS		83	(2:	5%-125%)		<u></u>
Carrier/Trace	er Recovery		GFPO	C, Sr90, so	lid-ALL FSS		83	(25	5%-125%)		
Notes:											

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mt
		Client Sample ID: Sample ID:	9522-0004-012F 177540051	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Project:	Soils PO# 002332		
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: December 22, 2006
	Address :	362 Injun Hollow Rd		
	Company :	Connecticut Yankee Atomic Power		

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

	Company : Address':	Connecticut 362 Injun Ho		omic Power							
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332						Rep	ort Date: Dec	cember (22, 2006
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:): ite:		9522-000 17754005 TS 22-NOV- 30-NOV- Client 78.5%	2 -06	Cli		ANK01204 ANK001		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	t Date	Time Batch Mt
Rad Gas Flo	w Proportio	nal Counting	ş	- <u>-</u> .							
GEPC SeC	0, solid-ALL	ESS				(0.0211	0.0385	-Cila	KOL	12/18/0	6 1819 595177
Strontium			-0.00038	+/-0.0211	0.0177 +	/0.0211	0.0385	pCi/g	KSDI	12/10/0	0 1019 595177
Strontium	-90 ng Prep Met	U -		+/-0.0211	0.0177 +		Date	Time			
Strontium The followi Method	–90 n <u>g Prep Met</u> Descr	U -	erformed		0.0177 +	Analyst JMB1			Prep Batch 595086		
Strontium The followi Method Dry Soil Pre	–90 ng Prep Met Descr	U thods were pe iption oil Prep GL-F	erformed RAD-A-02	21	0.0177 +	Analyst	Date	Time	Prep Batch		· · · · · · · · · · · · · · · · · · ·
Strontium The followi Method Dry Soil Pre	–90 ng Prep Met Descr	U - thods were pe iption oil Prep GL-f il Methods we	erformed RAD-A-02	21	0.0177 +	Analyst	Date	Time	Prep Batch		· · · · · · · · · · · · · · · · · · ·
Strontium The followi Method Dry Soil Pre The followi	–90 ng Prep Met Descr Dry S ng Analytica Descr	U thods were pe iption oil Prep GL-f il Methods we	erformed RAD-A-02 ere perforr	21	0.0177 +	Analyst	Date	Time	Prep Batch		```
Strontium The followi Method Dry Soil Prep The followin Method I	-90 ng Prep Met Descr Dry S ng Analytica Descr EPA S	U thods were pe iption oil Prep GL-H Il Methods we iption	erformed RAD-A-02 ere perform	21	0.0177 +	Analyst	Date	Time	Prep Batch		· · · · · · · · · · · · · · · · · · ·
Strontium The followi Method Dry Soil Prep The followin Method 1 2	-90 ng Prep Met Descr Dry S ng Analytica Descr EPA S	U thods were per iption oil Prep GL-f il Methods we iption 205.0 Modified	erformed RAD-A-02 ere perform ed ed	21		Analyst	Date 12/12/06	Time	Prep Batch		· · · · · · · · · · · · · · · · · · ·
Strontium The followi Method Dry Soil Prep The followin Method i 2 Surrogate/7	-90 ng Prep Met Descr Dry S ng Analytica Descr EPA S EPA S Fracer recov	U thods were peription oil Prep GL-F al Methods we iption 205.0 Modified 205.0 Modified rery Test	erformed RAD-A-02 ere perform ed ed	21		Analyst JMB1	Date 12/12/06 Accepta	Time 1224	Prep Batch		×
Strontium The followi Method Dry Soil Prep The followin Method 1 2	-90 ng Prep Met Descr Dry S ng Analytica Descr EPA 9 EPA 9 Fracer recov	U thods were peription oil Prep GL-f il Methods we iption 205.0 Modified 205.0 Modified ery Test GFP0	erformed RAD-A-02 ere perform ed ed C, Sr90, so	21 med		Analyst JMB1 Recovery%	Date 12/12/06 Accepta (25%	Time 1224	Prep Batch		· · · · · · · · · · · · · · · · · · ·

- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

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Certificate of Analysis

	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd	a	
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 22, 2006
		Client Sample ID: Sample ID:	9522-0004-013F 177540052	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtc

Ul Gamma Spectroscopy---Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		tomic Power							
	Contact: N		East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332				Report Date: December 22, 2006				
		Client Sam Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:	e:		9522-00 1775400 TS 22-NO 30-NO Client 51.1%	V-06	_ Cl		7ANK01204 7ANK001		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst D	ate Time Batch Mtd	
	90, solid–ALI	nal Counting FSS	0.0195	+/-0.0171	0.0138	+/-0.0171	0.0284	pCi/g	KSD1 12	2/15/06 1854 595177 1	
The followi		hods were pe iption	rformed			Analyst	Date	Time	Prep Batch	<u>.</u>	
Dry Soil Pre	p Dry S	oil Prep GL-R				JMBI	12/12/06	1224	595086		
Method	Descr		re perior								
1	EPA 9	05.0 Modified	1								
Surrogate/	Tracer recov	ery Test				Recovery%	Accept	able Limits			
Strontium-90		GFPC	C, Sr90, so	lid-ALL FSS		71	(25)	%-125%)			
Carrier/Tracer Recovery		GFPC, Sr90, solid–ALL FSS \sim			71	(25%-125%)					
Notes: The Qual	lifiers in this	report are de	efined as								
< Res > Res A The	ult is less that ult is greater TIC is a su	an value repo than value r spected aldol	orted eported -condens	outside of spec sation product ociated blank	:	eptance criteri	a				

- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy-Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Certificate of Analysis

Parameter		Qualifier Result Uncertain	ty LC TPU	MDA Units DF Analyst Date Time Batch Mt			
		Client Sample ID: Sample ID:	9522-0004-014F 177540053	Project: YANK01204 Client ID: YANK001 Vol. Recv.:			
I	Project:	Soils PO# 002332					
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: December 22, 2006			
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd					

J

Y QC Samples were not spiked with this compound

 \wedge RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

Preparation or preservation holding time was exceeded h

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Certificate of Analysis

	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd							:		
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	cCarthy	ticut 06424				ort Date: Decem	Date: December 22, 2006		
		Client Sam Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:): ite:		9522-00 1775400 TS 22-NOV 30-NOV Client 10.3%	V-06	Cl		YANK01204 YANK001		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Da	ate Time Batch Mt	
Rad Gas Fle	ow Proportio	onal Counting	5								
GFPC, SrS Strontium	90, <i>solid–ALL</i> n–90	<i>L FSS</i> U	0.0359	+/-0.0237	0.0166	+/-0.0238	0.0369	pCi/g	KSD1 12/	/18/06 1833 595177 1	
The follow	ing Prep Me	thods were pe	erformed	×							
Method	~ .	ription				Analyst	Date	Time	Prep Batch		
Dry Soil Pre	p Dry S	Soil Prep GL-R	RAD-A-0	<i>i</i> 21		JMB1	12/12/06	1224	595086		
The followi	ing Analytics	al Methods we	ere perfor	med			•				
Method		-iption	<u> </u>			·····					
1	EPA 9	905.0 Modified	d			·····	•			-	
2	EPA 9	905.0 Modified	d								
Surrogate/	Tracer recov	very Test				Recovery%	Accept	table Limits			
Strontium-9		GFPC, Sr90, solid-ALL FSS				80	(25'	%-125%)			
Carrier/Trace	er Recovery	GFPC	C, Sr90, sc	olid-ALL FSS		80	(25%	6%-125%)			
* A qu < Res > Res A The B Tar BD Re	uality contro sult is less tha sult is greater e TIC is a su- rget analyte v esults are eitl	an value report r than value r ispected aldol was detected ther below the	covery is c orted reported ol-condens l in the ass le MDC or	follows : outside of spec isation product sociated blank or tracer recove MS analysis	t .		a /				

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

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Certificate of Analysis

Parameter		Qualifier Result Uncerta	inty LC TPU	MDA Units DF Analyst Date Time Batch Mte
		Client Sample ID: Sample ID:	9522-0004-015F 177540054	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
1	Project:	Soils PO# 002332		
(Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy	4	Report Date: December 22, 2006
	Company : Address :	Connecticut Yankee Atomic Pow 362 Injun Hollow Rd	er	~

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

* RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Certificate of Analysis

	Company : Address :		ut Yankee A Hollow Rd	tomic Power						
	Contact: Project:	East Hamj Mr. Jack N Soils PO#	•	cticut 06424				Rep	oort Date: December	22, 2006
		Client Sa Sample I Matrix: Collect I Receive Collector Moisture	Date: Date: r:		9522-000 17754005 TS 22-NOV 30-NOV Client 14.8%	55 06	C		YANK01204 YANK001	2
Parameter		Qualifie	r Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt
Rad Gas Flo	w Proportio	nal Counti	ng	· · · · · · · · · · · · · · · · · · ·		i			· · · · · · · · · · · · · · · · · · ·	
GFPC, Sr9 Strontium-	0, solid-ALI -90	L <i>FSS</i> U	J 0.00675	+/-0.0157	0.013 -	+/-0.0157	0.0268	pCi/g	KSD1 12/15/	06 1854 595177 1
The followin			performed							
Method		ription				Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry S	oil Prep GL	-RAD-A-0	21		JMB1	12/12/06	1224	595086	
The followir			were perfor	med						
Method	Descr							. <u></u>		
1	EPA 9	905.0 Modif	fied							
Surrogate/T	racer recov	ery Te	st			Recovery%	Accep	table Limits		
Strontium-90	0	GF	PC, Sr90, so	lid-ALL FSS		68	(25	5%-125%)		
Carrier/Trace	er Recovery	GF	FPC, Sr90, so	olid-ALL FSS		68	(25	%-125%)		
	ifiers in this	•								
< Resu	ality contro alt is less th alt is greate	an value re	eported e reported	outside of spec	ified accep	otance criteri	a			

- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Certificate of Analysis

Parameter	(Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mte
		Client Sam Sample ID:			9522-000 17754005			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Contac Projec	et: M	ast Hampto lr. Jack Mc oils PO# 00	Carthy	ticut 06424				Ŧ	Report Date: December	22, 2006
Compa		onnecticut ' 52 Injun Ho		tomic Power						

7

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.



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QC Summary

Report Date: December 22, 2006 Page 1 of 2

362 Injun Hollow Rd

East Hampton, Connecticut Mr. Jack McCarthy

Connecticut Yankee Atomic Power

Workorder: 177540

Client :

Contact:

Parmname			NOM	Sample (Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Gas Flow											
Batch 595	174										
QC1201245013	177540021	DUP									
Strontium-90				0.0584		0.141	pCi/	g 83*		(0% - 100%) KSD1	12/15/06 14:39
			Uncert:	+/-0.0287		+/-0.0374		-			
		•	TPU:	+/-0.0288		+/-0.0375					
QC1201245015	LCS										
Strontium-90			1.58			1.68	pCi/į	g	, 107	(75%-125%)	12/15/06 20:06
			Uncert:			+/-0.153					
			TPU			+/-0.161					i
QC1201245012	MB										
Strontium-90					U	-0.0237	pCi/g	g			12/15/06 19:33
			Uncert:			+/-0.0106	~				
			TPU:			+/-0.0106					
QC1201245014	177540021	MS									
Strontium-90			5.15	0.0584		5.07	pCi/Į	g	97	(75%-125%)	12/15/06 20:06
			Uncert:	+/-0.0287		+/-0.459					
			TPU:	+/-0.0288		+/-0.482					
Batch 595	177										
QC1201245021	177540041	DHP									
Strontium-90	1775 100 11		U	0.0197	U	-0.00914	pCi/į	g 0		(0% - 100%) KSD1	12/18/06 14:48
			Uncert:	+/-0.0223	Ũ	+/-0.0185	Pe.,			(0,0 100,0, 1002.	
			TPU:	+/-0.0224		+/-0.0185					
QC1201245023	LCS		n o.	0.0221							
Strontium-90			1.58			1.58	pCi/g	g	100	(75%-125%)	12/14/06 17:39
			Uncert:			+/-0.121	r c	5		(
			TPU:			+/-0.250					
QC1201245020	MB										
Strontium-90					U	0.00173	pCi/į	g			12/18/06 18:33
			Uncert:			+/-0.0167		-			
			TPU:			+/-0.0167					
QC1201245022	177540041	MS									
Strontium-90			4.92 U	0.0197		5.26	pCi/g	g	107	(75%-125%)	12/15/06 08:09
	,		Uncert:	+/-0.0223		+/-0.360		-			
			TPU:	+/-0.0224		+/-0.483					
Batch 597	316										
QC1201250080	177540001	חווס									*
Strontium-90	177540001	DUF	TI	-0.0168		0.0309	pCi/į	g [·] 2		(0% - 100%) KSD1	12/22/06 12:05
Suomum-20			U Uncert:	+/-0.0162		+/-0.0186	pent	5 2		(070 - 10070) KSD1	12/22/00 12.05
			TPU:	+/-0.0162		+/-0.0186					
QC1201250082	LCS		IPU:	+/-0.0102		+/-0.0180					
Strontium-90	LCS		1.46			1.43	pCi/g	· r	98	(75%-125%)	12/21/06 20:14
Strontium 50			Uncert:			+/-0.0938	peng	5	70	(7576-12570)	12/21/00 20.14
						+/-0.102					
QC1201250079	MB		TPU:			±/-0.102					
Strontium-90	MD				U	-0.00679	pCi/į	'n			12/21/06 19:01

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QC Summary

NOM	Sample Qual	00							
	Jumpie Quin	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Uncert:		+/-0.0159							
TPU:		+/-0.0159							
									-
4.25 U	-0.0168	3.52	pCi	/g	83	(75%-125%))	12/21/0	6 20:14
Uncert:	+/-0.0162	+/-0.245							
TPU:	+/-0.0162	+/-0.257							
	TPU: 4.25 U Uncert:	TPU: 4.25 U -0.0168 Uncert: +/-0.0162	TPU: +/-0.0159 4.25 U -0.0168 3.52 Uncert: +/-0.0162 +/-0.245	TPU: +/-0.0159 4.25 U Uncert: +/-0.0162 +/-0.245	TPU: +/-0.0159 4.25 U -0.0168 3.52 pCi/g Uncert: +/-0.0162 +/-0.245	TPU: +/-0.0159 4.25 U -0.0168 3.52 pCi/g 83 Uncert: +/-0.0162 +/-0.245 83	TPU: +/-0.0159 4.25 U -0.0168 3.52 pCi/g 83 (75%-125%) Uncert: +/-0.0162 +/-0.245 83 (75%-125%)	TPU: +/-0.0159 4.25 U -0.0168 3.52 pCi/g 83 (75%-125%) Uncert: +/-0.0162 +/-0.245 83 (75%-125%)	TPU: +/-0.0159 4.25 U -0.0168 3.52 pCi/g 83 (75%-125%) 12/21/06 Uncert: +/-0.0162 +/-0.245 12/21/06

Notes:

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J _Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more. ** Indicates analyte is a surrogate compound.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result. For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

RELEASE RECORD

ATTACHMENT 4 (DQA RESULTS)

RELEASE RECORD

ATTACHMENT 4A (PRELIMINARY DATA REVIEW)

RELEASE RECORD Attachment 4

1

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Survey Unit:	9522-0001
Area Description	Southeast Grounds (non-protected)
Classification	2 、
Survey Media	Surface Soils
Type of Survey	Final Status Survey
Number of Measurements	15 Static, 8 Investigative

	-	ISTICS on T OPULATIO	-		• · · · ·	ISTICS on I	
	Cs-137	Co-60	Sr-90		Cs-137	Co-60	Sr-90
DCGL _{op} (ρCi/g):	5.38E+00	2.59E+00	1.05E+00	DCGL _{op} (pCi/g):	5.38E+00	2.59E+00	1.05E+00
Minimum Value:	0.00E+00	-1.47E-02	-1.28E-02	Minimum Value:	2.77E-02	-7.76E-03	-1.28E-02
Maximum Value:	3.08E+00	5.70E-02	7.66E-01	Maximum Value:	3.08E+00	5.70E-02	7.66E-01
Meań:	4.20E-01	1.29E-02	7.65E-02	Mean:	5.70E-01	1.32E-02	7.65E-02
Median:	1.70E-01	1.18E-02	2.88E-02	Median:	2.91E-01	1.15E-02	2.88E-02
Standard Deviation:	6.49E-01	1.75E-02	1.95E-01	Standard Deviation:	7.72E-01	1.90E-02	1.95E-01
DCGL _{sur} (ρCi/g):	2.80E+00			Nuclide Distribution:	0.841	0.008	0.151

	0.000			Cs	137			Co	-60			Sr	-90		
Sample ID	North	ordinates , East	Result (ρCi/g)	2σ	MDA (pCi/g)	Identified	Result (pCi/g)	2σ	MDA (pCi/g)	Identified	Result (pCi/g)	2σ	MDA (pCi/g)	Identified	Fraction of DCGL
9522-0001-00 1 F	236516.39	669283.45	6.77E-01	0.098	5.13E-02	+	-1.86E-04	0.028	5.31E-02		1.68E-02	0.016	3.14E-02	+	0.142
9522-0001-002F	236516.39	669359.45	6.66E-01	0.068	6.00E-02	+	2.40E-02	0.029	6.07E-02		-1.28E-02	0.018	3.60E-02		0.121
9522-0001-003F	236450.56	669321.45	1.17E+00	0.117	7.77E-02	+	-2.28E-03	0.055	9.96E-02		4.20E-02	0.021	3.04E-02	+	0.257
9522-0001-004F	236450.56	669397.46	6.37E-01	0.060	2.75E-02	+	2.27E-02	0.016	3.09E-02	+	3.19E-02	0.024	3.76E-02	+	0.158
9522-0001-005F	236384.73	669283.45	8.24E-01	0.106	4.89E-02	+	5.08E-02	0.026	6.05E-02	+ .	1.79E-02	0.018	2.96E-02	+	0.190
9522-0001-006F	236384.73	669359.45	3.08E+00	0.251	4.34E-02	+	5.70E-02	0.047	3.99E-02	+	1.59E-01	0.026	2.64E-02	+	0.746
9522-0001-008F	236318.91	669397.46	2.23E-01	0.038	3.09E-02	+	3.85E-03	0.020	3.91E-02		3.61E-02	0.031	4.95E-02	+	0.077
9522-0001-009F	236253.08	669283.45	1.16E-01	0.034	3.53E-02	+	-3.91E-03	0.020	3.73E-02		1.97E-04	0.018	3.27E-02	6	0.020
9522-0001-0010F	236253.08	669359.45	2.39E-01	0.041	4.00E-02	+	-7.76E-03	0.023	3.43E-02		2.88E-02	0.024	3.88E-02	+	0.069

RELEASE RECORD

Attachment 4

				Cs	-137			Co	o-60			S	r-90		
Sample ID	GPS Coo	East	Result (pCi/g)	2σ	MDA (pCi/g)	Identified	Result (pCi/g)	2σ	MDA (pCi/g)	Identified	Result (ρCi/g)	2σ	MDA (pCi/g)	Identified	Fraction of DCGL
0500 0004 00145		1	(pci/g) 1.17E-01	0.031	3.63E-02			0.022	4.28E-02		-6.62E-03	0.015	2.89E-02		0.021
9522-0001-0011F	236253.08	669435.46				+	1.32E-02								
9522-0001-0012F	236187.25	669245.44	5.04E-02	0.044	3.93E-02	+	1.22E-02	0.023	4.60E-02		3.70E-02	0.018	2.60E-02	+	0.049
9522-0001-0013F	236187.25	669321.45	2.77E-02	0.022	4.74E-02	+	3.35E-03	0.025	4.98E-02		3.35E-02	0.024	3.43E-02	+	0.038
9522-0001-0014F	236187.25	669397.46	2.91E-01	0.064	4.11E-02	+	0.00E+00	0.016	2.67E-02		7.66E-01	0.116	7.19E-02	+	0.784
9522-0001-0015F	236121.43	669359.45	4.11E-02	0.045	8.57E-02		1.38E-02	0.045	8.44E-02		8.07E-04	0.020	3.81E-02		0.014
9522-0001-0016F	236308.33	669394.58	3.89E-01	0.049	3.63E-02	+	1.15E-02	0.043	3.89E-02		-2.89E-03	0.018	3.54E-02-	, in the second s	0.074
9522-0001-009FS	236253.08	669283.45	1.01E-01	0.035	3.16E-02	+	6.98E-03	0.028	3.84E-02						0.021
9522-0001-0017-I	236136.88	669384.53	0.00E+00	0.048	4.51E-02		1.28E-02	0.030	5.01E-02						0.005 *
9522-0001-0018-I	236124.11	669364.90	8.04E-02	0.048	5.56E-02	+	1.20E-02	0.031	4.24E-02						0.033 *
9522-0001-0019-1	236093.52	669367.74	4.95E-02	0.042	4.99E-02	+	4.30E-02	0.043	5.23E-02	+ .					0.034 *
9522-0001-0020-I	236106.07	669351.31	3.56E-02	0.019	2.67E-02	+	4.71E-03	0.014	2.82E-02						0.015 *
9522-0001-0021-l	236255.72	669254.25	5.19E-01	0.063	3.27E-02	+	2.53E-02	0.019	3.82E-02	+					0.195 *
9522-0001-0022-I	236251.53	669261.17	6.53E-02	0.024	3.28E-02	+	1.79E-02	0.018	3.49E-02	+					0.030 *
9522-0001-0023-I	236246.38	669269.80	5.50E-02	0.030	4.23E-02	+	-1.47E-02	0.023	3.86E-02						0.014 *
9522-0001-0024-1	236414.93	669427.88	6.30E-01	0.062	4.24E-02	+	4.35E-03	0.026	4.68E-02						0.227 *

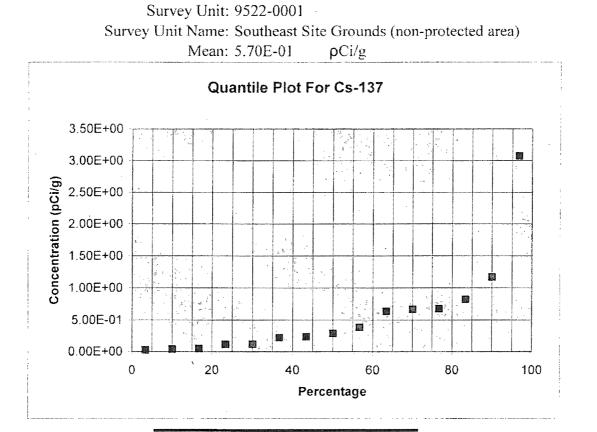
* The Operational DCGL for Cs-137 has been adjusted to 2.80 pCi/g as a surrogate to account for the potential presence of HTD radionuclide Sr-90.

OTHER RADIONUCLIDES

Sample ID	Isotope	Result (ρCi/g)	2σ	MDA (pCi/g)	Identified	DCGL _{op} (ρCi/g)	Fraction of DCGL
9522-0001-008F	Pu-241	1.10E+01	8.260	1.35E+01	+	5.9E+02	0.02
9522-0001-014F	Tc-99	1.94E-01	0.161	2.68E-01	+	8.6E+00	0.02

RELEASE RECORD

ATTACHMENT 4B (GRAPHICAL REPRESENTATION OF DATA)

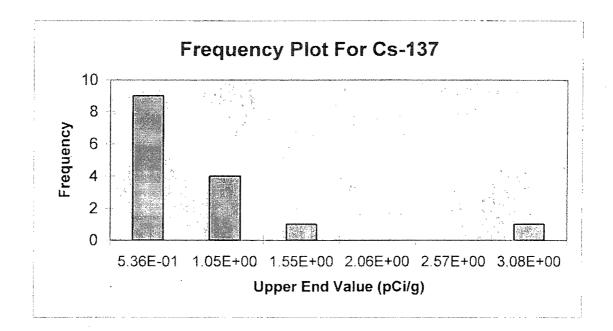


Cs-137	Rank	Percentage
2.77E-02	1	3.3%
4.11E-02	2	10.0%
5.04E-02	3	16.7%
1.16E-01	• 4	23.3%
1.17E-01	5	30.0%
2.23E-01	6	36.7%
2.39E-01	7	43.3%
2.91E-01	8	50.0%
3.89E-01	9	56.7%
6.37E-01	10	63.3%
6.66E-01	11	70.0%
6.77E-01	12	76.7%
8.24E-01	13	83.3%
1.17E+00	.14	90.0%
3.08E+00	15	96.7%

1/8/07 D.WOUTKOWIAK E. MOSEREN 1/8/07 Submitted by/Date Reviewed by/Date

FREQUENCY PLOT FOR CESIUM-137

Survey Unit: 9522-0001 Survey Unit Name: Southeast Site Grounds (non-protected area) Mean: 5.70E-01 pCi/g



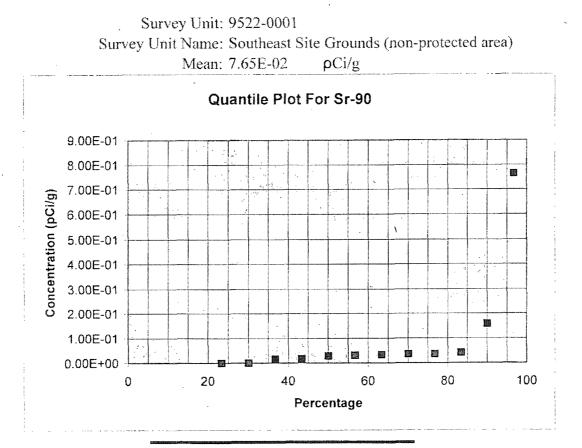
Upper End	Observation	Observation
Value	Frequency	Frequency
5.36E-01	9	60%
1.05E+00	4	. 27%
1.55E+00	• 1	7%
2.06E+00	0	0%
2.57E+00	0	0%
3.08E+00	1	7%
Total:	15	100% ·

1/8/07 D. WOJTKOWIAK bv/Date Submitted 1/8/07 g lif

Reviewed by/Date

1 of 1

QUANTILE PLOT FOR STRONTIUM-90

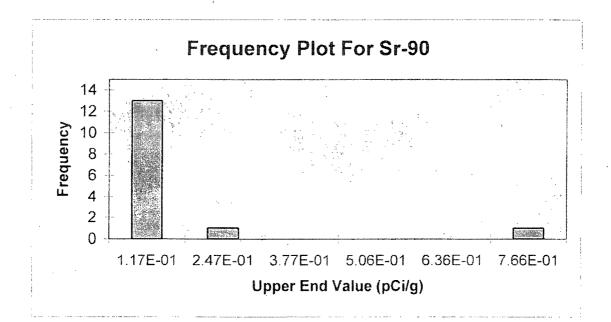


Sr-90	Rank	Percentage
-1.28E-02	1	3.3%
-1.286-02	1	
-6.62E-03	2	10.0%
-2.89E-03	3	16.7%
1.97E-04	• 4	23.3%
8.07E-04	5	30.0%
1.68E-02	. 6	36.7%
1.79E-02	7	43.3%
2.88E-02	8	50.0%
3.19E-02	9	56.7%
3.35E-02	10	63.3%
3.61E-02	11	70.0%
3.70E-02	12	76.7%
4.20E-02	13	83.3%
1.59E-01	14	90.0%
7.66E-01	15	96.7%

1/8/07 D. WOJKOWIAK 1958 juli 1/8/07 Submitted by/Date Reviewed by/Date

FREQUENCY PLOT FOR STRONTIUM-90

Survey Unit: 9522-0001 Survey Unit Name: Southeast Site Grounds (non-protected area) Mean: 7.65E-02 pCi/g



Upper End	Observation	Observation
Value	Frequency	Frequency
1.17E-01	13	87%
2.47E-01	1	7%
3.77E-01	• 0	0%
5.06E-01	0	0%
6.36E-01	0	0%
7.66E-01	1	7%
Total:	15	100%

D.Wattkowiak 1/8/07 Submitted by/Date

ASSACTU 1/8/07-1 Reviewed by/Date

RELEASE RECORD

ATTACHMENT 4C (SIGN TEST)

Sign Test Calculation Sheet for Multiple Radionuclides

Survey Area Numbe	r: 9	522	Sur	vey Unit Number:		0001	WPIR #:	2006	-0047
Survey Area Name:		st Site Grounds tected area)	Clas	sification:	2	TYPE I (a erro	r): 0.05	N:	15
Radionuclides:	1 st Radionuc Cs-137	clide 2 nd Radionu Co-60	clide	3 rd Radionuclide Sr-90	Ð	4 th Radionuclide			······
DCGL:	5.38E+0	0 2.59E+0	0	1.05E+00					
Results 1 st Radionuclide (pCi/g)	Results 2 nd Radionuclide (pCi/g)	Results 3 rd Radionuclide (pCi/g)		Results 4 th Radionuclide (pCi/g)	Wei	ghted Sum (W _s)	1-W _s		Sign
6.77E-01	-1.86E-04	1.68E-02	-			0.14	0.86	-	+1
6.66E-01	2.40E-02	-1.28E-02	1			0.12	0.88	1	+1
1.17E+00	-2.28E-03	4.20E-02	1			0.26	0.74	1	+1
6.37E-01	2.27E-02	3.19E-02	1	· ·		0.16	0.84	-	+1
8.24E-01	5.08E-02	1.79E-02				0.19	0.81	1	+1
3.08E+00	5.70E-02	1.59E-01				0.75	0.25	1	+1
2.23E-01	3.85E-03	3.61E-02				0.08	0.92		+1
1.16E-01	-3.91E-03	1.97E-04				0.02	0.98	1	+1
2.39E-01	-7.76E-03	2.88E-02				0.07	0.93	1	+1
1.17E-01	1.32E-02	-6.62E-03				0.02	0.98		+1
5.04E-02	1.22E-02	3.70E-02				0.05	0.95		+1
2.77E-02	3.35E-03	3.35E-02				0.04	0.96		+1
2.91E-01	0.00E+00	7.66E-01				0.78	0.22		+1
4.11E-02	1.38E-02	8.07E-04				0.01	. 0.99		+1
3.89E-01	1.15E-02	-2.89E-03		·····		0.07	0.93		+1
									-
					Nu	mber of positive	differences (S+)	15
(Critical Value	11	Surv	vey Unit	Nee	ts the Acc	eptance Criteria	3	
Performed by: <u>E</u>	avid Wojtkowiak	Dest-	* ~~~	Date: `		1/8/2007			
ndependent Review	by: 12, best My	asserbill	\sum	Date:		1/8/07			-

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RELEASE RECORD

ATTACHMENT 4D (QC SPLIT RESULTS)

{

Split Sample Assessment Form

Survey Area #:	9522	Survey Unit #	0001	Survey Unit I	Name:	Southeast Sit (non-protecte		
Sample Plan or	WPIR#:	2006-0047				SML#:	9522-0001-00	9
Sample Descrip spectroscopy by 009FS.								
		STANDARD				COMP	ARISON	
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)
Cs-137	1.16E-01	0.017	7	0.5 - 2.0	1.01E-01	0.018	0.87	Ŷ
						· · · · · · · · · · · · · · · · · · ·		

			*					
Comments/Corr	ective Action	s: None		.	Table is provi assess split sa		ceptance criteri	a used to
				·		<u>Resolution</u> 4 - 7 8 - 15 16 - 50 51 - 200	Agreement Range 0.5 - 2.0 0.6 - 1.66 0.75 - 1.33 0.80 - 1.25	
			x .			>200	0.85 - 1.18	
							, ,	
Performed by: 1	D. Wojtkowia		Date: 1/4/2007	Reveiwed by:	Richos	532-511 77	Date:	107
) .				6			

RELEASE RECORD

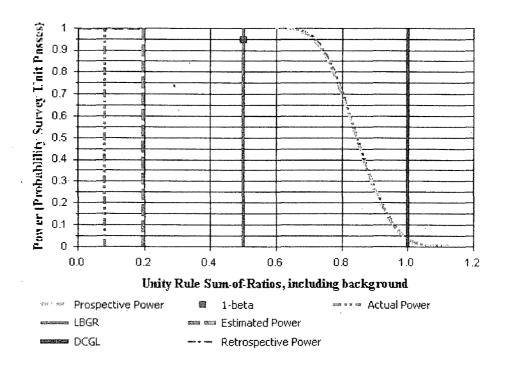
ATTACHMENT 4E (COMPASS DQA WITH POWER CURVE)



Assessment Summary

Site:	Southeast Grounds (non-protected area) 2		
Planner(s):	Wojo		
Survey Unit Name:	9522-0001		
Report Number:	1		
Survey Unit Samples:	15		
Reference Area Samples:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	Reject Null Hypothesis (S	urvey Unit PASSES	3)

Retrospective Power Curve



CYAPCO FINAL STATUS SURVEY RELEASE RECORD SOUTHEAST SITE GROUNDS (NON-PROTECTED AREA) SURVEY UNIT 9522-0001

Prepared By:-WATTKOWIAK FSS Engineer 1ASS Reviewed By **FSS** Engineer

Date: 1/19/07

Date: 1/9/07

Date: 1/8/07

Approved By: Clycet. neuro Technical Support Manager

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TOTAL 370

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1. SURVEY UNIT DESCRIPTION

Survey Unit 9522-0001 (Southeast Site Grounds (non-protected area) is designated as Final Status Survey (FSS) Class 2 and consists of approximately six thousand nine hundred and seventy two square meters (6,972 m²) of uninhabited, undeveloped land and is located approximately one thousand and fifty five feet (1,055 ft) from the reference coordinate system benchmark used at Haddam Neck Plant (HNP) (see Attachment 1). The survey unit is bounded as follows: land Survey Unit 9522-0002, land Survey Unit 9522-0003 and land Survey Unit 9522-0004 to the north (called north as oriented with the north to south flow of the Connecticut River), the Discharge Canal to the west, land Survey Unit 9539-0001 to the south, and land Survey Unit 9532 to the east. The survey unit is located along the southern boundary of Survey Area 9522, from the northern transmission tower south to the owner-controlled area fence. It is comprised mostly of rock outcroppings, rock ledge, underbrush and trees. The eastern portion of the survey unit has a moderate slope running east to west. The Independent Spent Fuel Storage Installation (ISFSI) Haul Road runs north to south along the western portion of the survey unit.

The reference coordinates associated with this survey unit are E009 through E016 by S078 through S081 (refer to "*HNP License Termination Plan*" (LTP) Section 5.4.4). The reference coordinates provide the maximum dimensions of a rectangle containing this survey unit. Some areas contained in this rectangle may not be part of this survey unit. The boundary of the survey unit was defined using a Global Positioning System (GPS) based on the Connecticut State Plane System North American Datum (NAD) 1927.

2. CLASSIFICATION BASIS

The survey unit was classified in accordance with Procedure RPM 5.1-10, "Survey Unit Classification."

The "Classification Basis Summary" conducted for Survey Unit 9522-0001 consisted of:

- a) A review of the 10CFR50.75 (g) (1) database,
- b) A review of the "Initial Characterization Report" and the "Historic Site Assessment Supplement,"
- c) Historic and current survey records review,
- d) Visual inspections and a "walk-down."

A review of the "Initial and Supplemental Characterization Reports" as well as the previous "Classification Basis Summaries" was performed. Survey Unit 9522-0001 was initially designated as Class 2 during the development of the LTP. The source documents, the "Connecticut Yankee Haddam Neck Characterization Report" and "Initial Classification for Survey Areas at Connecticut Yankee", were incorporated by reference in LTP revision 0.

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The second source document justified a Class 2 designation for those areas for which there was historical evidence of contamination above the Derived Concentration Guideline Levels (DCGLs - refer to Section 2 for definition and description of DCGL), but for which recent surveys had shown that decontamination efforts had occurred and that the radiological conditions were expected to be below the DCGLs. Additional justification for a Class 2 designation based on survey and sampling data was provided as another reference to the LTP by the "Haddam Neck Plant Historical Site Assessment Supplement".

Open land Survey Area 9522 was at one time an open land immediately adjacent to the southern boundary of the Radiologically Controlled Area (RCA) and security fences. Initially, only a small section of the north side of the unit was paved, with the remainder of the unit gradually sloping down to the original site elevation. As the result of plant operations, there was a need to expand the industrial area to support plant operations and to control exposure to radiation. According to the "Haddam Neck Plant Historic Site Assessment Supplement", plant photos reveals that the area was gradually filled in from approximately 1972 to between 1974 and 1976, with soil that may have originated from on-site. This action raised the elevation up to site grade, thereby facilitating a reconfiguration and expansion of the RCA and security protected area. Photos taken in 1976 show that the area was landscaped with grass and small trees and was probably given the name "ball field" at that time. Over the next several years, additional fill was brought in. By 1987, photos show that half of the survey area was paved and occupied with buildings. It is estimated that the elevation in the survey area may have increased by up to five (5) feet from the original site grade.

Survey Area 9522 was impacted by several radiologically significant events during plant operations. These include the discovery of several discrete sources of elevated activity on the ball-field in March 1980, the spill of radioactive liquid into the drain system in February of 1989 and the discovery of several discrete particles outside of the RCA in 1995. Additionally, a portion of Survey Area 9522 was used as a temporary laydown area for the Steam Generator Lower Assemblies (SGLAs) and the Pressurizer until these components where shipped off-site for disposal in 2001. All of these events occurred in the northern portion of Survey Area 9522.

It appears based upon a review of the photographs and historical documents that Survey Unit 9522-0001 was not developed and used in the same manner as the remainder of the survey area to the north, mainly due to the physical geography of the survey unit and its lack of proximity to the south boundary of the RCA during plant operations. Leaks and spills that occurred during plant operations that affected the northern survey units in Survey Area 9522, did not affect Survey Unit 9522-0001 as the natural slope of the survey area directed flow in an east to west direction away from the survey unit. Subsequently, the

RELEASE RECORD

operational incidents impacting the northern portions of the survey area do not seem to specifically apply to Survey Unit 9522-0001.

During previous characterization surveys, focus was given to the northern survey units in Survey Area 9522 as most of the historical events occurred in these area. Minimal survey data was available that distinctively addressed Survey Unit 9522-0001. Subsequently, a Survey and Sampling Work Plan (SSWP N_{2} . SSWP-06-09-006) was developed to specifically characterize the soils in Survey Unit 9522-0001. This survey plan was implemented in October of 2006.

Six (6) soil samples were collected to aid in the characterization of this area and to provide sample data with regard to types and quantities of radioactive material present in the surface soil. During scanning, several areas were identified with slightly elevated readings, which prompted the collection of three (3) additional investigation soil samples at those locations. All samples were collected and analyzed by gamma spectroscopy. Two (2) of the soil samples were analyzed by an approved off-site laboratory for the presence of "Hard-to-Detect" (HTD) radionuclides.

Cs-137 and Co-60 was positively identified in six (6) of the nine (9) samples at concentrations greater than MDA but far less than their respective Operational DCGL. In addition, Sr-90 was positively identified (i.e., a result greater than two (2) standard deviations uncertainty) but at concentrations less than 5% of the Operational DCGL. Subsequently, Sr-90 was deselected as an isotope of concern in accordance with Section 5.4.7.2 of the LTP. Statistical quantities (mean, median and standard deviation) from the 2006 characterization survey conducted under SSWP 06-09-006 are provided in Table 1.

Table 1 – Basic Statistical from the 2006 C	Quantities for Cs- Characterization St	
	Сs=137 (рСi/g)	Co-60 (pCi/g)
Minimum Value :	2.05E-02	-4.58E-02
Maximum Value :	2.55E+00	1.08E-01
Mean :	6.32E-01	2.05E-02
Median :	2.04E-01	5.63E-03
Standard Deviation :	8.96E-01	4.37E-02

The FSS Engineer performed a visual inspection and walk-down during September 2006 to assess the physical condition of the survey unit, evaluate access points and travel paths and identify potentially hazardous conditions.

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This survey area is affected by existing groundwater (reference_CY memo ISC 06-024) which will be a source of dose from residual radioactivity, as discussed in Section 3 under the Data Quality Objectives.

Based upon a review of the historical information and the results of the Characterization Survey data, it was concluded that there was a low probability for residual radioactivity in concentrations greater than the DCGLs, justifying a final survey unit classification of Class 2 (refer to Section 3).

3. DATA QUALITY OBJECTIVES (DQO)

FSS design and planning used the Data Quality Objective (DQO) process as described by the LTP, Procedure RPM 5.1-11, "*Preparation of Final Status Survey Plan*," and the "*Multi-Agency Radiation Survey and Site Investigation Manual*" (MARSSIM). A summary of the main features of the DQO process are provided herein.

The DQO process incorporated hypothesis testing and probabilistic sampling distributions to control decision errors during data analysis. Hypothesis testing is a process based on the scientific method that compares a baseline condition to an alternate condition. The baseline condition is technically known as the null hypothesis. Hypothesis testing rests on the premise that the null hypothesis is true and that sufficient evidence must be provided for rejection. In designing the survey plan, the underlying assumption, or null hypothesis was that residual activity in the survey unit exceeded the release criteria. Rejection of the null hypothesis would indicate that residual activity within the survey unit does not exceed the release criteria. Therefore, the survey unit would satisfy the primary objective of the FSS plan.

The primary objective of the FSS plan was to demonstrate that the level of residual radioactivity in Survey Unit 9522-0001 did not exceed the release criteria specified in the LTP and that the potential dose from residual radioactivity is As Low As Reasonably Achievable (ALARA).

A fundamental precursor to survey design is to establish a relationship between the release criteria and some measurable quantity. This is done through the development of DCGLs. The DCGLs represent average levels of radioactivity above background levels and are presented in terms of surface or mass activity concentrations. Chapter 6 of the LTP describes in detail the modeling used to develop the DCGLs for soil (called Base Case Soil DCGL), existing groundwater radioactivity and future groundwater radioactivity that will be contributed by building basements and footings.

The DCGLs presented in Chapter 6 of the LTP were developed for exposures from three (3) components, that is, residual radioactivity in soil, existing groundwater radioactivity, and future groundwater radioactivity from the burial of concrete foundations or footings from site buildings containing residual radioactivity. Equation 1 shows the mathematical relationship between the three (3) components and the total dose.

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Equation 1

$H_{Total} = H_{Soil} + H_{ExistingGW} + H_{FutureGW}$

The total dose under the LTP criteria is twenty-five (25) mrem/yr TEDE from all three (3) components. The allowable total dose under the Connecticut Department of Environmental Protection (CTDEP) radiological remediation standard for CY is nineteen (19) mrem/yr TEDE. To satisfy both the LTP and CY CTDEP criteria, the dose from soil must be reduced when using the existing and future groundwater dose values discussed above.

This survey area is affected by existing groundwater (reference CY memo ISC 06-024). Therefore, the dose contribution from existing groundwater is bounded by two (2) mrem/yr TEDE.

This survey unit is not considered impacted by future groundwater radioactive contamination, as there are no buried concrete foundations or footings containing residual radioactive material within the groundwater saturated zone in the area (reference CY memo ISC 06-024). The dose contribution from future groundwater, the third dose component is, therefore, zero (0) mrem/yr TEDE.

Equation 2

19 mrem/yr_{Total} = 17 mrem/yr_{Soil} + 2 mrem/yr_{Existing GW}+ 0 mrem/yr_{FutureGW}

The allowable dose for soil in this survey unit is seventeen (17) mrem/yr TEDE as shown by Equation 2 above. The concentration of residual radioactivity resulting in seventeen (17) mrem/yr TEDE is designated as the Operational DCGL, and has been established for the radionuclides of concern as provided in Table 2.

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Table 2 – Radionuclide Specific Base Case Soil DCGLs, Operational DCGLs and Required Minimum Detectable Concentrations (MDCs)					
Radionuclide ⁽¹⁾	Base Case Soil DCGL (ρC/g) ⁽²⁾	Operational DCGL + (ρC/g) ⁽³⁾	Required MDC (pC/g) ⁽⁴⁾		
Н-3	4.12E+02	2.80E+02	1.65E+01		
C-14	5.66E+00	3.85E+00	2.26E-01		
Mn-54	1.74E+01	1.18E+01	6.96E-01		
Fe-55	2.74E+04	1.86E+04	1.10E+03		
Co-60	3.81E+00	2.59E+00	1.52E-01		
Ni-63	7.23E+02	4.92E+02	2.89E+01		
Sr-90	1.55E+00	1.05E+00	6.20E-02		
Nb-94	7.12E+00	4.84E+00	2.85E-01		
Тс-99	1.26E+01	8.57E+00	5.04E-01		
Ag-108m	7.14E+00	4.86E+00	2.86E-01		
Cs-134	4.67E+00	3.18E+00	1.87E-01		
Cs-137	7.91E+00	5.38E+00	3.16E-01		
Eu-152	1.01E+01	6.87E+00	4.04E-01		
Eu-154	9.29E+00	6.32E+00	3.72E-01		
Eu-155	3.92E+02	2.67E+02	1.57E+01		
Pu-238	2.96E+01	2.01E+01	1.18E+00		
Pu-239/240	2.67E+01	1.82E+01	1.07E+00		
Am-241 ⁽⁵⁾	2.58E+01	1.75E+01	1.03E+00		
Pu-241	8.70E+02	5.92E+02	3.48E+01		
Cm-243/244	2.90E+01	1.97E+01	1.16E+00,		

(1) Bold indicates those radionuclides considered Hard to Detect (HTD)

(2) The Base Case Soil DCGL(s) are specified by the LTP in Chapter 6 and are equivalent to twenty-five (25) mrem/yr TEDE

- (3) The Operational DCGL is equivalent to achieving seventeen (17) mrem/yr TEDE
- (4) The required MDC is equivalent to achieving one (1) mrem/yr TEDE

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(5) Americium-241 can be analyzed by gamma and alpha spectroscopy and is considered to be Easy to Detect (ETD). The preferred result is the alpha spectroscopy's when both analyses are performed

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Another important facet of the DQO process is to identify the radionuclides of concern and determine the concentration variability. Soil samples were collected in 2006 to establish the radiological condition Survey Unit 9522-0001 for FSS. Cs-137 and Co-60 were the only two (2) gamma emitting radionuclides reported in concentrations with the potential for exceeding the screening criteria. Sr-90 was positively identified (i.e., a result greater than two (2) standard deviations uncertainty) but at concentrations less than 5% of the Operational DCGL. Subsequently, Sr-90 was deselected as an isotope of concern in accordance with Section 5.4.7.2 of the LTP. The characterization data were used for the survey design and are provided in Table 1.

Instrument DQOs included a verification of the ability of the survey instrument to detect the radiation(s) of interest relative to the DCGL. Survey instrument response checks were required prior to issue and after the instrument had been used. Control and accountability of survey instruments was required to assure the quality and prevent the loss of data.

As part of the DQOs applied to laboratory processes, analysis results were reported as actual calculated results. Results reported as less than Minimum Detectable Concentration (MDC) were not accepted for FSS. Sample report summaries included unique sample identification, analytical method, radionuclide, result, and uncertainty to two (2) standard deviations, laboratory data qualifiers, units, and the required and observed MDC.

4. SURVEY DESIGN

The level of effort associated with planning a survey is based on the complexity of the survey and nature of the hazards. Guidance for preparing FSS plans is provided in Procedure RPM 5.1-11, "*Preparation of Final Status Survey Plans*". The FSS plan uses an integrated sample design that combines scanning surveys and sampling which can be either random or biased.

The DQO process determined that both Cs-137 and Co-60 would be the radionuclides of concern in Survey Unit 9522-0001 (refer to Section 3). The characterization survey did not identify any HTD radionuclides of concern for this survey unit. Subsequently, surrogate DCGLs were not required for this survey unit via screening under LTP Section 5.4.7.2, "*Gross Activity DCGLs*". Other radionuclides that were positively identified in concentrations greater than the screening criteria during the performance of this FSS would be evaluated to ensure adequate survey design. Radionuclide screening or de-selection is a process where the dose contribution from an individual radionuclide or aggregates may be considered insignificant and eliminated from the FSS. The criteria for de-selection are concentrations less than 5% for individual radionuclides and less than 10% for aggregates.

The Elevated Measurement Comparison (EMC) did not apply to this survey unit since it is a Class 2 area and discrete, elevated areas of contamination were not expected.

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The Sign Test was selected as the non-parametric statistical test. The use of the Sign Test did not require the selection or use of a background reference area, which simplified survey design and implementation. This approach was conservative since it included background Cs-137 as part of the sample set.

The number of soil samples for FSS was determined in accordance with Procedure RPM 5.1-12, "Determination of the Number of Surface Samples for Final Status Survey." The Lower Bound of the Gray Region (LBGR) was set in accordance with Procedure RPM 5.1-11 to 0.5 to maintain the relative shift (Δ/σ) in the range of 1 and 3. The resulting relative shift was 2.99. A Prospective Power Curve was generated using COMPASS, a software package developed under the sponsorship of the United States Nuclear Regulatory Commission (USNRC) for implementation of the MARSSIM in support of the decommissioning license termination rule (10CFR20, Subpart E). The result of the COMPASS computer run showed adequate power for the survey design. The survey design specified fifteen (15) surface soil samples for non-parametric statistical testing. Based upon a review of the historical information and Characterization Survey data, the acquisition of additional judgmental surface soil samples from within this survey unit was deemed unnecessary.

The grid pattern and locations of the soil samples were determined using Visual Sample Plan (VSP) in accordance with Procedure RPM 5.1-14, "*Identifying, and Marking Surface Sample Locations for Final Status Survey.*" Visual Sample Plan was created by Pacific Northwest National Laboratory (PNNL) for the United States Department of Energy. A systematic triangular grid pattern with a random starting point was selected for sample design, which is appropriate for a Class 2 area.

Sample locations were identified using AutoCAD-LT, a commercially available plotting software package with coordinates consistent with the Connecticut State Plane System. These coordinates were integrated with a GPS to locate sample locations in the field. Sample Measurement Locations for the design are listed with the GPS coordinates in Table 3.

Table 3 - Sample Measu Coordinates	rement Locations with	Associated GPS
Designation	Northing	Easting
9522-0001-001F	236516.39	669283.45
9522-0001-002F	236516.39	669359.45
9522-0001-003F	236450.56	669321.45
9522-0001-004F	236450.56	669397.46
9522-0001-005F	236384.73	669283.45
9522-0001-006F	236384.73	669359.45
9522-0001-008F	236318.91	669397.46
9522-0001-009F	236253.08	669283.45
9522-0001-010F	236253.08	669359.45
9522-0001-011F	236253.08	669435.46
9522-0001-012F	236187.25	669245.44
9522-0001-013F	236187.25	669321.45
9520-0001-014F	236187.25	669397.46
9522-0001-015F	236121.43	669359.45
9522-0001-016F ⁽¹⁾	236516.39	669283.45

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 Sample location 9522-0001-007F was inaccessible due to due to the presence of a rock ledge and heavy brush; sample location 9522-0001-016F was added under an FSS plan addendum (refer to Section 10)

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Procedure RPM 5.1-11 specifies that 5% of the samples are required to be selected for HTD analysis. Two (2) soil samples, or about 10% of the number of samples that would be used for non-parametric statistical testing were randomly selected for HTD radionuclide analysis using the Microsoft Excel "RANDBETWEEN" function. Each sample was sent off-site for a full suite analysis of the HTD radionuclides specified in the LTP, Table 2-12, "*Radionuclides Potentially Present at Haddam Neck Plant*" and as provided in Table 2.

The implementation of quality control measures as referenced by Procedure RPM 5.1-24, "*Split Sample Assessment for Final Status Survey*," included the collection of one (1) soil sample for "split sample" analysis by the off-site laboratory. This location was selected randomly using the Microsoft Excel "RANDBETWEEN" function.

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The LTP specifies a required scanning coverage of 10% to 100% for outdoor Class 2 areas. The fraction of scanning coverage was determined during the DQO process with the total amount and location(s) based on the likelihood of finding elevated activity during FSS. Based on the historical site assessment, the characterization data available, and the use of this survey unit, it was determined that scanning was required in three (3) separate areas. The total surface area to be scanned was approximately 25% of the survey unit. A combination of two of the scan areas resulted in approximately 100% scan coverage of the section of the ISFSI Haul Road contained in this survey unit. A map of the scan grid locations is provided in Attachment 1.

For this Class 2 survey unit, the "Investigation Level" for area scanning and soil sample measurement results are those levels specified in LTP, Table 5-8. Table 4 provides a synopsis of the survey design.

Table 4 – Synopsis of the Survey Design					
Feature	Design Criteria	Basis			
Survey Unit Land Area	6,972 m ²	Based on AutoCAD-LT			
Number of Measurements	15 (15 systematic grid)	Type 1 and Type 2 errors were 0.05, sigma was 0.17 pCi/g, the LBGR was set at 0.5 to maintain Relative Shift in the range of 1 and 3			
Grid Spacing	23.09 m	Based on triangular grid			
Operational DCGL	5.38 ρCi/g Cs-137 2.59 ρCi/g Co-60	Administratively set to achieve seventeen (17) mrem/yr TEDE ⁽¹⁾			
Soil Investigation Level	5.38 ρCi/g Cs-137 2.59 ρCi/g Co-60	The Operational DCGL meets the LTP criteria for a Class 2 survey unit			
Scan Survey Area Coverage	Approximately 25% of the area	The LTP requires >10% area coverage for Class 2 survey units			
Scan Investigation Level	Detectable over background	Administratively set to achieve seventeen (17) mrem/yr TEDE ⁽¹⁾			

 The allowable dose for soil in this survey unit is seventeen (17) mrem/yr TEDE as the bounding dose from existing and future groundwater has been established based on field data (reference CY memo ISC 06-024)

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5. SURVEY IMPLEMENTATION

Final status survey field activities were conducted under Work Plan and Inspection Record (WP&IR) 2006-0047. The WP&IR package included a detailed FSS plan, job safety analysis, job planning checklist and related procedures for reference. Daily briefings were conducted to discuss the expectations for job performance and the safety aspects of the survey. The "Daily Survey Journal" was used to document field activities and other information pertaining to the FSS.

Three (3) scan areas were established that constituted approximately 25% of the surface area of Survey Unit 9522-0001. Grid lines, one meter wide, were painted on the ground of the scan area. A background survey was performed around the survey unit and it was determined that, using an Eberline E-600 with a SPA-3 sodium iodide detector, background ranged from 4,210 counts per minute (cpm) up to 9,750 cpm.

The scan areas were established and scanned for elevated readings (see Attachment 2 for all scan results). Scanning was performed with an Eberline E-600 using a SPA-3 sodium iodide detector. The E-600 was operated in the rate-meter mode and used with audio response. The probe was positioned as close to the ground as possible and was moved at a scan speed of about 0.5 meters per second. Approximately 25% of the survey unit was scanned.

Measurement locations were identified in North American Datum (NAD) 1927 coordinates using GPS coordinates; sample locations were identified and marked with a surveyor's flag or paint for identification. At each sample location, a one (1) meter radius around the sample flag or paint mark was scanned for elevated radiation levels.

Fifteen (15) surface soil samples were collected and packaged in accordance with Haddam Neck Plant (HNP) Procedure RPM 5.1-3, "*Collection of Sample Media for Final Status Survey*" and FSS design. Samples were controlled, transported, stored, and transferred to the off-site laboratory using Chain-of-Custody (COC) protocol in accordance with Procedure RPM 5.1-5, "*Chain of Custody for Final Status Survey Samples*."

Two (2) samples (9522-0001-008F and 9522-0001-014F) were randomly selected for HTD radionuclide analysis.

The implementation of survey specific quality control measures included the collection of one (1) sample (9522-0001-009F) for "split sample" analysis.

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6. SURVEY RESULTS

All field survey activities were conducted between November 9, 2006 and November 21, 2006.

The sample locations identified in the FSS plan were scanned over approximately a one (1) meter radius for elevated radiation levels. Table 5 provides an overview of the scan results for sample measurement locations. Scan results for the entire survey unit are provided in Attachment 2.

Table 5 - Scan Results for Sample Measurement Locations					
Measurement	Highest Logged Reading (kcpm)	Action Level ⁽²⁾ (kcpm)	> Action Level ⁽³⁾		
1	10.05	10.10	YES		
2	11.00	11.10	NO		
3	10.50	10.50	NO		
4	10.80	11.70	NO		
5	9.12	10.50	NO		
6	10.30	10.10	YES		
8	8.30	8.23	YES		
9	6.96	7.67	NO		
10	7.69	11.10	NO		
11	7.41	8.34	NO		
12	6.33	7.38	NO		
13	4.55	5.77	NO		
14	7.69	6.83	YES		
15	9.75	9.17	YES		
16 ⁽¹⁾	7.15	9.01	NO		

 Sample location 9522-0001-007F was inaccessible due to due to the presence of a rock ledge and heavy brush; sample location 9522-0001-016F was added under an FSS plan addendum (refer to Section 10)

(2) The action level is based on a measurement above ambient background in accordance with the FSS plan

(3) The FSS plan requires movement of the sample measurement location to the area within the 1 meter radius yielding the response above the action level. Sample locations 9522-0001-001F, 9522-0001-006F, 9522-0001-008F, 9522-0001-014F and 9522-0001-015F were moved accordingly.

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The scan areas, that comprised approximately 25% of the total surface area for the survey unit, were scanned for elevated radiation levels. The areas were scanned in accordance with the FSS plan on November 15, 2006 through November 21, 2006. Several elevated measurement locations were identified during scanning. Table 6 provides an overview of the scan area survey. Complete scan results are provided in Attachment 2.

Table 6	- Scan Are	a Results		
Scan Area	Highest Logged Reading (kcpm)	Action Level ⁽¹⁾ (kcpm)	Elevated Reading Identification ⁽²⁾	Investigation Sample
			9522-01-ER-01-06-1	9522-0001-0211
1	9.49	7.60	9522-01-ER-01-09-1	9522-0001-022I
			9522-01-ER-01-12-1	9522-0001-0231
			9522-01-ER-02-03-1	9522-0001-0171
2	9.68	8.46	9522-01-ER-02-10-1	9522-0001-0181
2	9.00	0.40	9522-01-ER-02-19-1	9522-0001-0191
			9522-01-ER-02-19-2	9522-0001-0201
3	11.00	9.70	9522-01-ER-03-03-1	9522-0001-024I

(1) The action level is based on a measurement above ambient background

(2) ER is an abbreviation associated with the barcodes used in the field where ER stands for Elevated Reading

The off-site laboratory employed for the radiological analyses of samples was General Engineering Laboratories, LLC. The laboratory analyzed the fifteen (15) samples collected for non-parametric statistical testing, the associated field split and the eight (8) investigative samples using gamma spectroscopy. Gamma spectroscopy results identified some radionuclides meeting the accepted criteria for detection (i.e., a result greater than two (2) standard deviations uncertainty). However, Cs-137 and Co-60 were the only gamma-emitting radionuclides reported in concentrations exceeding the de-selection criteria.

Cs-137 was identified in fourteen (14) and Co-60 was identified in three (3) of the fifteen (15) samples collected for non-parametric statistical testing. The mean of the gamma spectroscopic analysis results for the sample population indicated that Cs-137 was present at levels lower than the concentrations of Cs-137 found in soil at off-site locations within the vicinity of the HNP as presented in the Health Physics TSD BCY-HP-0063. A summary of the fifteen (15) samples collected for non-parametric statistical testing results is provided in Table 7.

Table 7 - Summary of Samples Con	Gamma Spectroscopy Re nprising the Statistical Sa	sults for Surface Soil mple Population
Sample Number	-Cs-137 ρCi/g	Co-60 pCi/g
9522-0001-001F	6.77E-01	-1.86E-04
9522-0001-002F	6.66E-01	2.40E-02
9522-0001-003F	1.17E+00	-2.28E-03
9522-0001-004F	6.37E-01	2.27E-02
9522-0001-005F	8.24E-01	5.08E-02
9522-0001-006F	3.08E+00	5.70E-02
9522-0001-008F	2.23E-01	3.85E-03
9522-0001-009F	1.16E-01	-3.91E-03
9522-0001-010F	2.39E-01	-7.76E-03
9522-0001-011F	1.17E-01	1.32E-02
9522-0001-012F	5.04E-02	1.22E-02
9522-0001-013F	2.77E-02	3.35E-03
9522-0001-014F	2.91E-01	0.00E+00
9522-0001-015F	4.11E-02	1.38E-02
[•] 9522-0001-016F ⁽¹⁾	3.89E-01	1.15E-02

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(1) Sample location 9522-0001-007F was inaccessible due to due to the presence of a rock ledge and heavy brush; sample location 9522-0001-016F was added under an FSS plan addendum (refer to Section 10)

The off-site laboratory also processed two (2) samples for HTD analysis as required by the sample plan. The requested analyses included alpha spectroscopy, gas proportional counting, and liquid scintillation depending on the radionuclide and the measurement method. All analyses met the required MDC.

Sr-90 was positively identified (i.e., a result greater than two standard deviations uncertainty) in both of the samples analyzed for HTD radionuclides. As previously stated in Section 4 of this report, the criteria for de-selection of a radionuclide is a concentration that is less than 5% of the Operational DCGL for individual radionuclides and less than 10% of the Operational DCGLs for aggregates. For Sr-90, the Operational DCGL is 1.05 ρ Ci/g to achieve a TEDE of seventeen (17) mrem/yr.

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The analytical results for Sr-90 in the two (2) samples selected for HTD analysis respectively equated to 3% and 73% of the Operational DCGL. Subsequently, Sr-90 was added as a radionuclide of concern for this survey unit. In response, all samples that comprised the statistical sample population for this survey unit were subjected to additional analysis for the presence of Sr-90. The results are provided below in Table 8.

Comprising the Statistical Sample Population					
Sample Number	Sr-90 ρCi/g				
9522-0003-001F	1.68E-02				
9522-0003-002F	-1.28E-02				
9522-0003-003F	4.20E-02				
9522-0003-004F	3.19E-02				
9522-0003-005F	1.79E-02				
9522-0003-006F	1.59E-01				
9522-0003-008F	3.61E-02				
9522-0003-009F	1.97E-04				
9522-0003-010F	2.88E-02				
9522-0003-011F	-6.62E-03				
9522-0003-012F	3.70E-02				
9522-0003-013F	3.35E-02				
9522-0003-014F	7.66E-01				
9522-0003-015F	8.07E-04				
9522-0003-016F ⁽¹⁾	-2.89E-03				

 Table 8 - Summary of Sr-90 Analysis Results for Surface Soil Samples

 Comprising the Statistical Sample Population

 Sample location 9522-0001-007F was inaccessible due to due to the presence of a rock ledge and heavy brush; sample location 9522-0001-016F was added under an FSS plan addendum (refer to Section 10)

The "sum-of-fractions" or "unity rule" is the mathematical test used to evaluate compliance with radiological criteria for license termination when more than one radionuclide has been determined to be potentially present. The unity rule is:

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Equation 3

$$\frac{C_1}{DCGL_1} + \frac{C_2}{DCGL_2} + \frac{C_n}{DCGL_n} \le 1$$

Where: $C_n = \text{concentration of radionuclide } n$ and $DCGL_n = DCGL$ of radionuclide n.

The results of the unity rule calculation for the radionuclides of concern in the statistical sample population for Survey Unit 9522-0001 are provided in Table 9 below.

Table 9 – Results of Unity Calculation for Surface Soil Samples Comprising the Statistical Sample Population					
Sample Number	Fraction of Cs-137	the Operationa Co-60	DCGL ⁽¹⁾⁽³⁾ Sr-90	Unity Fraction	
9522-0006-001F	0.13	-	0.02	0.14	
9522-0006-002F	0.12	-	-	0.12	
9522-0006-003F	0.22	-	0.04	0.26 ,	
9522-0006-004F	0.12	0.01	0.03	0.16	
9522-0006-005F	0.15	0.02	0.02	0.19	
9522-0006-006F	0.57	0.02	0.15	0.75	
9522-0006-008F	0.04	-	0.03	0.08	
9522-0006-009F	0.02	-	-	0.02	
9522-0006-010F	0.04	_	0.03	0.07	
9522-0006-011F	0.02	-	-	0.02	
9522-0006-012F	0.01	-	0.04	0.04	
9522-0006-013F	0.01	-	0.03	0.04	
9522-0006-014F	0.05	-	0.73	0.78	
9522-0006-015F	-	· _	-	0.00	
9522-0006-016F ⁽²⁾	0.07	-	-	0.07	

 The Operational DCGL from Table 2 is 5.38 pCi/g for Cs-137, 2.59 pCi/g for Co-60 and 1.05 pCi/g for Sr-90 to achieve seventeen (17) mrem/yr TEDE respectively.

(2) Sample location 9522-0001-007F was inaccessible due to due to the presence of a rock ledge and heavy brush; sample location 9522-0001-016F was added under an FSS plan addendum (refer to Section 10)

(3) - indicates that the radionuclide was not positively detected in the sample

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7. QUALITY CONTROL

The off-site laboratory processed the split samples and performed gamma spectroscopy analysis. One sample location was selected for analysis, which exceeds the 5% minimum required by the LTP. The data were evaluated using USNRC acceptance criteria specified in Inspection Procedure 84750 as detailed in HNP Procedure RPM 5.1-24, "Split Sample Assessment for Final Status Survey". There was acceptable agreement between the field split results at location 9520-0001-009.

The sample analysis vendor, General Engineering Laboratories, LLC, maintains quality control and quality assurance plans as part of normal operation. Refer to Attachment 4 for data and data quality analysis results.

8. INVESTIGATIONS AND RESULTS

Eight (8) investigative samples were collected from scan area 1, scan area 2 and scan area 3 at locations exhibiting elevated scan readings. As previously stated, Sr-90 was positively identified (i.e. a result greater than two (2) standard deviations uncertainty) in the two (2) surface soil samples selected for HTD analysis. Consequently, Sr-90 was added as a radionuclide of concern for this survey unit. All surface soil samples comprising the statistical sample population were subjected to additional analysis for the presence of Sr-90. Subsequently, the statistical sample population as a whole was evaluated to assess the distribution of the detected radionuclides of concern. The radionuclide distribution percentage for each sample in the population was calculated by dividing the concentration of each detected radionuclide by the total activity concentration in the sample, expressing the abundance of the specific nuclide in the sample compared against the total activity. The mean radionuclide distribution was then calculated by taking the average of the individual sample distribution fractions. The resultant distribution fractions are presented in Table 10 below.

Table 10 – Radionuclide Distributio	on Fraction for the Radionuclides ical Soil Sample Population
Detected Radionuclide	Distribution Fraction
Cs-137	0.841
Co-60	0.008
Sr-90	0.151

The potential presence of Sr-90 in the investigative samples taken that were not subjected to direct analysis for Sr-90 was addressed by using a surrogate relationship to another detectable radionuclide as recommended in NUREG-1575 (MARSSIM), in this case Cs-137. To demonstrate compliance

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with the release criteria by directly comparing the individual investigative sample results with the DCGL(s) as required by MARSSIM, the DCGL for the surrogate radionuclide, in this case Cs-137 was scaled to account for the fact that it was being used as an indicator for additional radionuclides, in this case Sr-90. This result is referred to as the surrogate DCGL.

The surrogate DCGL was computed based on the distribution ratio between the hard-to-detect radionuclides and the easy-to-detect radionuclides. The surrogate DCGL is computed as follows:

Equation 4

$$Surrogate_{DCGL} = \frac{1}{\left[\left(\frac{1}{DCGL_{Sur}}\right) + \left(\frac{R_2}{DCGL_2}\right) + \left(\frac{R_3}{DCGL_3}\right) + \left(\frac{R_n}{DCGL_n}\right)\right]}$$

Where:

 $DCGL_{Sur}$ = Surrogate radionuclide DCGL

 $DCGL_{2,3...n} = DCGL$ for radionuclides to be represented by the surrogate

 R_n = Ratio of concentration (or nuclide mixture fraction) of radionuclide "n" to surrogate radionuclide

Using the DCGLs presented in Table 2 and the soil nuclide distribution presented in Table 10, the following surrogate calculation was deduced;

Equation 5

Subsequently, the surrogate DCGL that was used for Cs-137 in this survey unit for direct comparison of investigative sample results to demonstrate compliance with the operational dose limit of seventeen (17) mrem per year is 2.80 pCi/g.

The samples are denoted as shown in Table 6, with the sample results shown in Table 11 below.

Table 11 - Investi	gative Sample Resu	lts	
Sample Number	Cs-137 ρCi/g	Co-60 ρCi/g	Unity Fraction ⁽¹⁾
9522-0001-0171	0.00E+00	1.28E-02	0.005
9522-0001-018I	8.04E-02	1.20E-02	0.033
9522-0001-019I	4.95E-02	4.30E-02	0.034

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Table 11 - (contin	ued)		
Sample Number	Cs-137 ρCi/g	Co-60 ρCi/g	Unity Fraction ⁽¹⁾
9522-0001-020I	3.56E-02	4.71E-03	0.015
9522-0001-0211	5.19E-01 (2.53E-02	0.195
9522-0001-0221	6.53E-02	1.79E-02	0.030
9522-0001-023I	5.50E-02	-1.47E-02	0.014
9522-0001-0241	6.30E-01	4.35E-03	0.227

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(1) The Operational DCGL from Table 2 is 5.38 ρCi/g for Cs-137 and 2.59 ρCi/g for Co-60 to achieve seventeen (17) mrem/yr TEDE respectively. The Operational DCGL for Cs-137 has been adjusted to 2.80 ρCi/g as a surrogate to account for the potential presence of HTD radionuclide Sr-90.

9. **REMEDIATION AND RESULTS**

Historically, no radiological remedial action as described by MARSSIM Section 5.4 was performed in this survey unit prior to or as a result of the FSS. Health Physics TSD BCY-HP-0078, "ALARA Evaluation of Soil Remediation in Support of Final Status Survey," determined that remediation beyond that required to meet the release criteria is unnecessary and that the remaining residual radioactivity in soil was ALARA.

10. CHANGES FROM THE FINAL STATUS SURVEY PLAN

An addendum to the FSS plan was initiated on November 13, 2006 to replace sample location 9522-0001-007F, which was determined to be inaccessible due to the presence of a rock ledge and heavy brush. Sample location 9522-0001-016F was determined randomly using VSP.

Additional analysis for the presence of Sr-90 was performed on the statistical survey population as a consequence of the results from the initial samples selected for HTD analysis. This was to ensure that the dose consequence from the possible presence of Sr-90 in the surface soils in this survey unit was adequately addressed.

11. DATA QUALITY ASSESSMENT (DQA)

The DQO sample design and data were reviewed in accordance with Procedure RPM 5.1-23, "Data Quality Assessment," for completeness and consistency. The sampling design had adequate power as indicated by the Retrospective Power Curve. The Sign Test was performed on the data and compared to the original assumptions of the DQOs. The evaluation of the Sign Test results demonstrates that the survey unit passes the unrestricted release criteria, thus, the null hypothesis is rejected.

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Documentation was complete and legible. Surveys and sample collection were consistent with the DQOs and were sufficient to ensure that the survey unit was properly designated as Class 2.

The preliminary data review consisted of calculating basic statistical quantities (e.g., mean, median, standard deviation). The mean and median values are well below the Operational DCGL. Also, the retrospective power curve shows that a sufficient number of samples were collected to achieve the desired power. Therefore, the survey unit meets the unrestricted release criteria with adequate power as required by the DQOs. The basic statistical quantities for the statistical sample population are provided below in Table 12.

Table 12 – Basic Sta the Final	tistical Quantities Status Survey	for Cs-137, Co-60	and Sr-90 from
	Cs-137 ρCi/g	Co-60 ρCi/g	Sr-90 ρCi/g
DCGL _{op} :	5.38E+00	2.59E+00	1.05E+00
Minimum Value:	2.77E-02	-7.76E-03	-1.28E-02
Maximum Value:	3.08E+00	5.70E-02	7.66E-01
Mean:	5.70E-01	1.32E-02	7.65E-02
Median:	2.91E-01	1.15E-02	2.88E-02
Standard Deviation:	7.72E-01	1.90E-02	1.95E-01

For Cs-137 and Sr-90, the range of the data, about four (4) standard deviations, was not a particularly large variation considering that the levels were essentially at existing environmental levels where such variation is to be expected and the difference between the mean and median was about 36% and 24% of the standard deviation which indicates some skewness in the data. The data was represented graphically through posting plots, a frequency plot, and a quantile plot. The frequency plot indicates positive skewness as confirmed by the calculated skew of 2.7 for Cs-137 and 3.6 for Sr-90.

Co-60, although included in the FSS plan for compliance purposes, was positively identified in only three (3) of the fifteen (15) samples collected for non-parametric statistical testing. Assessment of the basic statistical quantities and graphical representation of Co-60 was not considered useful given the limited number of data points to represent the distribution.

All data, assessments, and graphical representations are provided in Attachment 4.

12. ANOMALIES

No anomalies were noted.

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RELEASE RECORD

13. CONCLUSION

Survey Unit 9522-0001 has met the final DQOs of the FSS plan. The ALARA criteria for soils as specified in Chapter 4 of the LTP were achieved. Elevated Measurement Comparison and remediation was not required.

All identified radionuclides of concern were used for statistical testing to determine the adequacy of the survey unit for FSS.

The sample data passed the Sign Test. The null hypothesis was rejected. The Retrospective Power Curve generated using COMPASS shows adequate power was achieved. The survey unit is properly designated as Class 2.

The dose contribution from soil is 3.126 mrem/yr TEDE based on the average concentration of the samples used for non-parametric statistical sampling.

This survey area is affected by existing groundwater (reference CY memo ISC 06-024); therefore the dose contribution from existing groundwater is bounded at two (2) mrem/yr TEDE.

This survey unit is not considered impacted by future groundwater radioactive contamination, as there are no underground structures, systems or components containing residual radioactive material within the groundwater saturated zone in the area (reference CY memo ISC 06-024); therefore, the dose contribution from future groundwater is zero (0) mrem/yr TEDE.

The average total dose from residual radioactivity in this survey unit, including exposures from the three (3) components as described in Section 3, that is, residual radioactivity in soil, existing groundwater radioactivity, and future groundwater radioactivity from the burial of concrete foundations or footings from site buildings containing residual radioactivity, will not exceed 5.126 mrem/yr TEDE. Therefore, Survey Unit 9522-0001 is acceptable for unrestricted release.

14. ATTACHMENTS

14.1 Attachment 1 – Survey Unit Location Map

14.2 Attachment 2 – Scan Results

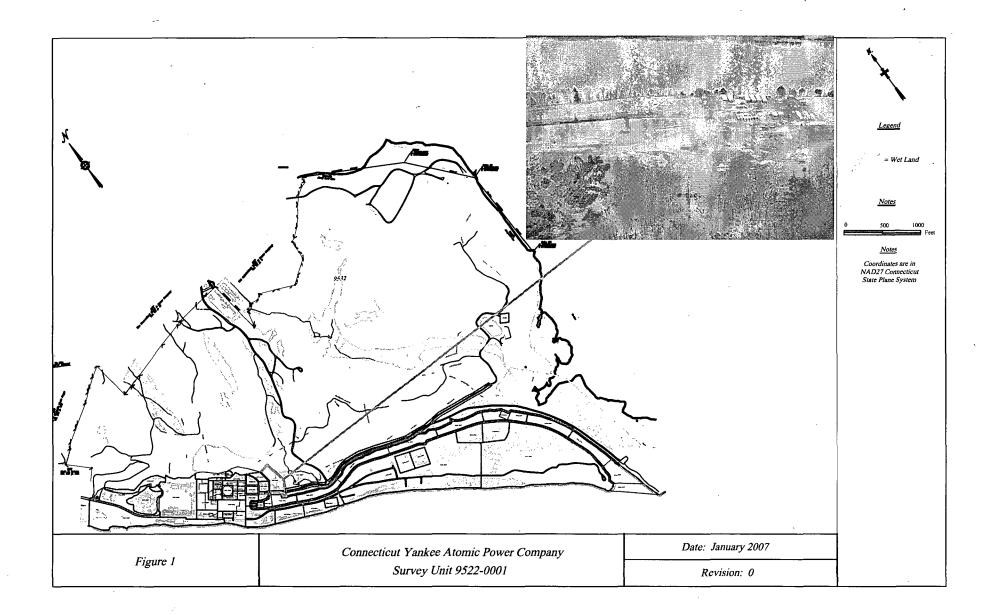
14.3 Attachment 3 – Laboratory Results

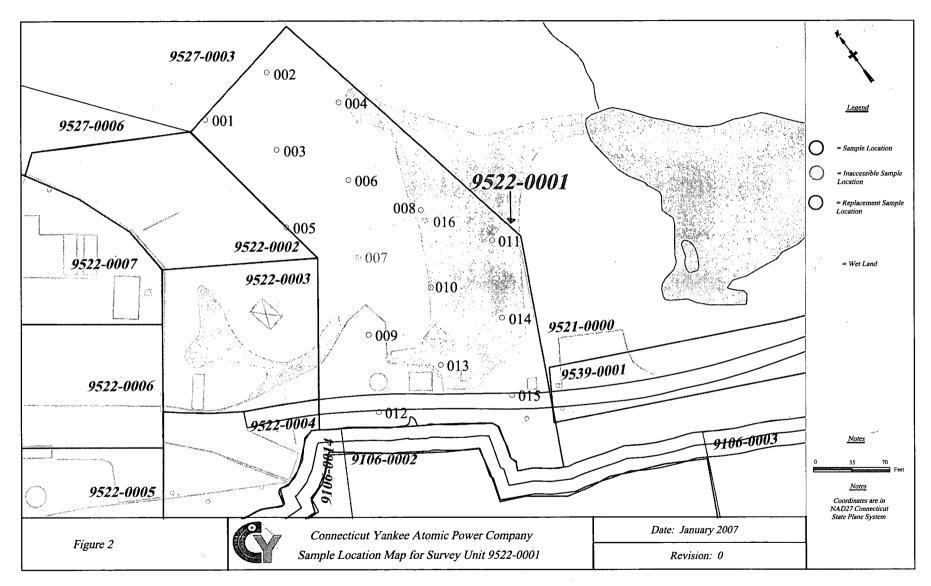
14.4 Attachment 4 – DQA Results

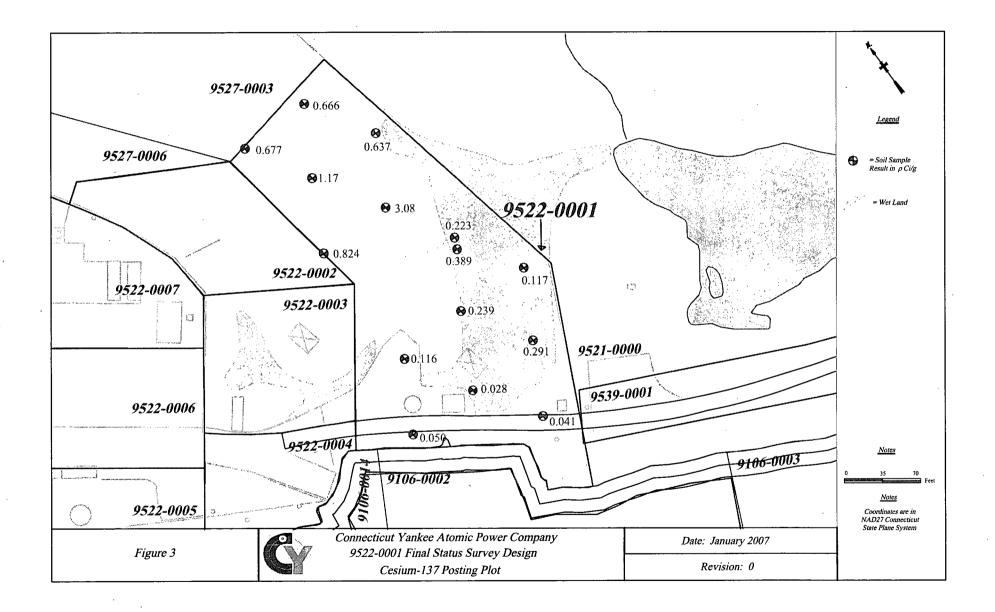
23

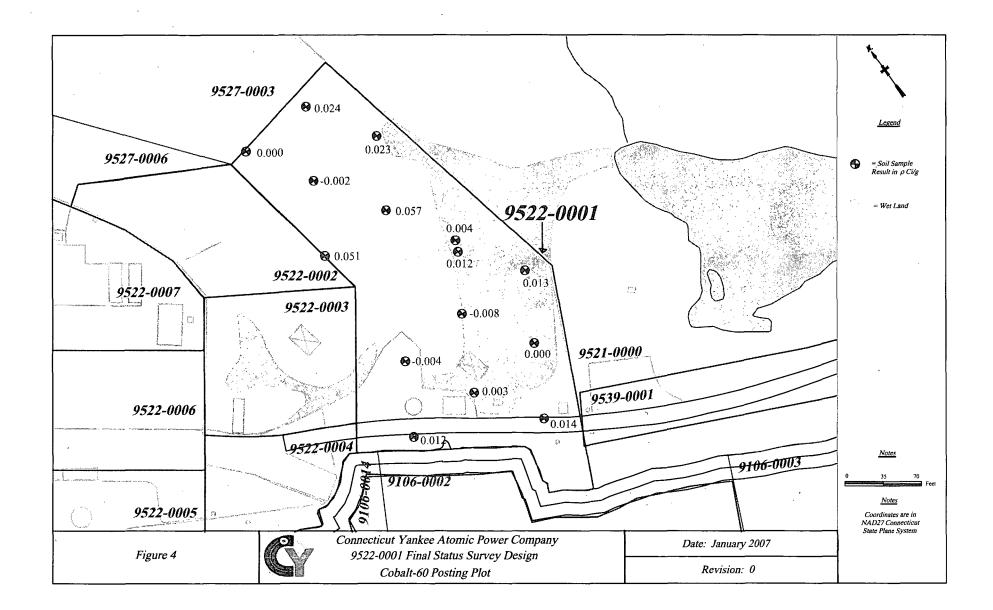
RELEASE RECORD

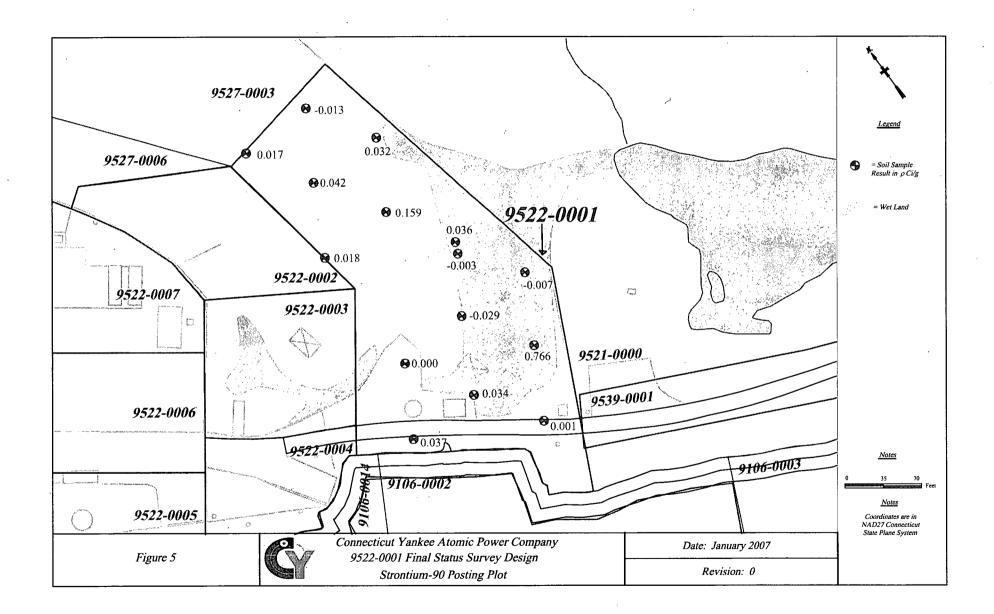
ATTACHMENT 1 (FIGURES)

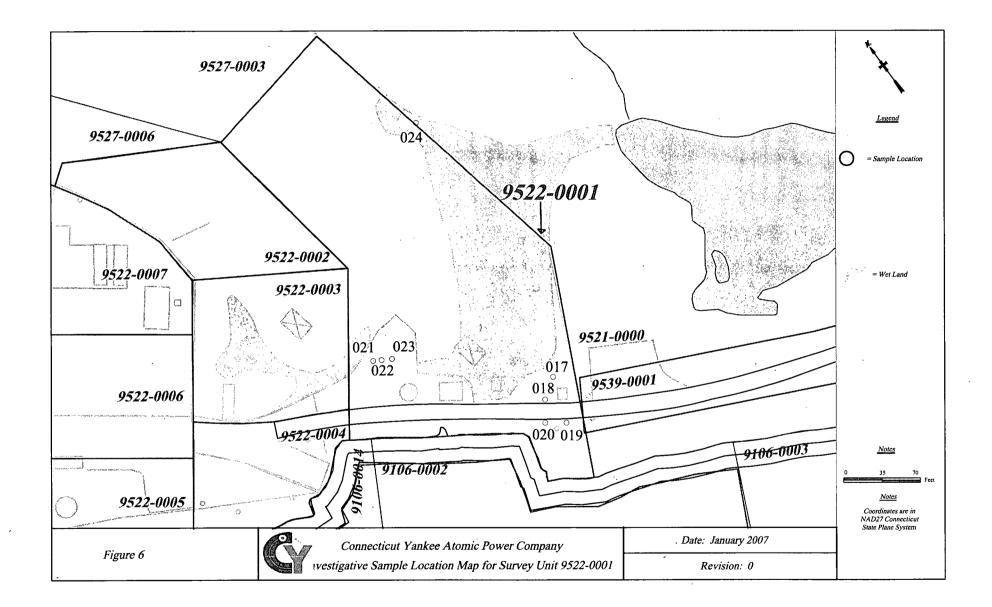


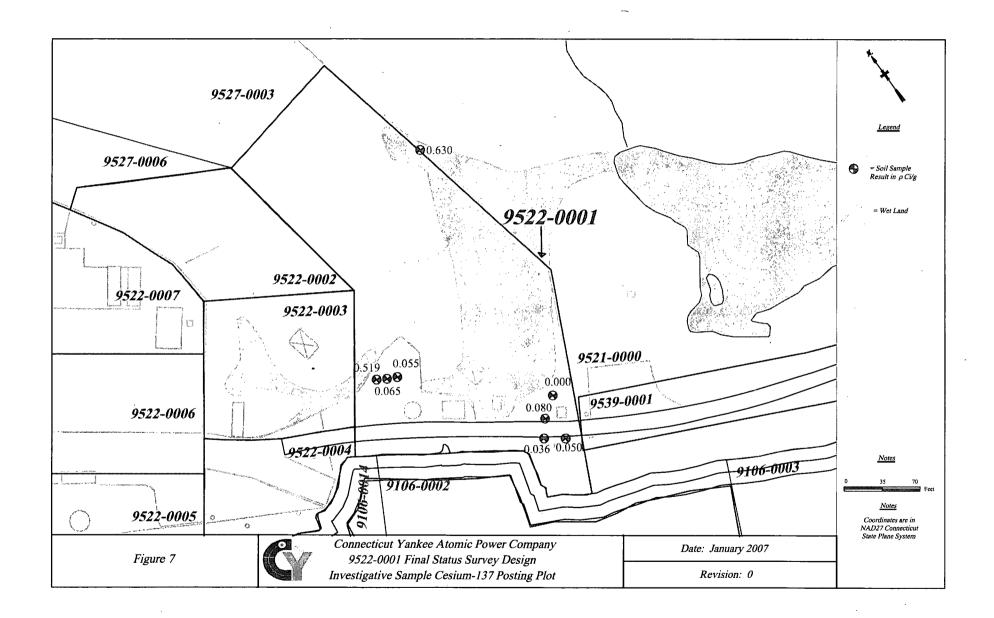




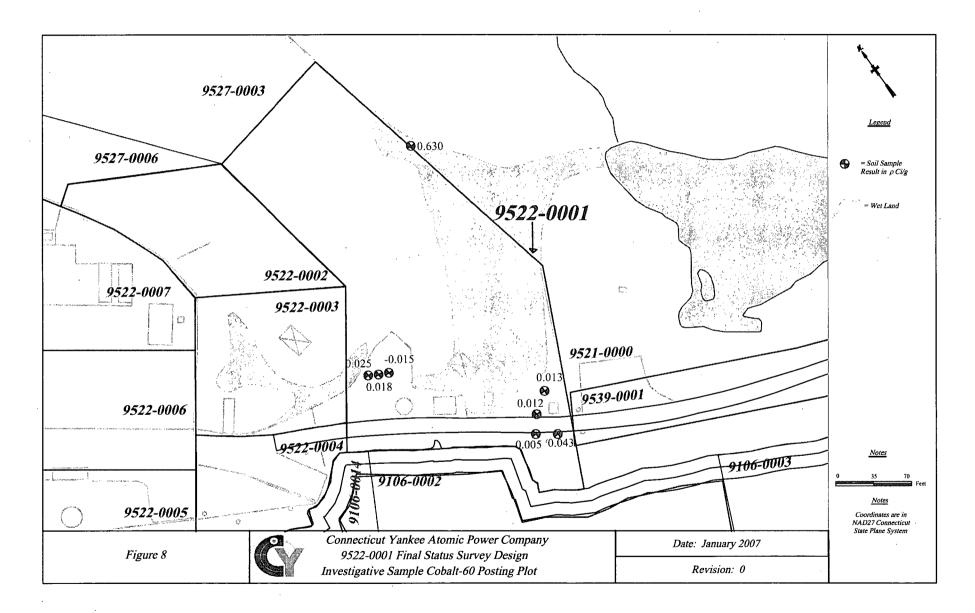






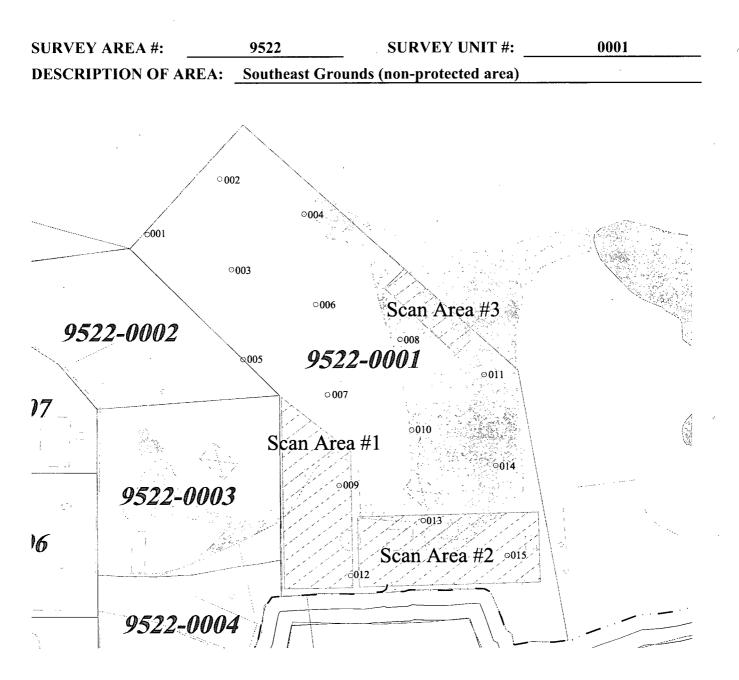


r



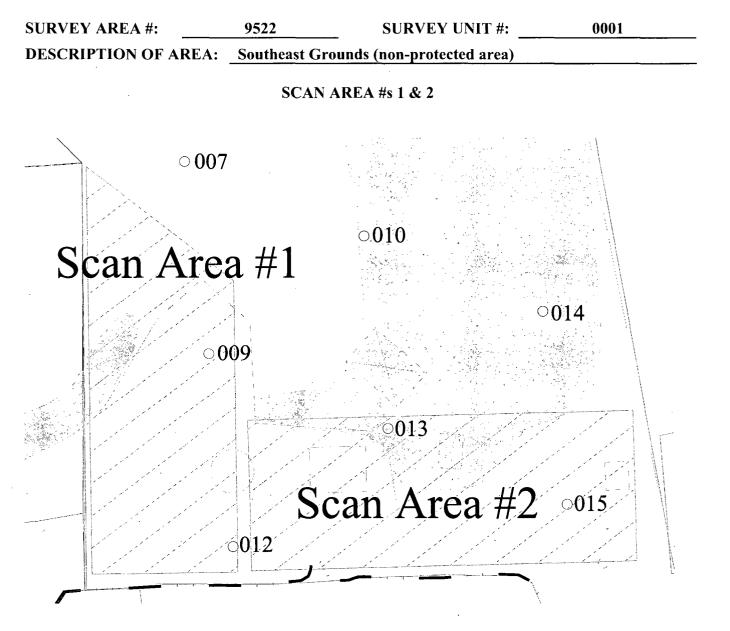
-





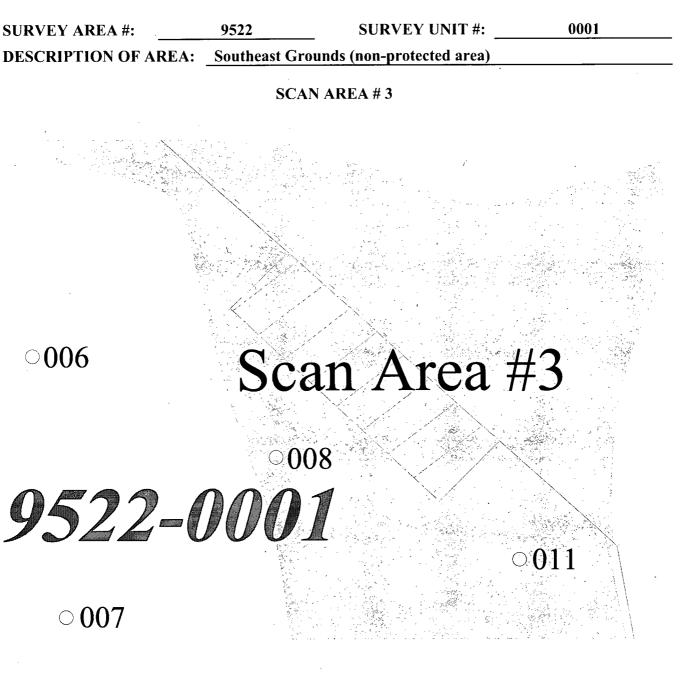
June 2007 Rev. 1

SCAN AREA LOCATION MAP & WORKSHEET



June 2007 Rev. 1

SCAN AREA LOCATION MAP & WORKSHEET



June 2007 Rev. 1

RELEASE RECORD

ATTACHMENT 2 (SCAN RESULTS)

RELEASE RECORD · Attachment 2

SCAN RESULTS FOR SCAN STRIPS

Survey Location	Log Date	Log Time	Reading	Alarm Level	>Alarm Level	E-600 S/N	Probe S/N
SCAN AREA #1							
9522-01-BC-01-01-0 9522-01-SC-01-01-0	11/16/2006 11/16/2006	10:15:00 10:21:00	5.98E+03 6.91E+03			1114	1014 1014
9522-01-BC-01-02-0	11/16/2006	10:21:00	7.31E+03		· · ·	. 1114	1014
9522-01-SC-01-02-0	11/16/2006	10:24:00	6.15E+03	8.53E+03		1114	1014
9522-01-BC-01-03-0	11/16/2006	10:25:00	7.11E+03			1114	1014
9522-01-SC-01-03-0	11/16/2006	10:26:00	7.34E+03	8.31E+03		1114	1014
9522-01-BC-01-04-0	11/16/2006	10:28:00	6.93E+03			1114	1014
9522-01-SC-01-04-0	11/16/2006	10:29:00	5.90E+03			1114	1014
9522-01-BC-01-05-0 9522-01-SC-01-05-0	11/16/2006 11/16/2006	10:31:00 10:33:00	6.12E+03 6.15E+03			1114 1114	1014 1014
9522-01-BC-01-06-0	11/16/2006	10:34:00	6.53E+03			1114	1014
9522-01-SC-01-06-0	11/16/2006	10:37:00	6.44E+03		· •	1114	1014
9522-01-ER-01-06-1	11/16/2006	13:30:00 [,]	8.46E+03	7.68E+03	+	1114	1014
9522-01-BC-01-07-0	11/16/2006	10:38:00	6.83E+03			1114	
9522-01-SC-01-07-0	11/16/2006	10:40:00	6.47E+03	8.01E+03		1114	1014
9522-01-BC-01-08-0	11/16/2006	10:41:00	6.60E+03	and the second		1114	1014
9522-01-SC-01-08-0	11/16/2006	10:43:00	5.31E+03			1114	1014
9522-01-BC-01-09-0	11/16/2006	10:47:00	6.45E+03 5.75E+03			1114 1114	1014
9522-01-SC-01-09-0 9522-01-ER-01-09-1	11/16/2006 11/16/2006	10:54:00 13:31:00	9.49E+03		+	1114	1014 1014
9522-01-BC-01-10-0	11/16/2006	10:56:00	6.81E+03			1114	1014
9522-01-SC-01-10-0	11/16/2006	11:03:00	6.53E+03			1114	1014
9522-01-BC-01-11-0	11/16/2006	11:04:00	6.63E+03		t i i i	1114	1014
9522-01-SC-01-11-0	11/16/2006	11:07:00	5.68E+03	7.79E+03		1114	1014
9522-01-BC-01-12-0	11/16/2006	11:07:00	6.98E+03			1114	1014
9522-01-SC-01-12-0 9522-01-ER-01-12-1	11/16/2006	11:12:00 13:32:00	6.69E+03 8.17E+03			1114. 1114	1014 1014
	11/16/2006						
9522-01-BC-01-13-0 9522-01-SC-01-13-0	11/16/2006 11/16/2006	11:13:00 11:19:00	7.25E+03 7.62E+03			1114 1114	1014 1014
9522-01-BC-01-14-0	11/16/2006	11:21:00	7.46E+03		gin at a si	1114	1014
9522-01-SC-01-14-0	11/16/2006	11:25:00	6.72E+03	the second s		1114	1014
9522-01-BC-01-15-0	11/16/2006	11:25:00	7.16E+03	·		1114	1014
9522-01-SC-01-15-0	11/16/2006	11:30:00	7.54E+03			1114	1014
9522-01-BC-01-16-0	11/16/2006	11:31:00	8.59E+03	•		· · · · · · · · · · · · · · · · · · ·	1014
9522-01-SC-01-16-0	11/16/2006	11:34:00	7.44E+03	9.91E+03	•	1114	1014
9522-01-BC-01-17-0	11/16/2006	11:35:00	7.32E+03			1114	1014
9522-01-SC-01-17-0	11/16/2006	11:38:00	7.98E+03	8.54E+03		1114	1014

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RELEASE RECORD Attachment 2

Survey Location	Log Date	Log Time	Reading	Alarm Level	>Alarm Level	E-600 S/N	Probe S/N
SCAN AREA #2 9522-01-BC-02-01-0 9522-01-SC-02-01-0	11/15/2006 11/15/2006	12:50:00 12:54:00	6.19E+03 6.95E+03		· .	1116 1116	1006 1006
9522-01-BC-02-02-0 9522-01-SC-02-02-0	11/15/2006 11/15/2006	12:54:00 12:57:00	6.86E+03 6.64E+03	8.04E+03		1116 1116	1006 1006
9522-01-BC-02-03-0 9522-01-SC-02-03-0 9522-01-ER-02-03-1	11/15/2006 11/15/2006 11/16/2006	12:59:00 13:02:00 7:16:00	6.64E+03 7.16E+03 6.93E+03	7.80E+03 7.80E+03		1116 1116 1112	1006 1006 1013
9522-01-BC-02-04-0 9522-01-SC-02-04-0	11/15/2006 11/15/2006	13:03:00 13:07:00	6.75E+03 6.40E+03	7.92E+03		1116 1116	1006 1006
9522-01-BC-02-05-0 9522-01-SC-02-05-0	11/15/2006 11/15/2006	13:10:00 13:14:00	6.31E+03 6.56E+03		ан сайтаан ал	1116 1116	1006 1006
9522-01-BC-02-06-0 9522-01-SC-02-06-0	11/15/2006 11/15/2006	13:22:00 13:25:00	5.15E+03 6.04E+03			1112 1112	1013 1013
9522-01-BC-02-07-0 9522-01-SC-02-07-0	11/15/2006 11/15/2006	13:26:00 13:28:00	5.66E+03 4.95E+03			1112 1112	1013 1013
9522-01-BC-02-08-0 9522-01-SC-02-08-0	11/15/2006 11/15/2006	13:30:00 13:31:00	6.24E+03 5.95E+03	7.37E+03		1112 1112 1112	1013 1013
9522-01-BC-02-09-0 9522-01-SC-02-09-0	11/15/2006 11/15/2006	13:35:00 13:38:00	5.95E+03 5.23E+03	7.05E+03		1112 1112	1013 1013
9522-01-BC-02-10-0 9522-01-SC-02-10-0 9522-01-ER-02-10-1	11/15/2006 11/15/2006 11/16/2006	13:38:00 13:41:00 7:17:00	5.50E+03 5.17E+03 8.10E+03		• • • • • • • • • • •	1112 1112 1112	1013 1013 1013
9522-01-BC-02-11-0 9522-01-SC-02-11-0	11/15/2006 11/15/2006	13:41:00 13:45:00	5.52E+03 5.79E+03	6.58E+03		1112 1112	1013 1013
9522-01-BC-02-12-0 9522-01-SC-02-12-0	11/15/2006 11/15/2006	13:46:00 13:48:00	5.71E+03 5.02E+03		tan ta	1112 1112	1013 1013
9522-01-BC-02-13-0 9522-01-SC-02-13-0	11/15/2006 11/15/2006	13:49:00 13:51:00	6.00E+03 5.06E+03	7.11E+03		1112 1112	1013 1013
9522-01-BC-02-14-0 9522-01-SC-02-14-0	11/15/2006 11/15/2006	13:54:00 13:57:00	4.90E+03 4.96E+03	· · · · · · · · · · · · · · · · · · ·		1112 1112	1013 1013
9522-01-BC-02-15-0 9522-01-SC-02-15-0	11/15/2006 11/15/2006	13:57:00 14:00:00	6.76E+03 4.72E+03	7.93E+03		1112 1112	1013 1013
9522-01-BC-02-16-0 9522-01-SC-02-16-0	11/15/2006 11/15/2006	14:02:00 14:05:00	4.21E+03 5.08E+03			1112 1112	1013 1013
9522-01-BC-02-17-0 9522-01-SC-02-17-0	11/15/2006 11/15/2006	14:06:00 14:08:00	4.49E+03 4.95E+03			1112 1112	1013 1013
9522-01-BC-02-18-0 9522-01-SC-02-18-0	11/15/2006 11/15/2006	14:09:00 14:10:00	6.15E+03 6.85E+03	7.27E+03	······································	1112 1112	1013 1013
9522-01-BC-02-19-0 9522-01-SC-02-19-0 9522-01-ER-02-19-1 9522-01-ER-02-19-2	11/15/2006 11/15/2006 11/16/2006 11/16/2006	14:10:00 14:12:00 7:18:00 7:19:00	7.24E+03 7.21E+03 9.68E+00 6.31E+03	8.46E+03		1112 1112 1112 1112 1112	1013 1013 1013 1013 1013

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RELEASE RECORD Attachment 2

Survey Location	Log Date	Log Time	Reading	Alarm Level	>Alarm Level	E-600 S/N	Probe S/N
SCAN AREA #3							
9522-01-BC-03-01-0	11/21/2006	10:07:00	7.27E+03	,	•	1114	1014
9522-01-SC-03-01-0	11/21/2006	10:10:00	7.54E+03	8.49E+03		1114	1014
9522-01-BC-03-02-0	11/21/2006	10:11:00	8.89E+03		(1,1,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2	1114	1014
9522-01-SC-03-02-0	11/21/2006	10:13:00	6.32E+03	1.02E+04		1114	1014
9522-01-BC-03-03-0	11/21/2006	10:14:00	8.39E+03			1114	1014
9522-01-SC-03-03-0	11/21/2006	10:18:00	9.39E+03	9.70E+03		1114	1014
9522-01-ER-03-03-1	11/21/2006	12:54:00	1.10E+04	9.70E+03	+	1114	1014
9522-01-BC-03-04-0	11/21/2006	10:19:00	9.75E+03			1114	1014
9522-01-SC-03-04-0	11/21/2006	10:21:00	8.00E+03	1.12E+04		1114	1014

RELEASE RECORD Attachment 2

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SCAN RESULTS @ SAMPLE LOCATIONS

Survey Location	Log Date	Log Time	Reading	Alarm Level	>Alarm Level	E-600 S/N	Probe S/N
9522-01-BL-00-01-0	11/9/2006	9:55:00	8.75E+03			1114	1014
9522-01-SL-00-01-0	11/9/2006	9:55:00	1.05E+04	1.01E+04	+	1114	1014
9522-01-BL-00-02-0	11/9/2006	9:54:00	9.72E+03			1114	1014
9522-01-SL-00-02-0	11/9/2006	9:54:00	1.10E+04	1.11E+04		1114	1014
9522-01-BL-00-03-0	11/9/2006	9:58:00	9.17E+03			1114	1014
9522-01-SL-00-03-0	11/9/2006	9:58:00	1.05E+04	1.05E+04		1114	1014
9522-01-BL-00-04-0	11/9/2006	14:05:00	1.03E+04			1114	1014
9522-01-SL-00-04-0	11/9/2006	14:05:00	1.08E+04	1.17E+04		1114	1014
9522-01-BL-00-05-0	11/9/2006	13:58:00	9:18E+03	·		1114	1014
9522-01-SL-00-05-0	11/9/2006	13:58:00	9.12E+03	1.05E+04		1114	1014
9522-01-BL-00-06-0	11/9/2006	14:00:00	8.72E+03			1114	1014
9522-01-SL-00-06-0	11/9/2006	14:00:00	1.03E+04	1.01E+04	+	1114	1014
9522-01-BL-00-08-0	11/9/2006	13:11:00	7.03E+03	1997 - 19		1114	1014
9522-01-SL-00-08-0	11/9/2006	13:11:00	8.30E+03	8.23E+03	+	1114	1014
9522-01-BL-00-09-0	11/9/2006	10:57:00	6.52E+03			1114	1014
9522-01-SL-00-09-0	11/9/2006	10:57:00	6.96E+03	7.67E+03	· · ·	1114	1014
9522-01-BL-00-10-0	11/9/2006	10:52:00	9.71E+03			1114	1014
9522-03-SL-00-10-0	11/9/2006	10:52:00	7.69E+03	1.11E+04	· •	1114	1014
9522-01-BL-00-11-0	11/9/2006	13:12:00	7.13E+03	the second second		1114	1014
9522-01-SL-00-11-0	11/9/2006	13:12:00	7.41E+03	8.34E+03		1114	1014
9522-01-BL-00-12-0	11/9/2006	8:08:00	6.25E+03		n an an an Asad	1114	1014
9522-03-SL-00-12-0	11/9/2006	8:08:00	6.33E+03	7.38E+03	an terter an	1114	1014
9522-01-BL-00-13-0	11/9/2006	13:37:00	4.78E+03			1114	1014
9522-01-SL-00-13-0	11/9/2006	13:37:00	4.55E+03	5.77E+03		1114	1014
9522-01-BL-00-14-0	11/9/2006	10:54:00	5.75E+03	e e construction de la construct	· · ·	1114	1014
9522-01-SL-00-14-0	11/9/2006	10:54:00	7.69E+03	6.83E+03	+	1114	1014
9522-01-BL-00-15-0	11/9/2006	8:15:00	7.90E+03	ente de la composition de la c	· · · · · ·	1114	1014
9522-01-SL-00-15-0	11/9/2006	8:15:00	9.75E+03	9.17E+03	+	1114	1014
9522-01-BL-00-16-0	11/15/2006	9:35:00	7.75E+03			1116	1006
9522-01-SL-00-16-0	11/15/2006	9:35:00	7.15E+03	9.01E+03	5 T -	1116	1006

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RELEASE RECORD

ATTACHMENT 3 (LABORATORY DATA)

Revision 0

General Narrative

General Narrative for Connecticut Yankee Atomic Power Co. Work Order: 176896 SDG: MSR#06-1505

December 01, 2006

Laboratory Identification:

General Engineering Laboratories, LLC 2040 Savage Road Charleston, South Carolina 29407 (843) 556-8171

Summary

Sample receipt

The samples arrived at General Engineering Laboratories, LLC, Charleston, South Carolina on November 30, 2006 for analysis. Shipping container temperatures were checked, documented, and within specifications. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage.

Sample Identification The laboratory received the following samples:

Laboratory	Sample
Identification	Description
176896001	9522-0001-012F
176896002	9522-0001-015F
176896003	9522-0001-002F
176896004	9522-0001-001F
176896005	9522-0001-003F
176896006	9522-0001-010F
176896007	9522-0001-014F
176896008	9522-0001-009F
176896009	9522-0001-009FS
176896010	9522-0001-008F
176896011	9522-0001-011F
176896012	9522-0001-013F
176896013	9522-0001-005F
176896014	9522-0001-006F
176896015	9522-0001-004F
176896016	9522-0001-016F
176896017	9522-0001-017-1
176896018	9522-0001 - 018-I
176896019	9522-0001-019-I
176896020	9522-0001-020-I
176896021	9522-0001-021-I
176896022	9522-0001-022-I
176896023	9522-0001-023-1
176896024	9522-0001-024-I

Items of Note

There are no items to note.

Case Narrative

Sample analyses were conducted using methodology as outlined in General Engineering Laboratories (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Analytical Request

Twenty-two soil samples were analyzed for FSSGAM. Two soil samples were analyzed for FSSALL.

Data Package

The enclosed data package contains the following sections: General Narrative, Chain of Custody and Supporting Documentation, Data Review Qualifier Definitions, and data from the following fractions: Radiochemistry.

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

he

Project Manager

State	Certification
Alaska	UST-062
Arizona	AZ0668
Arkansas	88-0651
CLIA	42D0904046
California	01151CA
Colorado	GenEngLabs
Connecticut	PH-0169
Dept. of Navy	NFESC 413
EPA	WG-15J
Florida/NELAP	E87156
Georgia	E87156 (FL/NELAP)
Hawaii	N/A
Idaho	N/A
Illinois	200029
Indiana	C-SC-01
Kansas	E-10332
Kentucky	90129
Louisiana	03046
Maryland	. 270
Massachusetts	M-SC012
Michigan	9903
Nevada	SC12
New Jersey	SC002
New Mexico	FL NELAP E87156
New York	11501
North Carolina	233
North Carolina Drinking W	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania	68-00485
South Carolina	10120001/10585001/10120002
Tennessee	02934
Texas	TX213-2006A
Texas NELAP	T104704235-06-TX
U.S. Dept. of Agriculture	S-52597
US Army Corps of Engineer	N/A
Utah	8037697376 GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

List of current GEL Certifications as of 01 December 2006

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Chain of Custody and Supporting Documentation

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GPP-GGGR-R5104-003-Attachment B-CY-001 Major

Health	Physics Procedure	

	Connecticut Ya 362 Injun H	ankee At Iollow Road, E 860-267	ast Hampton,			у			Ch	ain c	of Cu	stod	y Form	No. 2006-00666
ľ	Project Name: Haddam Ne			1				An	alyses l	Reques	sted		Lab Use Only	·
	Contact Name & Phone: Jack McCarthy 860-267-2										Comments:			
	Analytical Lab (Name, City General Engineering Labor 2040 Savage Road. Charles 843 556 8171. Attn. Chery	ratories ston SC. 294	07	1			SSGAM	FSSALL						
	Priority: 30 D. 14 D	. 🛛 7 D. 🗌] 3 D.		Comula	Container	Ë	Ц					174	5961.
	Sample Designation	Date	Time	Media Code	Sample Type Code	Size- &Type Code							Comment, Preservation	Lab Sample ID
oł	9522-0001-012F	11/09/06	0808	TS	G	BP	X							
~	9522-0001-015F	11/09/06	0815	TS	G	BP	X							
1	9522-0001-002F	11/09/06	0954	TS	G	BP	X							
	9522-0001-001F	11/09/06	0955	TS	G	BP	X	_						
	9522-0001-003F	11/09/06	0958 -	TS	G	BP	X							
1	9522-0001-010F	11/09/06	1052	TS	G	BP	X							
1	9522-0001-014F	11/09/06	1054	TS	G	BP		X		ļ				· · · · · · · · · · · · · · · · · · ·
1	9522-0001-009F	11/09/06	1057	TS	G	BP	X							
	9522-0001-009FS	11/09/06	1057	TS	G	BP	X							
./	9522-0001-008F	11/09/06	1311	TS	G	BP	ļ	X						
r	9522-0001-011F	11/09/06	1312	TS	G	BP	X							
	NOTES: PO #: 002332	MSR #:	SSW	P# NA	🛛 LTP Q	QA [] Rad	waste (QA	🗌 Nor	n QA	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: Deg. C Custody Sealed? Y \ N _	
	1) Relinquished By		Date/Tim	ie	2) Rece	ved By	И	301	06	Date	e/Time /D		Other	Custody Seal Intact?
	3) Relinquished By		Date/Tim	ne	4) Recei	ved By	Date/Time						Bill of Lading #	· Y D N D :

Health Physics Procedure

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GPP-GGGR-R5104-003-Attachment B-CY-001 Major

	Connecticut Y 362 Injun F	ankee At Hollow Road, E 860-267	East Hampton,			y			Ch	ain (of Cu	stod	ly Form	No. 2006-00667		
	Project Name: Haddam N							Analyses Requested Lab Use Only								
	Contact Name & Phone: Jack McCarthy 860-267-	0										Comments:	· · · · · · · · · · · · · · · · · · ·			
	Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones						FSSGAM	FSSALL								
	Priority: 30 D. 14 D. 7 D. 3 D.					Container	E						171	68967.		
	Sample Designation	Date	- Time	Media Code	Sample Type Code	Size- &Type Code							Comment, Preservation	Lab Sample ID		
3	9522-0001-013F	11/09/06	1337	TS	G	BP	X						100 B			
1	9522-0001-005F	11/09/06	1358	TS	G	BP	X						*			
1	9522-0001-006F	11/09/06	1400	TS	G	BP	X			1						
V	9522-0001-004F	11/09/06	1405	TS	G	BP	X				<u> </u>					
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				1				1								
						1	[Γ								
						1	1	r			1					
	NOTES: PO #: 002332	MSR #:	1505	SSW	P#NA	🛛 LTP С	QA Radwaste QA Non Q					n QA	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: Deg. Custody Sealed? Y □ N □		
	1) Relinquished By		ne	A Con	ived By	Date/Time						Other	Custody Seal Intact?			
	3) Relinquished By		Date/Tim	ne	4) Rece		Date/Time						Bill of Lading #	Y D N D		

Health Physics Procedure

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	Connecticut Y . 362 Injun F	ankee At Hollow Road, I 860-26	East Hampton,			У			Ch	ain o	of Cu	stod	y Form	No. 2006-00671	
	Project Name: Haddam N				r		Analyses Requested						Lab Use Only	Lab Use Only	
	Contact Name & Phone: Jack McCarthy 860-267-										Comments:				
	Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones						FSSGAM	FSSALL							
	Priority: 30 D. 14 D. 7 D. 3 D.					Container	F	Ц					171	65961	
	Sample Designation	Date	Time	Media Code	Sample Type Code	Size- &Type Code							Comment, Preservation	Lab Sample ID	
⊳ √	9522-0001-016F	11/15/06	2735	TS	G	BP	X							· · · · · · · · · · · · · · · · · · ·	
	······································					<u> </u>	<u> </u>	<u> </u>				+			
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	NOTES: PO #: 002332	MSR #:	SSWP# NA 🖾 LTP QA 🗌 Radwaste QA 🗌 Non QA								Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: Deg. C Custody Sealed? $Y \sqcap N \square$			
	1) Relinquished By		Date/Tim	ie	2) Reco	ived By		130	106		/Time		Other	Custody Seal Intact?	
/	3) Relinquished By		Date/Tim	ie .	4) Rece	ived By					/Time		Bill of Lading #	Υ□Ν□	

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Connecticut 362 Injur	Yankee At n Hollow Road, E 860-267	East Hampton			Ŋ			Ch	ain o	of Cu	stod	y Form	No. 2006-00677	
Project Name: Haddam	Neck Decomm	1			T	Analyses Request			ted		Lab Use Only			
	Contact Name & Phone: Jack McCarthy 860-267-3924											Comments:		
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones						FSSGAM	FSSALL							
Priority: 30 D. 14		Sample	Container Size-	Η. Η	ц Ц					1768961				
Sample Designation	Date	Time	Media Code	Type Code	&Type Code							Comment, Preservation	Lab Sample ID	
9522-0001-017-I	11/16/06	0716	TS	G	BP	X								
9522-0001-018-I	11/16/06	0717	TS	G	BP	X								
9522-0001-019-I	11/16/06	0718	TS	G	BP	X	· ·				·			
9522-0001-020-I	11/16/06	0719	TS	G	BP	X						•		
9522-0001-021-I	11/16/06	1335	TS	G	BP	X							· · · · · · · · · · · · · · · · · · ·	
9522-0001-022-I	11/16/06	1340	TS	G	BP	X								
9522-0001-023-I	11/16/06	1345	TS	G	BP	X		L		<u> </u>				
				ļ	ļ	1			<u> </u>	ļ			_	
						<u> </u>		ļ			ļ'	· · · · · · · · · · · · · · · · · · ·		
				ļ		<u> </u>		L	ļ	ļ				
·		06-1 381			- A.	1		<u> </u>				 		
NOTES: PO #: 002332	P# NA		QA [] Rad	waste (QA [] Nor	n QA	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: Deg. C Custody Sealed? Y N				
1) Relinquished By										Time		Other	Custody Seal Intact?	
3) Relinquished By		Date/Tim	1e							Time		Bill of Lading #	Y N	

Health Physics Procedure

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Connecticut Y 362 Injun	ankee At Hollow Road, I 860-26	East Hampton,			y			Ch	ain o	of Cu	stod	y Form	No. 2006-00684
Project Name: Haddam N	leck Decomr	nissioning				T	An	alyses I	Reques	ted		Lab Use Onlÿ	
Contact Name & Phone: Jack McCarthy 860-267	-3924											Comments:	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones						FSSGAM	SSALL						
Priority: 30 D. 14 D. 7 D. 3 D.]		Container	E	Ĕ.					l	768961,
Sample Designation	Date	Time	Media Code	Sample Type Code	Size- &Type Code							Comment, Preservation	Lab Sample ID
9522-0001-024-I	11/21/06	1254	TS	G	BP	X							
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		<u> </u>	<u>↓</u>			+	·			+	<u> </u>		
		به	ļ										·
	· · · · ·	<u> </u>	<u> </u>	ļ			<u></u>			<u> </u>	ļ		
		<u> </u>	<u> </u>				+						<u> </u>
	+	<u> </u>		┼───						+			
NOTES: PO #: 002332	$\frac{1}{SSWP\#NA} \boxtimes LTPQA \square RadwasteQA \square NonQA$								Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: Deg. C Custody Sealed? Y □ N □			
1) Relinquished By		Date/Tim	ie	2) ReG	ved By	ll	30	Date/Time				Other	Custody Seal Intact?
3) Relinquished By		Date/Tim	ie	4) Rece	ived By		Date/Time					Bill of Lading #	Y 🗆 N 🗆

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Connecticut Yankee Statement of Work for Analytical Lab Services	CY-ISC-SOW-001
Figure 1. Sample Check-in List	
Date/Time Received: 11-30-02 10-10	
SDG#: MSR#06-1505, MSR#06-1506	
Work Order Number: 176896, 176890	
Shipping Container ID: See Continuation Sheet	# <u>See</u> Continuation she
1. Custody Seals on shipping container intact?	Yes X No []
2. Custody Seals dated and signed?	Yes No []
3. Chain-of-Custody record present?	Yes [No []
4. Cooler temperature <u>See Continue</u>	stion sheet
5. Vermiculite/packing materials is:	Wet [] Dry [)
6. Number of samples in shipping container:	
7. Sample holding times exceeded?	Yes [] No [X
8. Samples have:	
tapehazard labels	
custody seals appropriate sample labels	
9. Samples are:	
in good conditionleaking	
brokenhave air bubbles	
10. Were any anomalies identified in sample receipt?	Yes No []
 11. Description of anomalies (include sample numbers): <u>not</u> 	Signed
The Description of anomatics (mende sample numbers).	Signes
Sample Custodian/Laboratory:	Date: 11. 30.06

Page 45 of 56



SAMPLE RECEIPT & REVIEW FORM

_	*ATORIES'				PM use only	
Ī	Client: YANGER Adamic				SDG/ARCOC/Work Order: 176890, 176896	
Ē	Date Received:	N		الغرب التي يينية	PM(A) Review (ensure non-conforming items are resolved prior to sign	ning):
	leceived By:	q2	~		Curtha	-
Ľ		4		-		
	Sample Receipt Criteria	Yes	NA	N N	Comments/Qualifiers (Required for Non-Conforming Item	ns)
	Shipping containers received intac and sealed?	л Д		Τ	Circle Applicable: seals broken damaged container leaking container other (desc	ribe)
	Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.		V	,	Circle Coolant # ice bags blue ice dry ice none other d	lescribe)
3	Chain of custody documents included with shipment?					
4	Sample containers intact and sealed?	1		:	Circle Applicable: seals broken damaged container leaking container other (descr	ribe)
5	Samples requiring chemical preservation at proper pH?		\checkmark		Sample ID's, containers affected and observed pH:	
6	VOA vials free of headspace (defined as < 6mm bubble)?			1	Sample ID's and containers affected:	
7	Are Encore containers present? (If yes, immediately deliver to VOA laboratory)			 ✓ 		
8	Samples received within holding time?	\checkmark			Id's and tests affected:	
9	Sample ID's on COC match ID's on bottles?	~			Sample ID's and containers affected:	
10	Date & time on COC match date & time on bottles?	V			Sample ID's affected:	
11	Number of containers received match number indicated on COC?	\checkmark			Sample 1D's affected:	·
12	COC form is properly signed in relinquished/received sections?			\checkmark	not signed	
	Air Bill , Tracking #'s, & Additional Comments	19 19 79	80 78 98		1092 2742 - 20 190 5266 8785 - 1 092 2710 - 17.0 7988 9092 273 - (* 5266 8796 - 18 7928 - 9092 2753 -	η η -/η ⁰
		Non- Regulated	Regulated	High Lev	RSO RAD Receipt # ' *If > x2 area background is observed on samples identified as "non- regulated/non-radioactive", contact the Radiation Safety group for fur investigation.	rther
	Radiological Classification?	\checkmark			Maximum Counts Observed*: 150 CPM	{
В	PCB Regulated?					
_	Shipped as DOT Hazardous Material? If yes, contact Waste	[Hazard Class Shipped:	. · [
	Material? If yes, contact waste Manager or ESH Manager.				UN#:	
	Regulated as a Foreign Soil?	┵┥			e A i i	
D	PM (or PMA) review of Hazard class	ificati	on:		Initials (Q) Date: 1130 06	
	(NI (UI FINIA) ICVICH UI HAZAIG CIASS					



SAMPLE RECEIPT & REVIEW FORM CONTINUATION FORM

-200 Fed Fr 7928 9092 2742 $d0^{\circ}$ 27 In О タリン רו Ó 2753 7980 О 5266 8796 -18 8785-#1 hain of Custody 2006-00687 06667 0067 ාර (ත්) 60684 00689 0069 00 686 00685 - 00666 6.88 .

Data Review Qualifier Definitions

Data Review Qualifier Definitions

Qualifier Explanation

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- B Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL</p>
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- d 5-day BOD-The 2:1 depletion requirement was not met for this sample
- E Organics-Concentration of the target analyte exceeds the instrument calibration range
- E Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- H Analytical holding time was exceeded
- h Preparation or preservation holding time was exceeded
- J Value is estimated
- N Metals-The Matrix spike sample recovery is not within specified control limits
- N Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- ND Analyte concentration is not detected above the reporting limit
- UI Gamma Spectroscopy-Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- Z Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

GENERAL ENGINEERING LABORATORIES, LLC a Member of THE GEL GROUP, INC. P.O. BOX 30712 Charleston, SC 29417 • 2040 Savage Road (29407) Phone (843) 556-8171 • Fa

RADIOLOGICAL ANALYSIS

Radiochemistry Case Narrative Connecticut Yankee Atomic Power Co. (YANK) Work Order 176896

Method/Analysis Information

Product:	Alphaspec Am241, Cm, Solid ALL FSS
Analytical Method:	DOE EML HASL-300, Am-05-RC Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	592107
Prep Batch Number:	592100
Dry Soil Prep GL-RAD-A-021 Batch Number:	592095

Sample ID	Client ID
176896007	9522-0001-014F
176896010	9522-0001-008F
1201238056	Method Blank (MB)
1201238057	176896007(9522-0001-014F) Sample Duplicate (DUP)
1201238058	176896007(9522-0001-014F) Matrix Spike (MS)
1201238059	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 14.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 176896007 (9522-0001-014F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Alphaspec Pu, Solid-ALL FSS
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	592108
Prep Batch Number:	592100
Dry Soil Prep GL-RAD-A-021 Batch Number:	592095

Sample ID	Client ID
176896007	9522-0001-014F
176896010	9522-0001-008F
1201238060	Method Blank (MB)
1201238061	176896007(9522-0001-014F) Sample Duplicate (DUP)
1201238062	176896007(9522-0001-014F) Matrix Spike (MS)
1201238063	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 14.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 176896007 (9522-0001-014F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information .

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint Pu241, Solid-ALL FSS
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	592109
Prep Batch Number:	592100
Dry Soil Prep GL-RAD-A-021 Batch Number:	592095

 Sample ID
 Client ID

 176896007
 9522-0001-014F

 176896010
 9522-0001-008F

 1201238064
 Method Blank (MB)

 1201238065
 176896007(9522-0001-014F) Sample Duplicate (DUP)

 1201238066
 176896007(9522-0001-014F) Matrix Spike (MS)

 1201238067
 Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-035 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 176896007 (9522-0001-014F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from

referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived
Analytical Method:	EML HASL 300, 4.5.2.3
Prep Method:	Dry Soil Prep
Analytical Batch Number:	592140
Prep Batch Number:	592095

Sample ID	Client ID
176896001	9522-0001-012F
176896002	9522-0001-015F
176896003	9522-0001-002F
176896004	9522-0001-001F
176896005	9522-0001-003F
176896006	9522-0001-010F
176896007	9522-0001-014F
176896008	9522-0001-009F
176896009	9522-0001-009FS
176896010	9522-0001-008F
176896011	9522-0001-011F
176896012	9522-0001-013F
176896013	9522-0001-005F
176896014	9522-0001-006F
176896015	9522-0001-004F
176896016	9522-0001-016F
176896017	9522-0001-017-I .
176896018	9522-0001-018-I
176896019	9522-0001-019-1
176896020	9522-0001-020-I
1201238138	Method Blank (MB)
1201238139	176896001(9522-0001-012F) Sample Duplicate (DUP)
1201238140	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 13.

<u>Calibration Information:</u>

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

<u>Quality Control (QC) Information:</u>

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 176896001 (9522-0001-012F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

The sample and the duplicate, 1201238139 (9522-0001-012F) and 176896001 (9522-0001-012F), did not meet the relative percent difference requirement for Pb-212, however they do meet the relative error ratio requirement with value of 2.89.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to high peak-width.	Actinium-228	176896012
		Bismuth-212	176896005
		Cesium-137	176896017
		Cobalt-60	1201238139
UI	Data rejected due to interference.	Europium-155	176896005
UI	Data rejected due to low abundance.	Cesium-134	176896001
			176896003
·			176896006
			176896014
			176896015
			176896016
		Niobium-94	176896008
UI	Data rejected due to no valid peak.	Cobalt-60	176896007

Method/Analysis Information

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Product:	Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived
Analytical Method:	EML HASL 300, 4.5.2.3
Prep Method:	Dry Soil Prep
Analytical Batch Number:	592142
Prep Batch Number:	592096

Sample ID	Client ID
176896021	9522-0001-021-I
176896022	9522-0001-022-I
176896023	9522-0001-023-1
176896024	9522-0001-024-I
1201238141	Method Blank (MB)
1201238142	176890002(9522-0004-001FS) Sample Duplicate (DUP)
1201238143	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 13.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 176890002 (9522-0004-001FS).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

The sample and the duplicate, 1201238142 (9522-0004-001FS), did not meet the relative percent difference requirement for Ac-228 and Tl-208, however they do meet the relative error ratio requirement with value of 2.44 for Ac-228 and 1.80 for Tl-208.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to low abundance.	Cesium-134	176896021
			176896024
			1201238142
`		Thallium-208	1201238141

Method/Analysis Information

Product:	GFPC, Sr90, solid-ALL FSS
Analytical Method:	EPA 905.0 Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	592186
Prep Batch Number:	592100
Dry Soil Prep GL-RAD-A-021 Batch Number:	592095

Sample ID	Client ID
176896007	9522-0001-014F
176896010	9522-0001-008F
1201238231	Method Blank (MB)
1201238232	176896007(9522-0001-014F) Sample Duplicate (DUP)
1201238233	176896007(9522-0001-014F) Matrix Spike (MS)
1201238234	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 10.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 176896007 (9522-0001-014F).

QC Information

Refer to Non-Conformance Report.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Chemical Recoveries

All chemical recoveries meet the required acceptance limits for this sample set.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. The following NCR was generated for this SDG: NCR 390300 was generated due to Container scanning event for custody missed and Failed RPD for DUP. 1. Sample 176896007 and 1201238232 did not meet the relative percent difference due to the matrix of the sample. Large amounts of the sample was used to achieve the detection limit. 2. The analyst did not scan the samples 176890005, 176890008, 176896007, and 176896010 into the batch prior to analysis, however the samples did remain in their custody at all times. The error has been corrected and the analyst has been instructed on the proper scanning procedures. 1. Client was contacted and granted relief to report results. 2. Reporting results.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint Tc99, Solid-ALL FSS
Analytical Method:	DOE EML HASL-300, Tc-02-RC Modified
Analytical Batch Number:	592312

Sample ID	Client ID
176896007	9522-0001-014F
176896010	9522-0001-008F
1201238554	Method Blank (MB)
1201238555	176896007(9522-0001-014F) Sample Duplicate (DUP)
1201238556	176896007(9522-0001-014F) Matrix Spike (MS)
1201238557	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-005 REV# 13.

Calibration Information:

· Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 176896007 (9522-0001-014F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

The blank result for 1201238554 (MB) is greater than the MDA but less than the detection limit.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint Fe55, Solid-ALL FSS
Analytical Method:	DOE RESL Fe-1, Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	592304
Prep Batch Number:	592100
Dry Soil Prep GL-RAD-A-021 Batch Number:	592095

Sample ID	Client ID
176896007	9522-0001-014F
176896010	9522-0001-008F
1201238526	Method Blank (MB)
1201238527	176518004(9504-0000-004F) Sample Duplicate (DUP)
1201238528	176518004(9504-0000-004F) Matrix Spike (MS)
1201238529	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this

narrative has been analyzed in accordance with GL-RAD-A-040 REV# 3.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

<u>Quality Control (QC) Information:</u>

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 176518004 (9504-0000-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples 176896007 (9522-0001-014F) and 176896010 (9522-0001-008F) were reprepped due to high blank activity.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint Ni63, Solid-ALL FSS
Analytical Method:	DOE RESL Ni-1, Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	592310
Prep Batch Number:	592100
Dry Soil Prep GL-RAD-A-021 Batch Number:	592095

Sample ID	Client ID
176896007	9522-0001-014F
176896010	9522-0001-008F
1201238546	Method Blank (MB)
1201238547	176896007(9522-0001-014F) Sample Duplicate (DUP)
1201238548	176896007(9522-0001-014F) Matrix Spike (MS)
1201238549	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-022 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 176896007 (9522-0001-014F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	LSC, Tritium Dist, Solid - 3 pCi/g
Analytical Method:	EPA 906.0 Modified
Analytical Batch Number:	

Sample ID	Client ID
176896007	9522-0001-014F
176896010	9522-0001-008F
1201240325	Method Blank (MB)
1201240326	176890008(9522-0004-007F) Sample Duplicate (DUP)
1201240327	176890008(9522-0004-007F) Matrix Spike (MS)
1201240328	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-002 REV# 13.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 176890008 (9522-0004-007F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples 176896007 (9522-0001-014F) and 176896010 (9522-0001-008F) were reprepped due to low/high recovery.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:

Analytical Method:

EPA EERF C-01 Modified

Analytical Batch Number: 592313

Sample ID	Client ID
176896007	9522-0001-014F
176896010	9522-0001-008F
1201238558	Method Blank (MB)
1201238559	176896007(9522-0001-014F) Sample Duplicate (DUP)
1201238560	176896007(9522-0001-014F) Matrix Spike (MS)
1201238561	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-003 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 176896007 (9522-0001-014F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

12h/06

Reviewer/Date:

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COMPANY - WIDE NONCONFORMANCE REPORT									
Mo.Day Yr. 07-DEC-06	Division: Radiochemistry	Quality Criteria: Specifications	Type: Process						
Instrument Type: GFPC	Istrument Type: Test / Method: IFPC EPA 905.0 Modified		Client Code: YANK						
Batch ID: 592186	Sample Numbers: See Below								
Potentially affected work order Application Issues: Container scanning event for cus Failed RPD for DUP	r (s)(SDG): 176890(MSR#06-1506),176896(stody missed	MSR#06-1505)							
Specification and Requirement Nonconformance Description:	ts	NRG Disposition:							
1. Sample 176896007 and 1201 difference due to the matrix of the was used to achieve the detection	1238232 did not meet the relative percent he sample. Large amounts of the sample on limit.	1. Client was contacted and	granted relief to report results.						
176896007, and 176896010 into samples did remain in their cust	samples 176890005, 176890008, o the batch prior to analysis, however the tody at all times. The error has been een instructed on the proper scanning	2. Reporting results.							
. .									
	· · · ·								
Originator's Name: Melanie Aycock 07-DEC-	-06	Data Validator/Group Lead Heather Anderson 07	ler: -DEC-06						
Quality Review:									
Director:									

Page 1

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SAMPLE DATA SUMMARY

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report for

YANK001 Connecticut Yankee Atomic Power Co.

Client SDG: MSR#06-1505 GEL Work Order: 176896

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- ND The analyte concentration is not detected above the detection limit.

The above sample is reported on a dry weight basis except where prohibited by the analytical procedure. Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC 2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		omic Power						
	Contact:	East Hampto Mr. Jack Mc		ticut 06424				Rep	port Date: Decem	ber 7, 2006
	Project:	Soils PO# 00)2332							
		Client Sam Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:	te:		9522-00 1768960 TS 09-NOV 30-NOV Client 12.5%	/-06	(YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty		TPU	MDA	Units	DF Analyst Da	te Time Batch M
Rad Gamma	Spec Analy	sis								
Gamma,Sol Waived	id–FSS GAI	M & ALL FSS	226 Ingro	wth	,					
Actinium-	228		0.690	+/-0.169	0.0534	+/-0.169	0.119	pCi/g	. MJH1 12/0	05/06 0937 592140
Americium		U	-0.0319	+/-0.0718		+/-0.0718	0.138	pCi/g		
Bismuth-2	:12		0.737	+/-0.318	0.131	+/-0.318	0.285	pCi/g		
Bismuth-2			0.474	+/-0.0988		+/-0.0988	0.0749	pCi/g		
Cesium-13	34	UI	0.00	+/-0.0205	0.0237	+/-0.0205	0.0508	pCi/g		
Cesium-13	37		0.0504	+/-0.044	0.0183	+/-0.044	0.0393	pCi/g		•
Cobalt-60		U	0.0122	+/-0.0226	0.0208	+/-0.0226	L. 0.046	pCi/g		
Europium-	-152	U	-0.0356	+/-0.0562	0.0489	+/-0.0562	0.104	pCi/g	•	
Europium-	-154	U	0.0201	+/-0.0657	0.0588	+/-0.0657	0.130	pCi/g		
Europium-	-155	U	-0.014	+/-0.0582	0.0529	+/0.0582	0.110	pCi/g		
Lead-212			0.637	, +/-0.0778		+/-0.0778	0.0633	pCi/g		
Lead-214			0.591	+/-0.0967		+/-0.0967	0.0727	pCi/g		
Manganes		U	0.00981	+/-0.0206		+/-0.0206	0.040	pCi/g		
Niobium-9		U	0.0153	+/-0.0127		+/0.0127	0.0354	pCi/g		
Potassium			8.72	+/-0.980	0.153	+/0.980	0.351	pCi/g		
Radium-2			0.474	+/-0.0988		+/-0.0988	0.0749	pCi/g		
Silver-108		U -	-0.00701	+/-0.0167		+/-0.0167	0.0309	pCi/g		
Thallium-	208		0.169	+/-0.0436	0.018	+/-0.0436	0.0387	pCi/g		,
The following	ng Prep Me	thods were pe	erformed	7					· .	
Method		ription		·		Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry S	Soil Prep GL-F	₹AD-A-0	21		JMB1	11/30/0	6 1301	592095	
The followir	ng Analytics	al Methods we	ere perfor	med						
Method	Descr	iption	-						· · · · · · · · · · · · · · · · · · ·	
	EML	HASL 300, 4.	523							

A quality control analyte recovery is outside of specified acceptance criteria *

Result is less than value reported <

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GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mt
		Client Sample ID: Sample ID:	9522-0001-012F 176896001	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Project:	Soils PO# 002332		
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: December 7, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

Result is greater than value reported >

The TIC is a suspected aldol-condensation product Α

В Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

С Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

Н Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

Sample results are rejected R

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Ul Gamma Spectroscopy—Uncertain identification
 X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

 \wedge RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Certificate of Analysis

	Address :	362 Injun H		tomic Power						
	Contact:	East Hampton, Connecticut 06424 Report Date: December 7, 20 Mr. Jack McCarthy								er 7, 2006
	Project:	Soils PO# 0	•							
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	e: .te:		9522-00 1768960 TS 09-NO' 30-NO' Client 12%	V-06	C		ZANK01204 ZANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	e Time Batch M
Rad Gamma	Spec Analy	sis								
Gamma,Sol Waived	lidFSS GAI	M & ALL FSS	226 Ingro	wth						
Actinium-	-228		1.51	+/-0.294	0.114	+/-0.294	0.245	pCi/g	MJH1 12/05	5/06 0938 592140
Americiun	n-241	U	-0.0253	+/-0.0587	0.0463	+/-0.0587	0.0956	pCi/g		
Bismuth-2	212		0.931	+/-0.590	0.277	+/-0.590	0.588	pCi/g		
Bismuth-2	214		1.64	+/-0.209	0.0585	+/-0.209	0.124	pCi/g		
Cesium-1	34	U	0.0709	+/-0.049	0.0454	+/-0.049	0.096	pCi/g		
Cesium-1	37	U	0.0411	+/-0.0451		+/-0.0451	0.0857	pCi/g		
Cobalt-60)	U	0.0138	+/-0.0451	0.0388	+/-0.0451	0.0844	pCi/g		
Europium-	-152	Ū	-0.0674	+/-0.0964		+/-0.0964	0.163	pCi/g		
Europium-		Ū	-0.076	+/-0.166	0.113	+/-0.166	0.244	pCi/g		
Europium-		Ŭ	0.107	+/-0.126	0.0783	+/-0.126	0.162	pCi/g		
Lead-212		-	1.39	+/-0.132	0.0745	+/-0.132	0.153	pCi/g		
Lead-214			1.88	+/-0.166	0.0577	+/-0.166	0.121	pCi/g		
Manganes		U	-0.0436	+/-0.0442		+/-0.0442	0.0717	pCi/g		
Niobium-		Ŭ	0.00226	+/-0.0372		+/-0.0372	0.0671	pCi/g		
Potassium		U	23.1	+/-1.70	0.274	+/-1.70	0.614	pCi/g		
Radium-2			1.64	+/-0.209	0.0585	+/-0.209	0.124	pCi/g		
Silver-108		U	0.038	+/-0.0319		+/-0.0319	0.0623	pCi/g		
Thallium-		C	0.504	+/-0.0769		+/-0.0769	0.0619	pCi/g		
						N				
The followi Method		thods were po iption	erformed			Analyst	Date	Time	Prep Batch	
Dry Soil Pre	p Dry S	• oil Prep GL-	RAD-A-0	21	- ·	JMB1	11/30/06	1301	592095	
		l Methods w						-		
Method		iption	ere perior							
í	EML	HASL 300, 4.	.5.2.3							

The Qualifiers in this report are defined as follows :

A quality control analyte recovery is outside of specified acceptance criteria *

Result is less than value reported <

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mt
		Client Sample ID: Sample ID:	9522-0001-015F 176896002	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 7, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

- > Result is greater than value reported
- The TIC is a suspected aldol-condensation product А
- Target analyte was detected in the associated blank В
- BD Results are either below the MDC or tracer recovery is low
- С Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- Η Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- Sample results are rejected R
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- Ul Gamma Spectroscopy—Uncertain identification
 X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- Preparation or preservation holding time was exceeded h

The above sample is reported on a dry weight basis.

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Certificate of Analysis

Compa Addres	•		tomic Power						
Contac Project		cCarthy	eticut 06424				Rep	oort Date: Decemb	er 7, 2006
	Client Sar Sample II Matrix: Collect Da Receive D Collector: Moisture:	D: ate: Date:		9522-0 176896 TS · 09-NO 30-NO Client 28.3%	V-06			YANK01204 YANK001	·
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Dat	e Time Batch M
Rad Gamma Spec A	Analysis								
Gamma,Solid–FSS Waived	S GAM & ALL FSS	S 226 Ingro	wth						
Actinium-228		0.995	+/-0.250	0.0769	+/-0.250	0.169	pCi/g	MJH1 12/0	5/06 0938 592140
Americium-241	U	0.0119	+/-0.0358		+/-0.0358	0.0653	pCi/g		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Bismuth-212	-	1.12	+/-0.360	0.144	+/-0.360	0.318	pCi/g		
Bismuth-214		1.07	+/-0.119	0.0361	+/-0.119	0.0786	pCi/g		
Cesium-134	UI	0.00	+/-0.0531	0.0315	+/-0.0531	0.0675	pCi/g		
Cesium-137		0.666	+/-0.0684		+/-0.0684	0.060	pCi/g		
Cobalt-60	U	0.024	+/-0.0293	0.0273	+/-0.0293	0.0607	pCi/g		
Europium-152	Ü	-0.0805	+/-0.0712	0.0546	+/-0.0712	0.116	pCi/g		
Europium-154	U	0.00768	+/-0.0971	0.0823	+/-0.0971	0.181	pCi/g		
Europium-155	U	0.0333	+/-0.0534	0.0507	+/-0.0534	0.106	pCi/g		
Lead-212		1.13	+/-0.0802	0.0314	+/-0.0802	0.0659	pCi/g		
Lead-214		1.14	+/-0.102	0.0422	+/-0.102	0.0892	pCi/g		
Manganese-54	U	0.00223	+/-0.0303	0.0253	+/-0.0303	0.0548	pCi/g		
Niobium-94	U	-0.00704	+/-0.0237	0.0194	+/-0.0237	0.0421	pCi/g		
Potassium-40		11.9	+/-1.13	0.185	+/-1.13	0.431	pCi/g		
Radium-226		1.07	+/-0.119	0.0361	+/-0.119	0.0786	pCi/g		
Silver-108m	U		+/-0.025	0.0209	+/-0.025	0.0444	pCi/g		
Thallium-208		0.339	+/-0.0558	0.0203	+/-0.0558	0.0441	pCi/g		
									•
The following Prep	o Methods were p	performed						_	
Method 1	Description				Analyst	Date	Time	Prep Batch	
Dry Soil Prep 1	Dry Soil Prep GL-	-RAD-A-0)21		JMB1	11/30/	06 1301	592095	
The following Anal	•	vere perfor	med						
Method I	Description							- <u></u>	
i E	EML HASL 300, 4	1.5.2.3							
Notes:									

Notes:

The Qualifiers in this report are defined as follows :

A quality control analyte recovery is outside of specified acceptance criteria *

Result is less than value reported <

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 7, 2006
		Client Sample ID: Sample ID:	9522-0001-002F 176896003	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtc

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Certificate of Analysis

Contact: Project:	East Hampto Mr. Jack Mc Soils ÞO# 00	Carthy	ticut 06424				Re	Report Date: December 7, 2006		
	Sample ID Matrix: Collect Da	: te:	ب	1768960 TS 09-NO)04 √06	C	lient ID:			
	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Da	te Time Batch M	
Spec Analy	sis	•								
d–FSS GAI	M & ALL FSS	226 Ingrov	wth ·							
-241 12 14 4 7 152 154 155 -54 4 40 6 m	บ บ บ	0.0743 -0.035 0.0447 1.17 0.965 0.0156	+/-0.269 +/-0.102 +/-0.401 +/-0.032 +/-0.0983 +/-0.0276 +/-0.107 +/-0.0882 +/-0.0777 +/-0.129 +/-0.167 +/-0.0284 +/-0.025 +/-1.33 +/-0.136 +/-0.0245 +/-0.0726	0.0234 0.0631 0.071 0.0651 0.0333 0.0402 0.0252 0.0212 0.154 0.0383 0.0196	+/-0.0276 +/-0.107 +/-0.0882 +/-0.0777 +/-0.129 +/-0.167 +/-0.0284 +/-0.025 +/-1.33 +/-0.136 +/-0.0245	0.166 0.163 0.359 0.0835 0.0675 0.0513 0.0531 0.134 0.159 0.136 0.0703 0.0859 0.0549 0.0549 0.0549 0.0549 0.046 0.372 0.0835 0.0422 0.0451	pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g	MJH1 12/	05/06 0939 592140	
		<i>.</i> .							,	
<u> </u>		ertormed			Analyst	Date	Time	Prep Batch	<u> </u>	
	•	RAD-A-0	21		JMB1			-		
		ere perfori	ned							
Descr	ription									
EML	HASL 300, 4.	5.2.3								
	<i>d</i> - <i>FSS GA</i> . 228 -241 12 14 4 7 152 154 155 -54 4 4 208 g Prep Me Descr Dry S g Analyticz Descr	Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture: Qualifier Spec Analysis d-FSS GAM & ALL FSS 228 -241 U 12 14 4 U 7 U- 152 U 154 U 155 U -54 U 4 U 40 26 m U 208 g Prep Methods were po Description Dry Soil Prep GL-1 g Analytical Methods ware Description	Client Sample ID: Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture: Qualifier Result Spec Analysis d-FSS GAM & ALL FSS 226 Ingrow 228 1.17 -241 U 0.0035 12 0.820 14 0.886 4 U 0.0563 7 0.677 U-0.000186 152 U 0.0743 154 U -0.035 155 U 0.0447 1.17 0.965 -54 U 0.0156 4 U -0.0061 40 11.5 26 0.886 m U -0.0061 40 11.5 26 0.886 m U -0.0061 40 0.115 26 0.886 m U -0.0061 40 0.339 g Prep Methods were performed Description Dry Soil Prep GL-RAD-A-0. g Analytical Methods were performed	Client Sample ID: Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture: Qualifier Result Uncertainty Spec Analysis d-FSS GAM & ALL FSS 226 Ingrowth 228 1.17 +/-0.269 -241 U 0.0035 +/-0.102 12 0.820 +/-0.401 14 0.886 +/-0.136 4 U 0.0563 +/-0.032 7 0.677 +/-0.0983 U-0.000186 +/-0.0276 152 U 0.0743 +/-0.107 154 U -0.035 +/-0.0882 155 U 0.0447 +/-0.0777 1.17 +/-0.129 0.965 +/-0.167 -54 U 0.0156 +/-0.0284 4 U -0.0066 +/-0.025 40 11.5 +/-1.33 26 0.886 +/-0.136 m U -0.006 +/-0.0245 208 0.339 +/-0.0726 g Prep Methods were performed Description Dry Soil Prep GL-RAD-A-021 g Analytical Methods were performed	Client Sample ID: 9522-00 Sample ID: 1768960 Matrix: TS Collect Date: 09-NOV Receive Date: 30-NOV Collector: 30-NOV Moisture: 29.3% Qualifier Result Uncertainty LC Spec Analysis $d-FSS GAM & ALL FSS 226 Ingrowth$ 228 1.17 -241 0.0035 0.820 +/-0.102 0.0784 12 0.820 +/-0.401 0.163 14 0.886 +/-0.0276 0.0234 152 U 0.0743 +/-0.107 0.0631 154 U -0.035 +/-0.0276 0.0234 155 U 0.0447 +/-0.0276 0.0234 155 U 0.0447 +/-0.0777 0.0651 1.17 +/-0.025 0.0212 4 0.0252 4 0.0252 44 U -0.0061 +/-0.025 0.0212 4 0.0216 +/-0.025 0.0212 40 11.5 +/-1.33 0.154	Client Sample ID: $9522-0001-001F$ Sample ID: 176896004 Matrix: TS Collect Date: $09-NOV-06$ Receive Date: $30-NOV-06$ Collector: Client Moisture: 29.3% Qualifier Result Uncertainty LC TPU Spec Analysis $d-FSS GAM & ALL FSS 226 Ingrowth$ 228 1.17 $+/-0.269$ 0.0746 $+/-0.102$ 241 U 0.0035 $+/-0.102$ 0.784 $+/-0.102$ 12 0.820 $+/-0.401$ 0.163 $+/-0.0269$ -241 U 0.0035 $+/-0.026$ 0.0236 $+/-0.021$ 14 0.886 $+/-0.136$ 0.0383 $+/-0.032$ 7 0.677 $+/-0.0284$ 0.0236 $+/-0.027$ 152 U 0.0743 $+/-0.107$ 0.0631 $+/-0.107$ 154 U -0.035 $+/-0.0284$ 0.0252 $+/-0.0284$ 155 U 0.0447 $+/-0.0284$ 0.0252	Client Sample ID: 9522-0001-001F P Sample ID: 176896004 V Matrix: TS Collect Date: 09-NOV-06 Receive Date: 30-NOV-06 Collect Date: 09-NOV-06 Collect Date: 29.3% V MDA Spec Analysis LC TPU MDA 228 1.17 +/-0.269 0.0746 +/-0.102 0.163 228 1.17 +/-0.269 0.0784 +/-0.102 0.163 228 1.17 +/-0.269 0.0784 +/-0.102 0.163 224 0.820 +/-0.401 0.163 +/-0.401 0.359 12 0.820 +/-0.022 0.0313 +/-0.032 0.0675 7 0.677 +/-0.0276 0.0234 +/-0.0276 0.0531 152 U 0.0743 +/-0.107 0.0651 +/-0.107 0.134 155 U 0.0447 +/-0.0276 0.0234 +/0.029 0.0402 155 U 0.04047 +/-0.029 0.0333 +/-0.167 0.0402	Client Sample ID: 9522-0001-001F Project: Client ID: Vol. Recv.: Matrix: TS TS Client ID: Vol. Recv.: Client ID: Vol. Recv.: Matrix: TS Son NOV-06 Client Description Project: Client ID: Vol. Recv.: Qualifier Result Uncertainty LC TPU MDA Units Spec Analysis	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	

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* A quality control analyte recovery is outside of specified acceptance criteria

< Result is less than value reported

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Parameter	Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mt
	Client Sample ID: Sample ID:	9522-0001-001F 176896004	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Project:	Soils PO# 002332		
Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: December 7, 2006
Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more.

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

Certificate of Analysis

	npany : iress :	Connecticut 362 Injun H		tomic Power						
	ntact: ject:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424				Rej	port Date: December	7, 2006
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	te:		9522-00 1768960 TS 09-NO 30-NO Client 32.4%	V-06	C		YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt
Rad Gamma Spe	ec Analy	sis								
Gamma,Solid–. Waived	FSS GAI	M & ALL FSS	226 Ingro	wth						
Actinium-228			1.25	+/-0.396	0.112	+/-0.396	0.252	pCi/g	MJH1 12/05/	06 0940 592140 1
Americium-24	41	U	0.000605	+/-0.0563	0.0471	+/-0.0563	0.0981	pCi/g		
Bismuth-212		UI	0.00	+/-0.615	0.280	+/-0.615	0.614	pCi/g		
Bismuth-214			1.03	+/-0.177	0.0759	+/-0.177	0.163	pCi/g		
Cesium-134		U	0.0945	+/-0.0985	0.0514	+/-0.0985	0.111	pCi/g		
Cesium-137			1.17	+/-0.117	0.0355	+/-0.117	0.0777	pCi/g		
Cobalt-60		U ·	-0.00228	+/-0.0553	0.0444	+/-0.0553	0.0996	pCi/g		
Europium-152	2	Ū	-0.105	+/0.115	0.0902	+/-0.115	0.192	pCi/g		
Europium-154	Ļ	Ù	0.000711	+/-0.134	0.109	+/-0.134	0.246	pCi/g		
Europium-155	5	UI	0.00	+/-0.148	0.0709	+/-0.148	0.149	pCi/g		
Lead-212			1.31	+/-0.120	0.0467	+/-0.120	0.0987	pCi/g		
Lead-214			1.40	+/-0.186	0.0627	+/-0.186	0.134	pCi/g		
Manganese-54	1	U	-0.0278	+/-0.0456	0.0357	+/-0.0456	0.0789	pCi/g		
Niobium-94		U	0.00883	+/-0.0412	0.0359	+/-0.0412	0.0779	pCi/g		
Potassium-40			12.5	+/-1.63	0.310	+/-1.63	0.728	pCi/g		
Radium-226			1.03	+/-0.177	0.0759	+/-0.177	0.163	pCi/g		
Silver-108m		U	0.00935	+/-0.0366	0.031	+/-0.0366	0.0667	pCi/g		
Thallium-208			0.419	+/-0.102	0.0366	+/-0.102	0.0794	pCi/g		
					·					
The following P Method		thods were pe ription	erformed			Analyst	Date	Time	Prep Batch	
Dry Soil Prep		oil Prep GL-I	RAD-A-0	21		JMB1	11/30/06		592095	
5		•								
The following A		ant's .	ere perfor	med						
Method	Descr	iption								
1	EML	HASL 300, 4.	5.2.3							

Notes:

The Qualifiers in this report are defined as follows :

A quality control analyte recovery is outside of specified acceptance criteria *

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< Result is less than value reported

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Certificate of Analysis

Parameter	Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtc
	Client Sample ID: Sample ID:	9522-0001-003F 176896005	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 7, 2006
Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

Certificate of Analysis

	~	~ .	·								
	Company : Address :	Connecticut 362 Injun Ho		tomic Power		١					
		East Hampto	on, Connec	cticut 06424				Re	eport Da	ate: December '	7.2006
	Contact:	Mr. Jack Mc							r		., -
	Project:	Soils PO# 00	•								
		Client Sam	nple ID:		9522-0/	001-010F		Project:	YANK	01204	
		Sample ID:			1768960		(Client ID: 7	YANK		
		Matrix:			TS			Vol. Recv.:			
		Collect Dat Receive Da			09-NON 30-NON						
		Collector:			Client						
		Moisture:			29.2%						
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch
Rad Gamma	Spec Analy	ysis									
Gamma,Soli Waived	id–FSS GA.	M & ALL FSS	226 Ingrov	wth							
Actinium-2			0.938	+/-0.172	0.0553	+/-0.172	0.118	pCi/g		MJH1 12/05/0	06 0940 592140
Americium		U	-0.00666	+/-0.142	0.0939	+/-0.142	0.194	pCi/g			
Bismuth-2	12		0.656	+/-0.255	0.115	+/-0.255	0.245	pCi/g			
Bismuth-2			0.662	+/-0.0785		+/-0.0785	0.0645	pCi/g			
Cesium-13		UI	0.00	, +/-0.0336		+/-0.0336	0.0462	pCi/g			
Cesium-13			0.239	+/-0.0412		+/-0.0412	0.040	pCi/g			
Cobalt-60			-0.00776	+/-0.0226		+/-0.0226	0.0343	pCi/g			
Europium-			-0.00378	+/-0.0476		+/-0.0476	0.0866	pCi/g			
Europium-			-0.00764	+/-0.0591		+/-0.0591	0.108	pCi/g			
Europium-	-155	U	0.0605	+/-0.0604		+/-0.0604	0.115	pCi/g			
Lead-212			0.879	+/-0.0601		+/-0.0601	0.0525	pCi/g		•	
Lead-214	- 54	TI	0.782	+/-0.0885		+/-0.0885	0.0615	pCi/g			
Manganese Niobium-9		U	0.0031	+/-0.0252		+/-0.0252	0.0377	pCi/g			
Potassium-9		U	0.00226	+/-0.0167		+/-0.0167	0.0308	pCi/g			
Radium-22			14.3 0.662	+/-0.878	0.149		0.325	pCi/g pCi/g			
Silver-108		T i		+/-0.0785		+/-0.0785	0.0645	pCi/g			
Thallium-2		U	0.000593 0.267	+/-0.0168 +/-0.0434		+/-0.0168 +/-0.0434	0.0302 0.0323	pCi/g pCi/g			
Thuman -	200		0.207	י־עדט.ע	0.0135	17 V.V.T	0.0525	peng			
The followin Method	<u> </u>	ethods were pe ription	erformed			Analyst	Date	Time	Pr	ep Batch	
Dry Soil Prep		Soil Prep GL-R	RAD-A-0	121		JMB1	11/30/0			2095	
	•	al Methods we				JULUI	11/50/0	1 101	372	2093	
Method		ription	<u>ne periora</u>	<u>IICu</u>	<u></u>		<u> </u>				
l í	EML	HASL 300, 4.5	.5.2.3								
Notes:											,
	fiors in this	s report are de	laffinad aa	fallorus							
I ne Ouali.	11015 m m	NICDOLLAIC U.	enned as x	JOHOWS :							

< Result is less than value reported

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mt
		Client Sample ID: Sample ID:	9522-0001-010F 176896006	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Project:	Soils PO# 002332		
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: December 7, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using $\pm/-RL$. Concentrations are $\leq 5X$ the RL

h Preparation or preservation holding time was exceeded

Certificate of Analysis

Compar Address	-	onnecticut 52 Injun Ho		tomic Power									
Contact Project:	t: M	ast Hampto r. Jack Mc pils PO# 00	cCarthy	eticut 06424				R	Report Date: Dec	ember 7,	2006		
	Si M C R C	client Sam ample ID fatrix: collect Da eceive Da collector: foisture:): ite:		952200 1768960 TS 09-NO 30-NO Client 21.3%	V-06 ·		Project: Client ID: Vol. Recv.:	YANK01204 YANK001				
Parameter	(Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date	Time	Batch	Mt
Rad Alpha Spec Ana	alysis												
Alphaspec Am241,	Cm, Soli												
Americium-241		U	0.105	+/-0.153	0.0841	+/-0.154	0.258	pCi/g		12/03/06	0901	59210	7]
Curium-242		U	0.075	+/-0.129	0.066	+/-0.130	0.231	pCi/g	l				
Curium-243/244		Ŭ	0.0863	+/-0.154	0.0942	+/-0.154	0.278	pCi/g					
Alphaspec Pu, Solic	<i>†−ALL</i> F	- TSS											
Plutonium-238		U	0.0367	+/-0.103	0.0633	+/-0.103	0.222	pCi/g	MXA	12/03/06	0901	59210	8 2
Plutonium-239/24	0	U	0.0268	+/-0.071	0.0316	+/0.0711	0.159	pCi/g	I				
Liquid Scint Pu241,	, Solid–,	ALL FSS											
Plutonium-241		U	6.51	+/-7.02	5.58	+/-7.05	11.8	pCi/g.	MXA 1	12/05/06	1921	59210	9
Rad Gamma Spec A	nalysis								I				
Gamma,Solid–FSS Waived	-	ALL FSS	226 Ingroi	wth									
Actinium-228			0.657	+/-0.178	0.0615	+/-0.178	0.135	pCi/g	MJH1	12/05/06	0941	59214	0
Americium-241		U	0.0409	+/-0.0598		+/-0.0598	0.115	pCi/g					
Bismuth-212			0.561	+/-0.311	0.147	+/-0.311	0.319	pCi/g					
Bismuth-214			0.601	+/-0.107		+/-0.107	0.0747	pCi/g					
Cesium-134		U	0.047	+/-0.0365		+/-0.0365	0.0546	pCi/g					
Cesium-137			0.291	+/-0.0636		+/-0.0636	0.0411	pCi/g					
Cobalt-60		UI	0.00	+/-0.0155		+/-0.0155	0.0267	pCi/g					
Europium-152		U	-0.0841	+/-0.0577		+/-0.0577	0.0948	pCi/g					
Europium-154			-0.00935	+/-0.0615		+/-0.0615	0.113	pCi/g					
Europium-155		U	-0.0271	+/-0.0552		+/-0.0552	0.107	pCi/g					
Lead-212 Lead-214			0.717 0.592	+/-0.0854	0.027	+/0.0854 +/0.105	0.0567	pCi/g					
Manganese-54		U	0.392	+/-0.105 +/-0.0277		+/-0.103	0.0725 0.0386	pCi/g pCi/g					
Niobium–94			-0.00245	+/-0.0277 +/-0.0192		+/-0.0277	0.0388	pCi/g pCi/g					
Potassium-40		U	-0.00243	+/-0.0192 +/-1.04	0.0167	+/-0.0192	0.0362	pCi/g pCi/g					
Radium-226			0.601	+/-0.107	0.0348	+/-0.107	0.0747	pCi/g					
Silver-108m		U	0.019	+/-0.0203		+/-0.0203	0.0396	pCi/g					
Thallium-208			0.204	+/-0.0498		+/-0.0498	0.0378	pCi/g					
Rad Gas Flow Propo	ortional	Counting		11 010 120	0.0		0.00.0	peng					
GFPC, Sr90, solid-		c	,					/					
Strontium–90		55	0.766	+/-0.116	0.0297	+/-0.118	0.0719	pCi/g	KSDI	12/07/06	1236	59218	6
Rad Liquid Scintilla	tion An	alveie	0.700	77 U .110	0.0277		0.0712	pens	NODI	12/07/00	1400	J7210	0
Rau Liquiu Schitina	uon An	aly 515											

Certificate of Analysis

Company : Connecticut Yankee Atomic Power Address : 362 Injun Hollow Rd

	East Hampton, Connecticut 06424
Contact:	Mr. Jack McCarthy
Project:	Soils PO# 002332

Report Date: December 7, 2006

	Client Sar Sample II			9522-0 176896	001–014F 007		Project: Client ID: Vol. Recv.:	YANK01204 YANK001
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date Time Batch Mt
Rad Liquid Scintillat	tion Analysis							
LSC, Tritium Dist; S	Solid – 3 pCi/g							
Tritium	Ŭ	-0.536	+/-1.21	1.02	+/-1.21	2.10	pCi/g	DFA1 12/06/06 0204 593064 €
Liquid Scint C14, So	olid All,FSS			,				
Carbon-14	U	-0.0179	+/-0.0898	0.0758	+/-0.0898	0.155	pCi/g	AXD2 12/01/06 1937 592313 8
Liquid Scint Fe55, S	Solid–ALL FSS							
Iron-55	U	-3.56	+/-43.4	· 33.8	+/-43.4	71.3	pCi/g	MXP1 12/02/06 1849 592304 9
Liquid Scint Ni63, S	olid–ALL FSS							
Nickel-63	U	-2.44	+/-12.1	10.2	+/-12.1	21.5	pCi/g	MXP1 12/04/06 2048 592310 1
Liquid Scint Tc99, S	Solid–ALL FSS							
Technetium-99	U	0.194	+/-0.161	0.130	+/-0.162	0.268	pCi/g	KXR1 12/06/06 1754 592312 1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	11/30/06	1301	592095

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EML HASL 300, 4.5.2.3
5	EPA 905.0 Modified
6	EPA 906.0 Modified
7	EPA 906.0 Modified
8	EPA EERF C-01 Modified
9	DOE RESL Fe-1, Modified
10	DOE RESL Ni-1, Modified
11	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium-243	Alphaspec Am241, Cm, Solid ALL	81	(15%-125%)	
Plutonium242	Alphaspec Pu, Solid-ALL FSS	83	(15%-125%)	
Plutonium-241	Liquid Scint Pu241, Solid-ALL FS	87	(25%-125%)	
Strontium-90	GFPC, Sr90, solid-ALL FSS	30	(25%-125%)	

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Certificate of Analysis

Address :	362 Injun Hollow Rd		
Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: December 7, 2006
Project:	Soils PO# 002332		
	Client Sample ID: Sample ID:	9522-0001-014F 176896007	Project: YANK01204 Client ID: YANK001 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt
Carrier/Tracer Recovery	GFPC	', Sr90, sol	lid-ALL FSS		30	(.	(25%-125%)	1	
Iron-55	Liquic	1 Scint Fe:	55, Solid-ALL FS		54	((15%-125%)		
Nickel-63	Liquic	1 Scint Nit	63, Solid-ALL FS		68	(.	(25%-125%)		
Carrier/Tracer Recovery	Liquic	1 Scint Nit	63, Solid-ALL FS		68	(.	(25%-125%)		
Technetium-99	Liquic	1 Scint Tc	99, Solid-ALL FS		77	((15%-125%)		
Carrier/Tracer Recovery	Liquic	1 Scint Te	99, Solid-ALL FS		77	((15%–125%)		

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low

Company : Connecticut Yankee Atomic Power

- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

.

Certificate of Analysis

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Company Address :			tomic Power						
	East Hampto		ticut 06424				Rep	ort Date: December	7, 2006
Contact: Project:	Mr. Jack Mc Soils PO# 0	-							
	Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	: te:		9522-00 1768960 TS 09-NOV 30-NOV Client 12.7%	√-06	С		YANK01204 YANK001	
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch M
Rad Gamma Spec An	alysis								
Gamma,Solid–FSS G Waived	GAM & ALL FSS	226 Ingro	wth						
Actinium–228 Americium–241 Bismuth–212 Bismuth–214	U	0.739 0.0274 0.641 0.598	+/-0.142 +/-0.094 +/-0.225 +/-0.0874	0.0521 0.0651 0.120 0.0329	+/-0.142 +/-0.094 +/-0.225 +/-0.0874	0.113 0.135 0.257 0.0695	pCi/g pCi/g pCi/g pCi/g	MJH1 12/05/	06 0942 592140
Cesium-134 Cesium-137	U	0.0159 0.116	+/-0.0259 +/-0.0344	0.0166	+/-0.0259 +/-0.0344	0.0442 0.0353	pCi/g pCi/g		
Cobalt–60 Europium–152 Europium–154	U	-0.00391 -0.0172 -0.017	+/-0.0203 +/-0.0519 +/-0.0525	0.0442	+/-0.0203 +/-0.0519 +/-0.0525	0.0373 0.0927 0.0958	pCi/g pCi/g pCi/g		
Europium–154 Europium–155 Lead–212 Lead–214	U U	-0.017 0.0315 0.738 0.582	+/-0.0323 +/-0.0787 +/-0.0618 +/-0.0921	0.0532 0.0265	+/-0.0323 +/-0.0787 +/-0.0618 +/-0.0921	0.0938 0.110 0.0551 0.0646	pCi/g pCi/g pCi/g pCi/g		
Manganese–54 Niobium–94	U UI	0.0123 0.00	+/-0.0122 +/-0.0402	0.0188 0.0154	+/-0.0122 +/-0.0402	0.0398 0.0327	pCi/g pCi/g		
Potassium–40 Radium–226 Silver–108m	U	10.4. 0.598 -0.0134	+/-0.755 +/-0.0874 +/-0.0166		+/-0.755 +/-0.0874 +/-0.0166	0.240 0.0695 0.0299	pCi/g pCi/g pCi/g		
Thallium-208		0.196	+/-0.0408	0.0168	+/-0.0408	0.0355	pCi/g		
The following Prep N	lethods were po	erformed							
	scription				Analyst	Date	Time	Prep Batch	
Dry Soil Prep Dry	y Soil Prep GL-l	RAD-A-0	21		JMB1	11/30/06	1301	592095	
The following Analyt		ere perfor	med						
	scription			.		**			
I EM	IL HASL 300, 4.	5.2.3							
Notes: The Qualifiers in t	his report are d	efined as	follows				t		

The Qualifiers in this report are defined as follows :

A quality control analyte recovery is outside of specified acceptance criteria *

< Result is less than value reported

•

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt
		Client Sample ID: Sample ID:	9522-0001- 176896008	-009F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 002332						
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy				. E	Report Date: December	7, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd						

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy-Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

Certificate of Analysis

Compa	-		tomic Power						
Addres	s : 362 Injun I	Hollow Rd							
			ticut 06424				Rep	ort Date: Decen	nber 7, 2006
Contac		-							
Project	:: Soils PO#	002332							
	Client Sa Sample II Matrix: Collect D Receive I Collector Moisture:	D: ate: Date:		9522-00 1768960 TS 09-NO 30-NO Client 12.3%	V-06			/ANK01204 /ANK001	
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst D	ate Time Batch M
Rad Gamma Spec A	Analysis								
Gamma,Solid–FSS Waived	S GAM & ALL FS	S 226 Ingro	wth		,				
Actinium-228		0.730	+/-0.185	0.0552	+/-0.185	0.119	pCi/g	МЛН1 12	/05/06 1000 592140
Americium-241	· U	-0.00587	+/-0.116	0.0945	+/-0.116	0.196	pCi/g		
Bismuth-212		0.446	+/-0.236	0.115	+/-0.236	0.248	pCi/g		
Bismuth-214		0.579	+/-0.0782	0.0249	+/-0.0782	0.0536	pCi/g		
Cesium-134	U	0.0171	+/-0.0211	0.0192	+/-0.0211	0.0411	pCi/g		
Cesium-137		0.101	+/-0.0351	0.0147	+/-0.0351	0.0316	pCi/g		
Cobalt-60	U	0.00698	+/0.0275	0.0174	+/-0.0275	0.0384	pCi/g		
Europium-152	U	-0.0348	+/-0.0476	0.0388	+/-0.0476	0.0819	pCi/g		
Europium-154	U	0.0378	+/-0.0599	0.0546	+/-0.0599	0.119	pCi/g		
Europium-155	U	-0.0146	+/-0.0516	0.0485	+/-0.0516	0.101	pCi/g		
Lead-212		0.630	+/-0.0547	0.0241	+/0.0547	0.0503	pCi/g		
Lead-214		0.615	+/-0.0857	0.0304	+/-0.0857	0.0638	pCi/g		
Manganese-54	U	0.0051	+/-0.0184		+/-0.0184	0.0343	pCi/g		
Niobium-94	U	0.00108	+/-0.0164		+/-0.0164	0.0304	pCi/g		
Potassium-40	-	10.0	+/-0.746		+/-0.746	0.245	pCi/g		
Radium-226		0.579	+/-0.0782		+/-0.0782	0.0536	pCi/g		
Silver-108m	IJ	-0.00186	+/-0.016	0.0126	+/-0.016	0.0269	pCi/g		
Thallium-208	-	0.197	+/-0.0403		+/-0.0403	0.033	pCi/g		
The following Pro-	Methods ware -	arformed							
The following Prep Method I	Description	Jei ioi meu			Analyst	Date	Time	Prep Batch	
Dry Soil Prep [Dry Soil Prep GL-	-RAD-A-0	21		JMB1	11/30/0	06 1301	592095	
The following Anal	ytical Methods v	vere perfor	med						
· · · · · · · · · · · · · · · · · · ·	Description					<u> </u>			
E E	EML HASL 300, 4	4.5.2.3							
Notes:									

The Qualifiers in this report are defined as follows :

A quality control analyte recovery is outside of specified acceptance criteria *

< Result is less than value reported

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Certificate of Analysis

Comp Addre	-		Yankee A llow Rd	tomic Power						
Conta		Hampto ack Mc		cticut 06424				I	Report Date: December	7, 2006
Projec	t: Soils	PO# 00	2332							
		nt Sam ple ID:	ple ID:		9522-000 17689600			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	Qua	lifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

- 、

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy—Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

Certificate of Analysis

Company Address :			Yankee At ollow Rd	tomic Power									
Contact: Project:	East Ha Mr. Jac Soils PO	k Mo	cCarthy	ticut 06424				я	Report Date: De	cember 7	7, 2006		
	Client Sampl Matrix Collec Receiv Collec Moist	e ID :: t Da ve D tor:	ite:		9522-0 1768960 TS 09-NO 30-NO Client 21%	V-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001				
Parameter	, Qualif	ier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time	Batch]	Mtd
Rad Alpha Spec Analys	sis												
Alphaspec Am241, Cm	, Solid AL	L FS	S										
Americium-241		U	-0.0199	+/-0.0384	0.0538	+/-0.0385	0.202	pCi/g	MXA 1	12/03/0	6 0901	592107	I
Curium-242		U	-0.0184	+/-0.0256		+/-0.0257	0.202	pCi/g					
Curium-243/244		U	0.0722	+/-0.144	0.0881	+/-0.144	0.270	pCi/g					
Alphaspec Pu, Solid-A Plutonium-238	ALL FSS	U	0.0757	+/-0.171	0.111	+/-0.172	0.333	pCi/g	MXA	12/03/0	6 0901	592108	2
Plutonium-239/240		U	-0.0296	+/-0.0335	0.0639	+/-0.0337	0.239	pCi/g	I				
Liquid Scint Pu241, Sc	olid–ALL I	-SS									•		
Plutonium-241		U	11.0	+/-8.26	6.42	+/-8.34	13.5	pCi/g	MXA	12/05/0	5 1937	592109	3
Rad Gamma Spec Ana	lysis								I				
Gamma,Solid–FSS GA Waived	1M & ALL	FSS	226 Ingro	wth									
Actinium-228			0.556	+/-0.158	0.0523	+/-0.158	0.114	pCi/g	МЛНІ	12/05/0	5 1 1 3 2	592140	4
Americium-241		U	0.015	+/-0.106	0.0779	+/-0.106	0.162	pCi/g					
Bismuth-212			0.320	+/-0.217	0.119	+/-0.217	0.257	pCi/g					
Bismuth-214		тт	0.413	+/-0.0879		+/0.0879	0.0596	pCi/g					
Cesium-134 Cesium-137		U	0.00824 0.223	+/-0.0204 +/-0.0382		+/-0.0204 +/-0.0382	0.0389 0.0309	pCi/g pCi/g					
Cobalt-60		U	0.00385	+/-0.0203		+/-0.0382 +/-0.0203	0.0309	pCi/g pCi/g					
Europium-152			-0.00971	+/-0.0465		+/-0.0465	0.0391	pCi/g			ι.		
Europium-152		Ŭ	0.0296	+/-0.0803		+/-0.0803	0.111	pCi/g					
Europium-155		Ū	0.0731	+/-0.066	0.044		0.0915	pCi/g					
Lead-212			0.571	+/-0.0532	0.0217	+/-0.0532	0.0456	pCi/g					
Lead-214			0.438	+/-0.083	0.0266	+/0.083	0.0566	pCi/g					
Manganese-54		U	0.0023	+/-0.018	0.0154		0.0334	pCi/g					
- Niobium-94		U	0.0184	+/-0.0164		+/-0.0164	0.033	pCi/g					
Potassium-40			9.47	+/-0.736	0.127		0.291	pCi/g					
Radium–226 Silver–108m		U	0.413 0.0114	+/-0.0879 +/-0.0153		+/-0.0879 +/-0.0153	0.0596 0.0308	pCi/g					
Thallium-208		U	0.165	+/-0.0135		+/-0.0133 +/-0.0436	0.0308	pCi/g pCi/g					
Rad Gas Flow Proporti	ional Com	nting		0.0450	0.0145	0.0400	0.0500	PC1/8					•
GFPC, Sr90, solid–Al			~										
Strontium-90	001 1	U	0.0361	+/-0.031	0.0212	+/-0.0311	0.0495	pCi/g	KSDI	12/07/04	5 1 1 5 1	592186	5
Rad Liquid Scintillatio	n Analysis		0.0201	., 0.001	0.0212	0.0011	0.0775	pers	K5D1	12.0770		272100	5
Signa Seminario			•										

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Certificate of Analysis

 Address :
 362 Injun Hollow Rd

 East Hampton, Connecticut 06424
 Report Date: December 7, 2006

 Contact:
 Mr. Jack McCarthy

 Project:
 Soils PO# 002332

 Client Sample ID:
 9522–0001–008F

 Sample ID:
 9522–0001–008F

 Vol. Recv.:
 YANK01204

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mte
Rad Liquid Scintillation	Analysis								
LSC, Tritium Dist, Solid	– <i>(</i> 3 pCi/g								
Tritium	Ū	-0.535	+/-1.20	1.02	+/-1.20	2.10	pCi/g	DFA1 12/06/0	6 0538 593064 E
Liquid Scint C14, Solid	All,FSS								
Carbon-14	U	-0.00299	+/-0.0942	0.0792	+/-0.0942	0.162	pCi/g	AXD2 12/01/0	6 2040 592313 8
Liquid Scint Fe55, Solid	-ALL FSS		,						
Iron-55	U	1.47	+/-35.2	26.9	+/-35.2	56.6	pCi/g	MXP1 12/02/0	6 1905 592304 9
Liquid Scint Ni63, Solid	-ALL FSS								
Nickel-63	U	-3.88	+/-11.0	9.37	+/-11.0	19.7	pCi/g	MXP1 12/04/0	6 2104 592310 1
Liquid Scint Tc99, Solid	-ALL FSS								
Technetium-99	U	0.135	+/-0.154	0.125	+/-0.154	0.258	pCi/g	KXR1 12/06/0	6 1825 592312 1

The following Prep Methods were performed

Company :

Connecticut Yankee Atomic Power

Method	Description	Analyst	Date	Time	Prep Batch	
	Dry Soil Prep GL-RAD-A-021	JMB1	11/30/06	1301	592095	

The following Analytical Methods were performed Mathad Description

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EML HASL 300, 4.5.2.3
5	EPA 905.0 Modified
6	EPA 906.0 Modified
7	EPA 906.0 Modified
8	EPA EERF C-01 Modified
9	DOE RESL Fe-1, Modified
10	DOE RESL Ni-1, Modified
11	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium-243	Alphaspec Am241, Cm, Solid ALL	76	(15%-125%)	
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	82	(15%-125%)	
Plutonium-241	Liquid Scint Pu241, Solid-ALL FS	75	(25%-125%)	
Strontium-90	GFPC, Sr90, solid-ALL FSS	47	(25%-125%)	

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Certificate of Analysis

Address :	362 Injun Hollow Rd			
Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		F	Report Date: December 7, 2006
Project:	Soils PO# 002332			
	Client Sample ID: Sample ID:	9522-0001-008F 176896010	Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001

Parameter	Qualifier Resu	lt Uncertainty	LC	TPU	MDA Un	its D	DF Analyst Date	Time Batch Mte
Carrier/Tracer Recovery	GFPC, Sr90	, solid–ALL FSS		47	(25%-12	25%)		
Iron-55	Liquid Scint	Fe55, Solid-ALL FS		66	(15%-12	25%)		
Nickel-63	Liquid Scint	Ni63, Solid-ALL FS		67	(25%-12	25%)		
Carrier/Tracer Recovery	Liquid Scint	Ni63, Solid-ALL FS		67	(25%-12	25%)		
Technetium-99	Liquid Scint	Tc99, Solid-ALL FS		79	(15%-12	25%)		
Carrier/Tracer Recovery	Liquid Scint	Tc99, Solid-ALL FS		79	(15%-12	25%)		

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
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Company : Connecticut Yankee Atomic Power

- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy-Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

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Certificate of Analysis

Com Addr	pany : ess :	Connecticut 362 Injun H		tomic Power						
Conta Proje		East Hampte Mr. Jack Mo Soils PO# 0	cCarthy	ticut 06424				R	eport Date: Decemb	er 7, 2006
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:): ite:		9522-00 1768960 TS 09NO 30NO Client 18.5%	/-06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LĊ	TPU	MDA	Units	DF Analyst Dat	e Time Batch Mt
Rad Gamma Spec	Analys	sis			· · · ·				⁰	
Gamma,Solid–F.	SS GAN	1 & ALL FSS	226 Ingro	wth						
Waived										
Actinium-228			0.590	+/-0.186	0.0549	+/-0.186	0.118	pCi/g	MJH1 12/0	5/06 1133 592140
Americium-241		U	0.00418	+/-0.0783	0.0674	+/-0.0783	0.139	pCi/g		
Bismuth-212			0.503	+/-0.236	0.126	+/-0.236	0.269	pCi/g		
Bismuth-214			0.490	+/-0.084	0.0285	+/-0.084	0.0605	pCi/g		
Cesium-134		U	0.0346	+/-0.0206	· 0.0192	+/-0.0206	0.0408	pCi/g		
Cesium-137			0.177	+/-0.0313	0.0171	+/-0.0313	0.0363	pCi/g		
Cobalt-60		U	0.0132	+/-0.0218		+/-0.0218	0.0428	pCi/g		
Europium-152		U	-0.0144	+/-0.0503	0.0434	+/-0.0503	0.0907	pCi/g		
Europium-154		U	0.0136	+/-0.0613		+/-0.0613	0.117	pCi/g		
Europium-155		U	0.0698	+/-0.0518		+/-0.0518	0.103	pCi/g		
Lead-212			0.587	+/0.0564		+/-0.0564	0.053	pCi/g		
Lead-214			0.555	+/-0.080	0.0291	+/-0.080	0.0611	pCi/g		
Manganese-54		U	-0.0128	+/-0.0204		+/-0.0204	0.0364	pCi/g		
Niobium-94		U	-0.00519	+/-0.0168		+/-0.0168	0.0298	pCi/g	· ·	
Potassium-40			10.5	+/-0.780	0.129	+/-0.780	0.289	pCi/g		
Radium-226			0.490	+/-0.084	0.0285	+/-0.084	0.0605	pCi/g		
Silver-108m		U	-0.00727	+/-0.0161		+/-0.0161	0.0298	pCi/g		
Thallium-208	1		.0.174	+/-0.042	0.0171	+/-0.042	0.0361	pCi/g		
The following Pro	en Moti	hode word s	orformed							
Method	Descri		criormed			Analyst	Date	Tim	e Prep Batch	

	2 tott prion	7 thai y st	Dute		r op buten
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	11/30/06	1301	592095
The following A	Analytical Methods were performed			_	
Method	Description				
1	EML HASL 300, 4.5.2.3				

Notes:

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

< Result is less than value reported

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Certificate of Analysis

	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd							
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332			Report Date: December 7, 2006				
		Client Sample ID: Sample ID:	9522-0001-0 176896011	llF	Project: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter		Qualifier Result Uncertainty	LC T	PU MDA	Units	DF Analyst Date	Time Batch Mto		

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

Certificate of Analysis

	Company : Address :	Connecticut 362 Injun H		omic Power						
	Contact:	East Hampte Mr. Jack Me		ticut 06424				Rep	oort Date: December	7, 2006
	Project:	Soils PO# 0	•							
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	D: ate: Date:		9522-00 1768960 TS 09-NO' 30-NO' Client 10.1%	V-06	(YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch M
	a Spec Analy									
Gamma,So Waived	lid–FSS GAI	M & ALL FSS	226 Ingrov	wth						
Actinium-		UI	0.00	+/-0.219	0.0557	+/-0.219	0.128	pCi/g	MJH1 12/05/	06 1134 592140
Americiur	m-241	U	0.0146	+/-0.0256		+/-0.0256	0.0478	pCi/g		
Bismuth-2	212	U	0.0341	+/-0.183	0.160	+/-0.183	0.352	pCi/g		
Bismuth-2	214		0.265	+/0.0861	0.0353	+/0.0861	0.0775	pCi/g		
Cesium-1	34 .	U	0.0198	+/-0.0249	0.0233	+/-0.0249	0.0514	pCi/g		
Cesium-1	37	U	0.0277	+/-0.022	0.0217	+/-0.022	0.0474	pCi/g	•	
Cobalt-60		U	0.00335	+/-0.025	0.0218	+/-0.025	0.0498	pCi/g	Y	
Europium		U	0.000766	+/-0.0527	0.0478	+/-0.0527	0.103	pCi/g	·	
Europium	-154	U	0.0388	+/-0.070	0.0651	+/-0.070	0.147	pCi/g		
Europium	-155	U	0.0083	+/-0.0449	0.0415	+/-0.0449	0.0875	pCi/g		
Lead-212			0.289	+/-0.053	0.0281	+/-0.053	0.0595	pCi/g		
Lead-214			0.291	+/-0.0861	0.0332	+/-0.0861	0.0716	pCi/g		
Manganes	e-54	U	0.00791	+/-0.0184	0.0166	+/-0.0184	0.0377	pCi/g		
Niobium-	-94	U	0.0194	+/-0.0199	0.019	+/-0.0199	0.0416	pCi/g		
Potassium	-40		4.39	+/-0.761	0.144	+/-0.761	0.350	pCi/g		
Radium-2	226	·	0.265	+/-0.0861	0.0353	+/-0.0861	0.0775	pCi/g		
Silver-108	8m	U	0.00653	+/-0.0171	0.0158	+/-0.0171	0.0345	pCi/g		
Thallium-	-208		0.0611	+/-0.0484	0.0188	+/-0.0484	0.0413	pCi/g		
		thods were p	erformed							
Method		iption				Analyst	Date	Time	Prep Batch	····
Dry Soil Pre	p Dry S	oil Prep GL-	RAD-A-02	21		JMB1	11/30/0	6 1301	592095	
	ng Analytica Descr	I Methods w	ere perfori	med						
Method		•								
(EMI	HASL 300, 4	523							

The Qualifiers in this report are defined as follows :

A quality control analyte recovery is outside of specified acceptance criteria *

Result is less than value reported <

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mt
		Client Sample ID: Sample ID:	95220001013F 176896012	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 7, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy---Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

[·] Contact:	East Hampt Mr. Jack M	on Connec							
			ticut 06424	·			Rej	oort Date: December	7, 2006
Project:	Soils PO# 0	-						,	
. '	Client San Sample II Matrix: Collect Da Receive D Collector: Moisture:	D: ate: Date:		9522-00 1768960 TS 09-NOV 30-NOV Client 38.1%	/-06			YANK01204 YANK001	
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
Rad Gamma Spec Anal	ysis								*
Gamma,Solid-FSS GA	M& ALL FSS	5 226 Ingrov	wth						
Waived		1.00					<u>a</u> 11		
Actinium-228	T 1	1.20	+/-0.268	0.0715	+/-0.268	0.156	pCi/g	MJH1 12/05/0	06 1135 592140 1
Americium-241	ν U	-0.00326	+/-0.114	0.0924	+/-0.114	0.192	pCi/g		
Bismuth-212		0.564	+/-0.344	0.202	+/-0.344	0.430	pCi/g		
Bismuth–214 Cesium–134	ŢŢ	0.824 0.0305	+/-0.142 +/-0.0341	0.0414	+/-0.142 +/-0.0341	0.0883 0.0589	pCi/g		
Cesium-134 Cesium-137	U	0.0303	+/-0.0341	0.0278	+/-0.0341 +/-0.106	0.0389	pCi/g pCi/g		
Cobalt-60	· U	0.0508	+/-0.0263		+/-0.0263	0.0489	pCi/g pCi/g		
Europium–152	U U	-0.0355	+/-0.0644		+/-0.0644	0.0005	pCi/g		
Europium-152 Europium-154	U U	-0.0437	+/-0.0783		+/0.0783	0.113	pCi/g pCi/g		
Europium-155	U	0.0828	+/-0.109	0.0575	+/-0.109	0.135	pCi/g		
Lead-212		0.985	+/-0.107	0.0341	+/-0.107	0.0709	pCi/g		
Lead-212		0.915	+/-0.145	0.0395	+/-0.145	0.0831	pCi/g		
Manganese-54	U	0.0129	+/-0.0259		+/-0.0259	0.0499	pCi/g		
Niobium–94		-0.00613	+/-0.0245		+/-0.0245	0.0424	pCi/g		
Potassium-40		11.1	+/-1.20	0.210	+/-1.20	0.471	pCi/g		
Radium-226		0.824	+/-0.142	0.0414	+/-0.142	0.0883	pCi/g		
Silver-108m	U	-0.0154	+/-0.0241	0.0198	+/-0.0241	0.0419	pCi/g		
Thallium–208		0.347	+/-0.0719	0.0218	+/-0.0719	0.0465	pCi/g		
					,				
The following Prep Mo	and a second sec	erformed	÷						
Method Desc	ription				Analyst	Date	Time	Prep Batch	• .
Dry Soil Prep Dry	Soil Prep GL–	RAD-A-02	21		JMB1	11/30/0)6 1316	592096	
The following Analytic	al Methods w	ere perfori	ned						,
	ription								
l EML	HASL 300, 4	.5.2.3							
· · ·			1						
Notes:								н. Т	
The Qualifiers in thi	s report are d	lefined as i	follows :						

* A quality control analyte recovery is outside of specified acceptance criteria

< Result is less than value reported

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Certificate of Analysis

	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd							
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332			Report Date: December 7, 2006				
		Client Sample ID: Sample ID:	9522-0001- 176896013	-005F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001		
Parameter		Qualifier Result Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtc	

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^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

Certificate of Analysis

Company : Address :			omic Power								
Contact:	Mr. Jack Mc	Carthy	ticut 06424			Report Date: December 7, 2006					
Project:	Soils PO# 00	02332									
	Sample ID Matrix: Collect Da	: te:		1768960 TS 09–NO)14 √-06	Cli	ent ID:				
	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date Time Batch Mi		
a Spec Analy	/sis					٩					
		226 Ingrov	wth			÷					
-228		0.943	+/-0.221	0.0666	+/-0.221	0.143	pCi/g	MJH1	12/05/06 1135 592140		
m-241	U	0.0124	+/-0.0994	: 0.0862	+/-0.0994	0.177					
212		0.583	+/-0.289	0.164	+/0.289	0.347					
214		0.907	+/-0.145	0.0364	+/-0.145	0.077					
	UI		+/-0.039	0.0259	+/-0.039						
37				0.0205	+/-0.251						
	U										
	-										
	0				•						
	11-1										
	0										
	ŢŢ										
	0	0.286	+/-0.051	0.0191	+/-0.051	0.0405	pCi/g				
		erformed			Analyst	Date	Time	Pren Ratch			
			21		•			•			
						11/30/00	1310	392090			
		ere perforr	ned								
EMI	HASL 300 4	523							· · · · · · · · · · · · · · · · · · ·		
		0.2.0					~				
	Address : Contact: Project: a Spec Analy did-FSS GA -228 m-241 212 214 34 37) -152 -154 -155 -154 -155 -154 -208 ing Prep Me Descr p Dry S ng Analyticz Descr	Address : 362 Injun Ha East Hampto Contact: Mr. Jack Mc Project: Soils PO# 00 Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture: Qualifier a Spec Analysis did—FSS GAM & ALL FSS -228 m-241 U 212 214 34 UI 37) -152 U -154 U -155 U se-54 U 94 U -40 226 8m U -208 U ing Prep Methods were pe Description p Dry Soil Prep GLI ng Analytical Methods were Description	Address :362 Injun Hollow RdEast Hampton, ConnectContact:Mr. Jack McCarthyProject:Soils PO# 002332Client Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture:QualifierResultA spec AnalysisMid-FSS GAM & ALL FSS 226 Ingrow-2280.943m-241U0.01242122120.5832140.90734UI0.057-152-152U-0.0255-154U0.0149-155U0.04140.8880.01050.408.652260.9078mU0.00226-2080.286	Address : 362 Injun Hollow Rd East Hampton, Connecticut 06424 Contact: Mr. Jack McCarthy Project: Soils PO# 002332 Client Sample ID: Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture: Moisture: Matrix: Collector: Moisture: Moisture: Moisture: Moisture: 228 0.943 +/-0.221 m-241 U 0.0124 +/-0.0994 212 0.583 +/-0.289 214 0.907 +/-0.145 34 UI 0.00 +/-0.039 37 3.08 +/-0.251 0 0.057 +/-0.0467 -152 U -0.0255 +/-0.0682 -154 U -0.0149 +/-0.0692 -155 U 0.0414 +/-0.0671 0.888 +/-0.0994 1.01 +/-0.144 se-54 U -0.00149 +/-0.0266 -400 8.65 +/-0.992 226 0.907 +/-0.145 8m U 0.00226 +/-0.0216 mag Prep Methods were performed Description p Dry Soil Prep GL-RAD-A-021 mg Analytical Methods were performed Description	Address : 362 Injun Hollow Rd East Hampton, Connecticut 06424 Contact: Mr. Jack McCarthy Project: Soils PO# 002332 Client Sample ID: 1768960 Matrix: TS Collect Date: 09–NOV Receive Date: 09–NOV Collect Date: 09–NOV Receive Date: 30–NOV Collector: Client Moisture: 44.9% LC Qualifier Result Uncertainty LC a Spec Analysis did-FSS GAM & ALL FSS 226 Ingrowth -228 0.943 1/-0.289 0.164 212 0.583 1/-0.0467 0.0255 1/-0.0467 0.057 1/-0.0467 0.057 0.0057 1/-0.0467 0.055 0.0057 1/-0.0467 0.055 <	Address : 362 Injun Hollow Rd East Hampton, Connecticut 06424 Contact: Mr. Jack McCarthy Project: Soils PO# 002332 Client Sample ID: 9522–0001–006F Sample ID: 176896014 Matrix: TS Collect Date: 09–NOV–06 Receive Date: 30–NOV–06 Collector: Client Moisture: 44.9% LC rPU a Spec Analysis did-FSS GAM & ALL FSS 226 Ingrowth -228 0.943 +/-0.221 0.0666 +/-0.289 214 0.907 +/-0.145 0.0364 +/-0.145 122 0.583 +/-0.289 0.164 +/-0.289 214 0.907 +/-0.145 0.0364 +/-0.145 134 UI 0.00 +/-0.051 0.0205 +/-0.0682 -152 U -0.0255 +/-0.0682 0.0574 +/-0.0682 -155 U 0.0414 +/-0.0671 0.058 +/-0.0692 -155 U 0.0414 +/-0.0266 </td <td>Address : 362 Injun Hollow Rd East Hampton, Connecticut 06424 Contact: Mr. Jack McCarthy Project: Soils PO# 002332 Client Sample ID: 176896014 Matrix: TS Collect Date: 09–NOV–06 Receive Date: 30–NOV–06 Collect Date: 09–NOV–06 Receive Date: 30–NOV–06 Collector: Client Moisture: 44.9% Mid-FSS GAM & ALL FSS 226 Ingrowth -228 0.943 +/-0.221 0.0666 +/-0.289 0.347 214 0.907 +/-0.454 0.0362 +/-0.039 0.0547 37 3.08 +/-0.289 0.044 +/-0.0467 0.0367 +/-0.379 34 UI 0.00 +/-0.039 0.0259 +/-0.039 0.0547 37 3.08 +/-0.261 0.0588 +/-0.0682 0.119 -152 U -0.0255 +/-0.0682 0.574 +/-0.0682 0.129 -154 U -0.0149 +/-0.0266 0.0588 +/-0.0216</td> <td>Address: 362 Injun Hollow Rd East Hampton, Connecticut 06424 Re Contact: Mr. Jack McCarthy Project: Soils PO# 002332 Project: Soils PO# 002332 Client Sample ID: 176896014 TS Project: Vol. Recv.: Vol. Recv.: Collect Date: 09–NOV–06 Receive Date: 30–NOV–06 Vol. Recv.: Vol. Recv.: Collector: Client Matrix: TS Vol. Recv.: Vol. Recv.: Moisture: 44.9% LC TPU MDA Units a Spec Analysis iid-FSS GAM & ALL FSS 226 Ingrowth -228 0.943 +/-0.221 0.0666 +/-0.221 0.143 pCi/g 212 0.583 +/-0.299 0.0664 +/-0.289 0.347 pCi/g 214 0.907 +/-0.145 0.0354 +/-0.145 0.0434 pCi/g 34 UI 0.0014 +/-0.0692 0.058 +/-0.0692 0.19 pCi/g 37 3.08 +/-0.0610 0.0364 +/-0.0692 0.19 pCi/g 152 U -0.0149 +/-0.0622 0.</td> <td>Address: 362 Injun Hollow Rd East Hampton, Connecticut 06424 Report Date: Dec Contact: M.7.Jack McCarthy Project: Soils PO# 002332 Client Sample ID: 9522-0001-006F T76896014 Project: YANK01204 Client ID: Vol. Recv.: Sample ID: 9522-0001-006F Takescove Date: Project: YANK01204 Client ID: Vol. Recv.: Matrix: TS Collect Date: 09-NOV-06 Collector: Project: YANK01204 Moisture: 44.9% Vol. Recv.: YANK01 Aspec Analysis Uncertainty LC TPU MDA Units DF Analyst -228 0.943 +/-0.221 0.0666 +/-0.221 0.143 pCi/g MJH1 -228 0.943 +/-0.221 0.0666 +/-0.221 0.143 pCi/g MJH1 -228 0.943 +/-0.221 0.0664 +/-0.221 0.0447 pCi/g MJH1 -228 0.943 +/-0.221 0.0664 +/-0.221 0.0447 pCi/g MJH1 -211 0.0017 pCi/g 0.0354 +/-0.0467 0.0399 pCi/g</td>	Address : 362 Injun Hollow Rd East Hampton, Connecticut 06424 Contact: Mr. Jack McCarthy Project: Soils PO# 002332 Client Sample ID: 176896014 Matrix: TS Collect Date: 09–NOV–06 Receive Date: 30–NOV–06 Collect Date: 09–NOV–06 Receive Date: 30–NOV–06 Collector: Client Moisture: 44.9% Mid-FSS GAM & ALL FSS 226 Ingrowth -228 0.943 +/-0.221 0.0666 +/-0.289 0.347 214 0.907 +/-0.454 0.0362 +/-0.039 0.0547 37 3.08 +/-0.289 0.044 +/-0.0467 0.0367 +/-0.379 34 UI 0.00 +/-0.039 0.0259 +/-0.039 0.0547 37 3.08 +/-0.261 0.0588 +/-0.0682 0.119 -152 U -0.0255 +/-0.0682 0.574 +/-0.0682 0.129 -154 U -0.0149 +/-0.0266 0.0588 +/-0.0216	Address: 362 Injun Hollow Rd East Hampton, Connecticut 06424 Re Contact: Mr. Jack McCarthy Project: Soils PO# 002332 Project: Soils PO# 002332 Client Sample ID: 176896014 TS Project: Vol. Recv.: Vol. Recv.: Collect Date: 09–NOV–06 Receive Date: 30–NOV–06 Vol. Recv.: Vol. Recv.: Collector: Client Matrix: TS Vol. Recv.: Vol. Recv.: Moisture: 44.9% LC TPU MDA Units a Spec Analysis iid-FSS GAM & ALL FSS 226 Ingrowth -228 0.943 +/-0.221 0.0666 +/-0.221 0.143 pCi/g 212 0.583 +/-0.299 0.0664 +/-0.289 0.347 pCi/g 214 0.907 +/-0.145 0.0354 +/-0.145 0.0434 pCi/g 34 UI 0.0014 +/-0.0692 0.058 +/-0.0692 0.19 pCi/g 37 3.08 +/-0.0610 0.0364 +/-0.0692 0.19 pCi/g 152 U -0.0149 +/-0.0622 0.	Address: 362 Injun Hollow Rd East Hampton, Connecticut 06424 Report Date: Dec Contact: M.7.Jack McCarthy Project: Soils PO# 002332 Client Sample ID: 9522-0001-006F T76896014 Project: YANK01204 Client ID: Vol. Recv.: Sample ID: 9522-0001-006F Takescove Date: Project: YANK01204 Client ID: Vol. Recv.: Matrix: TS Collect Date: 09-NOV-06 Collector: Project: YANK01204 Moisture: 44.9% Vol. Recv.: YANK01 Aspec Analysis Uncertainty LC TPU MDA Units DF Analyst -228 0.943 +/-0.221 0.0666 +/-0.221 0.143 pCi/g MJH1 -228 0.943 +/-0.221 0.0666 +/-0.221 0.143 pCi/g MJH1 -228 0.943 +/-0.221 0.0664 +/-0.221 0.0447 pCi/g MJH1 -228 0.943 +/-0.221 0.0664 +/-0.221 0.0447 pCi/g MJH1 -211 0.0017 pCi/g 0.0354 +/-0.0467 0.0399 pCi/g		

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

< Result is less than value reported

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Certificate of Analysis

	npany : fress :	Connecticut V 362 Injun Ho		omic Power						
	ntaet: ject:	East Hampton Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424				R	eport Date: December	7, 2006
		Client Samj Sample ID:		`	9522-000 176896014		,	Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy-Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

ì

Certificate of Analysis

	Company : Address :	Connecticut 362 Injun H									
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 0	Carthy	ticut 06424		Report Date: December 7, 2006					
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	e: .te:		9522-00 1768960 TS 09-NO 30-NO Client 42%	V-06	Cl		YANK01204 YANK001		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Dat	e Time Batch M	
Rad Gamma	Spec Analy	/sis									
Gamma,Sol Waived	id–FSS GA.	M & ALL FSS	226 Ingro	wth							
Actinium-	228		0.838	+/-0.155	0.0431	+/-0.155	0.0902	pCi/g	MJH1 12/0:	5/06 1136 592140	
Americiun		U	-0.13	+/-0.117	0.088	+/-0.117	0.179	pCi/g			
Bismuth-2			0.537	+/-0.192	0.102	+/-0.192	0.211	pCi/g			
Bismuth-2			0.970	+/0.111	0.0223	+/-0.111	0.0463	pCi/g			
Cesium-12	34	UI	0.00	+/-0.0306		+/-0.0306	0.0334	pCi/g			
Cesium-1.			0.637	+/-0.0598		+/-0.0598	0.0275	pCi/g			
Cobalt–60		U	0.0227	+/-0.0158		+/-0.0158	0.0309	pCi/g			
Europium-		U	-0.0052	+/-0.0401		+/-0.0401	0.0702	pCi/g			
Europium-		U	-0.0357	+/0.0445		+/-0.0445	0.0764 .	pCi/g			
Europium-	-155	U	0.0616	+/-0.0575		+/0.0575	0.0793	pCi/g			
Lead-212			0.981	+/-0.0897		+/-0.0897	0.040	pCi/g			
Lead-214			1.10	+/-0.116	0.024	+/-0.116	0.0493	pCi/g			
Manganese		U	0.0082	+/-0.0167		+/-0.0167	0.0274	pCi/g			
Niobium-9		U ·	-0.00353	+/-0.0131		+/0.0131	0.0231	pCi/g			
Potassium-			11.7	+/-0.944	0.113	+/-0.944	0.241	pCi/g			
Radium-2			0.970	+/-0.111	0.0223	+/-0.111	0.0463	pCi/g			
Silver-108 Thallium-		U	-0.0099	+/~0.014	0.0115	+/-0.014	0.0237	pCi/g			
r nannum-	208		0.320	+/-0.0361	0.0110	+/0.0361	0.0242	pCi/g			
		thods were pe	erformed								
Method		ription				Analyst	Date	Time	Prep Batch		
Dry Soil Prep	Dry S	oil Prep GL-I	RAD-A-0	21		JMB1	11/30/06	1316	592096		
	· ·	l Methods we	ere perfori	ned							
Method	Descr	iption									
	EML	HASL 300, 4.	5.2.3								
							•				
Notes:											

A quality control analyte recovery is outside of specified acceptance criteria *

Result is less than value reported <

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Certificate of Analysis

	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd						
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy				Report Date:	December	7, 2006
	Project:	Soils PO# 002332						
		Client Sample ID: Sample ID:	9522-0001 176896015	-004F	Project Client I Vol. Re	D: YANK00		
Parameter		Qualifier Result Uncertainty	LC	TPU	MDA Un	its DF An	alyst Date	Time Batch Mtd

- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

Certificate of Analysis

	mpany : dress :	Connecticut 362 Injun H		tomic Power						
		East Hampto		ticut 06424				Re	port Date: December	r 7, 2006
	ntact:	Mr. Jack Mc	-							
Pro	oject:	Soils PO# 0	02332							
		Client Sam Sample ID Matrix: Collect Da Receive D Collector: Moisture:	e: .te:		9522-00 1768960 TS 15-NO' 30-NO' Client 23.5%	V-06	. (YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch M
Rad Gamma Sp	ec Analy	sis						•	· === · · · · · ·	
Gamma,Solid- Waived	FSS GA	M & ALL FSS	226 Ingro	wth						
Actinium-228	3		0.619	+/-0.150	0.0562	+/-0.150	0.122	pCi/g	МЈН1 12/05	/06 1136 592140
Americium-2	41	U	-0.18	+/-0.102	0.0788	+/-0.102	0.162	pCi/g		
Bismuth-212			0.507	+/-0.272	0.112	+/-0.272	0.242	pCi/g		
Bismuth-214			0.592	+/-0.0854	0.0332	+/-0.0854	0.0703	pCi/g		
Cesium-134		UI	0.00	+/-0.0343	0.0216	+/-0.0343	0.0459	pCi/g		•
Cesium-137			0.389	+/-0.0492	0.017	+/-0.0492	0.0363	pCi/g		
Cobalt60		U	0.0115	+/-0.0427	0.0177	+/-0.0427	0.0389	pCi/g		
Europium-15	2	U	0.0171	+/0.055	0.0484	+/-0.055	0.101	pCi/g		
Europium-15	4	U	-0.0361	+/-0.0613	0.0473	+/-0.0613	0.104	pCi/g		
Europium-15	5	U	0.00617	+/0.0595	0.0551	+/-0.0595	0.114	pCi/g		
Lead-212			0.689	+/-0.0563	0.0277	+/-0.0563	0.0574	pCi/g		
Lead-214			0.637	+/-0.0859	0.0328	+/0.0859	0.0688	pCi/g		
Manganese-5	4	U	0.00642	+/-0.0225	0.0174	+/-0.0225	0.0373	pCi/g		
Niobium-94		U	0.022	+/-0.0272	0.0155	+/-0.0272	0.033	pCi/g		
Potassium-40	· ·		8.98	+/-0.762	0.119	+/-0.762 .	0.274	pCi/g		
Radium-226			0.592	+/-0.0854	0.0332	+/-0.0854	0.0703	pCi/g		
Silver-108m		U	0.00618	+/-0.0203		+/-0.0203	0.037	pCi/g	,	
Thallium-208	}		0.183	+/-0.0404	0.0166	+/-0.0404	0.0353	pCi/g		
The following	Prep Me	thods were pe	erformed							
Method	Desci	ription				Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry S	oil Prep GL-	RAD-A-0	21		JMB1	11/30/0	5 1316	592096	
The following A	Analytica	al Methods we	ere perfor	med						
Method		iption							· · · · ·	<u> </u>
I	EML	HASL 300, 4.	.5.2.3							
Notes:										

A quality control analyte recovery is outside of specified acceptance criteria Result is less than value reported *

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Certificate of Analysis

	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd						
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332				F	Report Date: December	7, 2006
	· ·	Client Sample ID: Sample ID:	9522-0001 176896016			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier Result Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mto

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy---Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

Com Addr	pany : ess :	Connecticut 362 Injun H		omic Power						
Conta Proje		East Hampt Mr. Jack M Soils PO# 0	cCarthy	ticut 06424				R	eport Date: Decembe	r 7, 2006
		Client San Sample IE Matrix: Collect Da Receive D Collector: Moisture:	D: ate:		9522-00 1768960 TS 16-NO 30-NO Client 10.5%	√-06	•	Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mi
Rad Gamma Spec	Analy	sis		·						
Gamma,Solid–F. Waived	•		5 226 Ingrov	wth						
Actinium-228			1.24	+/-0.228	0.0723	+/-0.228	0.155	pCi/g	MIH1 12/05	/06 1145 592140
Americium-241		U	-0.154	+/-0.101	0.0723	+/-0.101	0.135	pCi/g pCi/g	MJ111 12/03	700 1145 552140
Bismuth-212		0	0.154	+/-0.286	0.168	+/-0.286	0.357	pCi/g pCi/g		
Bismuth-214			0.580	+/-0.110	0.0459	+/-0.110	0.0963	pCi/g pCi/g		
Cesium-134		U	0.0362	+/-0.0338		+/-0.0338	0.0583	pCi/g		
Cesium-134 Cesium-137		U	0.0302	+/-0.0479		+/-0.0479	0.0383	pCi/g		
Cobalt-60		U	0.0128	+/-0.0296		+/-0.0296	0.0431	pCi/g pCi/g		
Europium-152		U	-0.0819	+/-0.068	0.0552	+/-0.068	0.115	pCi/g		
Europium-152		U	0.0535	+/-0.0775		+/-0.0775	0.115	pCi/g		
Europium-155		U	0.0508	+/-0.0696		+/-0.0696	0.131	pCi/g		
Lead-212		U	1.21	+/-0.120	0.0318	+/-0.120	0.066	pCi/g		
Lead-212 Lead-214			0.761	+/-0.115	0.0413	+/-0.115	0.0863	pCi/g		
Manganese-54			-0.00326	+/-0.0251		+/-0.0251	0.0439	pCi/g		
Niobium-94		U	0.00520	+/-0.0226		+/-0.0226	0.0431	pCi/g		
Potassium-40		U	17.9	+/-1.54	0.187	+/-1.54	0.416	pCi/g		
Radium-226			0.641	+/-0.110	0.0459	+/-0.110	0.0963	pCi/g		
Silver-108m		U	-0.0125	+/-0.0207		+/-0.0207	0.0361	pCi/g		
Thallium-208		Ũ	0.340	+/-0.0533		+/-0.0533	0.0427	pCi/g		
The following Pr	ep Met	hods were D	erformed							
Method	Descr			x		Analyst	Date	Time	e Prep Batch	
Dry Soil Prep	Dry S	oil Prep GL–	RAD-A-0	21		JMB1	11/30/0	06 1310	592096	
The following An	-		ere perfori	ned		<u>,</u>			•	
Method	Descri	iption								
1	TNAL	HASL 300, 4								

Notes:

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

< Result is less than value reported

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Certificate of Analysis

	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: December 7, 2006
		Client Sample ID: Sample ID:	9522-0001-017-1 176896017	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mte

Result is greater than value reported >

The TIC is a suspected aldol-condensation product А

Target analyte was detected in the associated blank В

BD Results are either below the MDC or tracer recovery is low

С Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

Н Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

Sample results are rejected R

Analyte was analyzed for, but not detected above the MDL, MDA, or LOD. U

UI Gamma Spectroscopy—Uncertain identification
 X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

 $^{\wedge}$ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

Preparation or preservation holding time was exceeded h

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Certificate of Analysis

Conta Projec Parameter Rad Gamma Spec	act: Mr. Ja ct: Soils Cliet Sam Matr Colle Rece Colle Mois Qua Analysis	nck Mc PO# 00 nt Sam ole ID ix: ect Da ive Da ive Da ive Da ive Cor:	Carthy 02332 nple ID: : te:	ticut 06424 Uncertainty	1768960 TS 16-NOV 30-NOV Client 9.55%	√-06 ·	(Project:	port Date: Dec YANK01204 YANK001	cember 7	7, 2006
· · · · · · · · · · · · · · · · · · ·	Sam Matr Colle Rece Colle Mois Qua Analysis	ole ID ix: ect Da ive Da ector: sture:	te: ate:	Uncertainty	1768960 TS 16-NOV 30-NOV Client 9.55%)18 √-06	(Client ID:			
· · · · · · · · · · · · · · · · · · ·	Analysis	lifier	Result	Uncertainty							
Rad Gamma Spec	-			Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date	Time Batch Mt
•	-					~ _				~	
Gamma,Solid–FS Waived		L FSS	226 Ingrov	wth							
Actinium-228			0.820	+/-0.207	0.0916	+/0.207	0.198	pCi/g	MIHI	12/05/0	6 1 1 4 6 5 9 2 1 4 0
Americium-241		U	-0.0168	+/-0.0415		+/-0.0415	0.198	pCi/g pCi/g	IVIJITI	12/03/0	0 1140 392140
Bismuth-212		U	0.902	+/-0.393	0.186	+/-0.393	0.400	pCi/g pCi/g			
Bismuth-214			0.782	+/-0.136	0.0459	+/-0.136	0.0978	pCi/g pCi/g			
Cesium-134		U	0.0645	+/-0.0428		+/-0.0428	0.0696	pCi/g pCi/g			
Cesium-137		U	0.0804	+/-0.0483		+/-0.0483	0.0556	pCi/g pCi/g			
Cobalt-60		U	0.0804	+/-0.0308		+/-0.0308	0.0330	pCi/g pCi/g			
Europium–152		U	-0.012	+/-0.0308		+/-0.0724	0.130	pCi/g pCi/g			
Europium-152 Europium-154		U	0.0808	+/-0.0724		+/-0.0972	0.130	pCi/g pCi/g			
Europium 154 Europium 155		U	0.0808	+/-0.102	0.0357	+/-0.102	0.194				
Lead-212		0	0.863	+/-0.0764		+/-0.102	0.0691	pCi/g pCi/g			
Lead-214			0.805	+/-0.128	0.033		0.0963	pCi/g pCi/g			
Manganese-54		U	0.0128	+/-0.0332		+/-0.0332	0.0963	pCi/g pCi/g			
Niobium-94		U	0.0128	+/-0.0283		+/-0.0283	0.0541	pCi/g pCi/g			
Potassium-40		0	13.6	+/-1.13	0.0233	+/-1.13	0.528	pCi/g pCi/g			÷
Radium-226			0.782	+/-0.136	0.0459	+/0.136	0.0978	pCi/g pCi/g			
Silver-108m		U	-0.0114	+/-0.0246		+/-0.0246	0.0978	pCi/g pCi/g			
Thallium-208		Ũ	0.254	+/-0.0665		+/-0.0665	0.0541	pCi/g			
The following Pre	ep Methods w	ere ne	erformed								
Method	Description	<u></u> pc				Analyst	Date	Time	Prep Batch	1	
Dry Soil Prep	Dry Soil Prep	GL-F	RAD-A-02	21		JMB1	11/30/0	5 1316	592096		
The following Ana	alytical Meth	ods we	ere perforr	ned							
Method	Description										
1	EML HASL	300 4	5 2 3							<i>.</i>	

Notes:

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

Result is less than value reported <

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Certificate of Analysis

Comp Addre	2	Connecticut 862 Injun Ho		tomic Power						
Conta Projec	ict: N	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424				F	Report Date: December	7, 2006
		Client Sam Sample ID:		· .	9522-000 17689601			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtc

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy---Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

Certificate of Analysis

	npany : lress :	Connecticut 362 Injun He		tomic Power						
C		East Hampto		ticut 06424				Re	port Date: December	7, 2006
Con		Mr. Jack Mc	-							
Proj	ect:	Soils PO# 00	02332							
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	: te:		9522-00 1768960 TS 16-NO 30-NO Client 10.5%	V-06	(YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch M
Rad Gamma Spe	c Analy	sis	 			• •				
- Gamma,Solid–I Waived	•		226 Ingro	wth .						
Actinium-228			1.05	+/-0.230	0.0936	+/-0.230	0.202	pCi/g	· MJH1 12/05/	06 1146 592140
Americium-24	1	Ú	-0.0195	+/-0.0364	0.0313	+/-0.0364	0.0647	pCi/g		
Bismuth-212			0.851	+/-0.420	0.183	+/-0.420	0.395	pCi/g		
Bismuth-214			1.04	+/-0.129	0.0423	+/-0.129	0.0907	pCi/g		
Cesium-134		U	0.0208	+/-0.0354	0.0312	+/-0.0354	0.0666	pCi/g		
Cesium-137		U	0.0495	+/-0.0421	0.0232	+/-0.0421	0.0499	pCi/g		
Cobalt-60		U	0.043	+/-0.043	0.0233	+/-0.043	0.0523	pCi/g		
Europium-152		U	-0.0527	+/-0.0694	0.0556	+/0.0694	0.118	pCi/g		
Europium-154		U	-0.0241	+/-0.101	0.0827	+/-0.101	0.181	pCi/g		
Europium-155		U	0.0283	+/-0.0573	0.0546	+/-0.0573	0.113	pCi/g		
Lead-212			1.04	+/-0.0756	0.0321	+/-0.0756	0.067	pCi/g		
Lead-214			1.34	+/-0.113	0.0374	+/-0.113	0.0794	pCi/g		
Manganese-54		U	-0.0064	+/-0.0294	0.024	+/-0.0294	0.0518	pCi/g		
Niobium-94		U	-0.0141	+/-0.0267	0.0216	+/-0.0267	0.0465	pCi/g		
Potassium-40			17.9	+/-1.31	0.125	+/-1.31	0.308	pCi/g		
Radium-226			1.04	+/-0.129	0.0423	+/-0.129	0.0907	pCi/g		
Silver-108m		U	0.00609	+/-0.0214		+/-0.0214	0.0415	pCi/g		
Thallium-208			0.343	+/-0.0627	0.0205/	+/-0.0627	0.0442	pCi/g		
The following P	<u> </u>		erformed							
Method	Descr	ription		•		Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry S	oil Prep GL-I	RAD-A-0	21		JMB1	11/30/0	6 1316	592096	
The following A Method	-	l <mark>l Methods we</mark> iption	ere perfor	med						
	EML	HASL 300, 4.	5.2.3							<u></u>
Notes: The Qualifiers				follows :						

The Qualifiers in this report are defined as follows :

A quality control analyte recovery is outside of specified acceptance criteria
 Result is less than value reported

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Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units	DF Analyst Date	Time Batch Mtc
		Client Sample ID: Sample ID:	9522-0001-019-1 176896019	Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 002332				
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		I	Report Date: December	7, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd				

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

Company : Address :	Connecticut 362 Injun H		tomic Power						
Contact:	East Hampto Mr. Jack Mc		ticut 06424				Rep	ort Date: December	7, 2006
Project:	Soils PO# 0	•							
	Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	te:		9522-00 1768960 TS 16-NO 30-NO Client 9.07%	V-06	1		ANK01204 ANK001	
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mte
Rad Gamma Spec Anal	lysis								
Gamma,Solid–FSS GA Waived	AM & ALL FSS	226 Ingro	wth .						
Actinium-228		0.435	+/-0.128	0.0372	+/-0.128	0.0823	pCi/g	MJH1 12/05/	06 1147 592140 1
Americium-241	U	-0.016	+/-0.039	0.0346	+/-0.039	0.0722	pCi/g		
Bismuth-212		0.272	+/-0.192	0.0894	+/-0.192	0.194	pCi/g		
Bismuth-214		0.327	+/-0.068	0.0228	+/-0.068	0.0489	pCi/g		
Cesium-134	U	0.0255	+/0.0278		+/-0.0278	0.0334	pCi/g		
Cesium-137		0.0356	+/-0.0192	0.0124	+/-0.0192	0.0267	pCi/g		
Cobalt-60	U	0.00471	+/-0.014	0.0126	+/-0.014	0.0282	pCi/g		
•Europium-152	U	0.0268	+/-0.0343		+/-0.0343	0.0673	pCi/g		
Europium-154	U	-0.0589	+/-0.0391		+/-0.0391	0.0594	pCi/g		
Europium-155	U	0.0269	+/-0.0493		+/-0.0493	0.0731	pCi/g		
Lead-212		0.431	+/-0.0531		+/-0.0531	0.0393	pCi/g		
Lead-214		0.354	+/-0.0691		+/-0.0691	0.045	pCi/g		
Manganese-54	U	0.00258	+/-0.0128		+/-0.0128	0.0247	pCi/g		
Niobium–94	U	0.000294	+/-0.0122		+/-0.0122	0.023	pCi/g		
Potassium-40		6.67	+/-0.722	0.0877	+/-0.722	0.205	pCi/g		
Radium-226		0.327	+/0.068	0.0228	+/-0.068	0.0489	pCi/g		
Silver–108m Thallium–208	0	-0.00196 0.140	+/-0.0119 +/-0.0368		+/-0.0119 +/-0.0368	0.0215 0.0234	pCi/g pCi/g		
The following Duce M	- 4h o do								
The following Prep MethodDesc	cription	eriorineu			Analyst	Date	Time	Prep Batch	· · · · · · · · · · · · · · · · · · ·
Dry Soil Prep Dry	Soil Prep GL-l	RAD-A-0	21		JMB1	11/30/0	06 1316	592096	
The following Analytic		ere perfor	med						
Method Desc	ription								
I EMI	. HASL 300, 4.	5.2.3						·	
Notes: The Qualifiers in th	is report are d	efined as	follows :						

The Qualifiers in this report are defined as follows :

1

* A quality control analyte recovery is outside of specified acceptance criteria

< Result is less than value reported

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		tomic Power						
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	cticut 06424			·	.]	Report Date: December	7, 2006
		Client Sarr Sample ID		,	9522-000 17689602			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mte

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy---Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

 $^{\circ}$ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

.

Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho		tomic Power									
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424				Re	port Da	ite: De	cember	7, 2006	
	Tiojeet.	50115 1 0# 00	2332										
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	: te:		9522-00 1768960 TS 16-NO 30-NO Client 16.3%	√-06	C		YANK YANK	01204			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analys	t Date	Time	Batch N
Rad Gamma	a Spec Analy	sis											
Gamma,So Waived	lid–FSS GA	M & ALL FSS	226 Ingro	wth			-						
Actinium-	-228		0.654	+/-0.145	0.0568	+/-0.145	0.120	pCi/g		MJH1	12/04/0	06 0657	592142
Americiu	m-241	U	0.0382	+/-0.0896	0.053	+/-0.0896	0.109	pCi/g					
- Bismuth-	212		0.394	+/-0.211	0.106	+/-0.211	0.224	pCi/g					
Bismuth-	214		0.532	+/-0.0827		+/-0.0827	0.0624	pCi/g					
Cesium-1		UI	0.00	+/-0.0308		+/-0.0308	0.0383	pCi/g					,
Cesium-1		01	0.519	+/-0.0627		+/-0.0627	0.0327	pCi/g					
Cobalt-60		· U	0.0253	+/-0.0187		+/-0.0187	0.0382	pCi/g					
Europium		U	0.00452	+/-0.0502		+/-0.0502	0.0811	pCi/g					
Europium		U	0.0204	+/-0.0518		+/-0.0518	0.0985	pCi/g					
Europium		U U	0.0389	+/0.0432		+/-0.0432	0.0985	pCi/g pCi/g					
Lead-212		U	0.680	+/-0.0432			0.0872						
						+/-0.0717		pCi/g					
Lead-214		TT	0.647	+/-0.0859		+/-0.0859	0.0605	pCi/g			•		
Manganes			-0.0215	+/-0.0186		+/-0.0186	0.0301	pCi/g					
Niobium-		U	0.00638	+/-0.0171		+/0.0171	0.0276	pCi/g	·				
Potassium			9.96	+/-0.889	0.134	+/0.889	0.294	pCi/g					
Radium-2			0.532	+/-0.0827		+/-0.0827	0.0624	pCi/g					
Silver-10		U	0.00145	+/-0.0171		+/-0.0171	0.0313	pCi/g					
Thallium-	-208		0.215	+/-0.042	0.0146	+/-0.042	0.0308	pCi/g					
The followi Method		thods were pe ·iption	rformed			Analyst	Date	Time	Pr	ep Batc	h		
Dry Soil Pre	p Dry S	oil Prep GL-I	RAD-A-0	21		JMB1	11/30/06	5 1316		2096			
The followi	ng Analytica	l Methods we	ere perfor	med			×.						
Method	Descr	iption											
1	EML	HASL 300, 4.	5.2.3										
Notes:		s report are de											

3

< Result is less than value reported

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injún Ho		tomic Power						
ţ	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	cticut 06424				J	Report Date: December	7, 2006
		Client Sam Sample ID:			9522-000 17689602			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy—Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

Certificate of Analysis

	pany : ress :	Connecticut 362 Injun H		omic Power						
Cont	act:	East Hampt Mr. Jack Mo		ticut 06424				Rep	oort Date: December	7, 2006
Proje	ect:	Soils PO# 0	-							
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:): ite:	۱	9522-00 1768960 TS 16-NOV 30-NOV Client 10.9%	√-06	•		YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch M
Rad Gamma Spec	c Analy	sis								
Gamma,Solid–F	SS GAN	M & ALL FSS	226 Ingrov	vth						
Waived			0							
Actinium-228			0.602	+/-0.115	0.0483	+/0.115	0.103	pCi/g	MJH1 12/04/0	06 0658 592142
Americium-24	1	U	-0.075	+/-0.111	0.0647	+/-0.111	0.133	pCi/g		00000000
Bismuth-212		U	0.504	+/-0.155	0.0928	+/-0.155	0.198	pCi/g		
Bismuth-214			0.528	+/-0.0657		+/-0.0657	0.0526	pCi/g		
Cesium-134		U	0.0287	+/-0.0233		+/-0.0233	0.0378	pCi/g		
Cesium-137		0	0.0653	+/-0.024	0.0156	+/-0.024	0.0328	pCi/g		
Cobalt-60		U	0.0179	+/-0.0176		+/-0.0176	0.0349	pCi/g		
Europium-152		Ŭ	-0.0225	+/-0.0437		+/-0.0437	0.0772	pCi/g		
Europium-154		Ŭ	0.0195	+/-0.0512		+/-0.0512	0.0956	pCi/g		·
Europium-155		Ŭ	0.0625	+/-0.0513		+/-0.0513	0.0925	pCi/g		
Lead-212		Ũ	0.603	+/-0.0484		+/-0.0484	0.0477	pCi/g		
Lead-214			0.550	+/-0.0696		+/-0.0696	0.0544	pCi/g		
Manganese-54		U	0.00167	+/-0.017	0.0129	+/0.017	0.0275	pCi/g		
Niobium-94		Ŭ	0.00451	+/-0.0141		+/-0.0141	0.0268	pCi/g		
Potassium-40		U	9.75	+/-0.656	0.127	+/-0.656	0.280	pCi/g		
Radium-226			0.528	+/0.0657		+/-0.0657	0.0526	pCi/g		
Silver-108m		IJ	-0.00371	+/-0.0147		+/-0.0147	0.026	pCi/g		
Thallium-208		· ·	0.221	+/-0.038	0.0126	+/-0.038	0.0267	pCi/g		
TH 6 H 5 T			. ·	1						
The following Pr Method		hods were po iption	eriormed	1		Analyst	Date	Time	Prep Batch	
Dry Soil Prep		oil Prep GL-	RAD-A-0	21		JMB1	11/30/0	06 1316	592096	
	-	•								
The following An Method	Descr		ere periori	nea						
······		•	522							
1	EML	HASL 300, 4	.3.2.3							

Notes:

The Qualifiers in this report are defined as follows :

A quality control analyte recovery is outside of specified acceptance criteria *

< Result is less than value reported

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Certificate of Analysis

Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtc
		Client Sam Sample ID			9522-000 17689602			Project: Client ID: Vol. Recv.	YANK01204 YANK001	
	Project:	Soils PO# 00								,
	Contact;	East Hampto Mr. Jack Mc		cticut 06424					Report Date: December	7, 2006
	Company : Address :	Connecticut 362 Injun He		tomic Power						

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy—Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

Certificate of Analysis

	npany : ress :	Connecticut 362 Injun Ho		tomic Power						
Cont Proje		East Hampto Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424				Rep	port Date: Decer	nber 7, 2006
		Client Sam Sample ID Matrix: Collect Dat Receive Da Collector: Moisture:	: te:		9522-00 1768960 TS 16-NO' 30-NO' Client 11.8%	√-06	C		YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst D	ate Time Batch M
Rad Gamma Spe	c Analy	sis								
Gamma,Solid–F Waived	FSS GAI	M & ALL FSS	226 Ingro	wth						
Actinium-228			0.581	+/-0.137	0.0617	+/-0.137	0.131	pCi/g	MJH1 12	2/04/06 0658 592142
Americium-24	1	Ŭ	0.0151	+/-0.0268	0.0248	+/-0.0268	0.0509	pCi/g		
Bismuth-212		U	0.278	+/-0.239	0.147	+/-0.239	0.309	pCi/g		
Bismuth-214			0.446	+/-0.0932	0.0316	+/-0.0932	0.0664	pCi/g		
Cesium-134		U	0.0422	+/-0.048	0.0209	+/-0.048	0.0441	pCi/g		,
Cesium-137			0.055	+/-0.0298	0.0202	+/-0.0298	0.0423	pCi/g		
Cobalt-60		U	-0.0147	+/-0.0226	0.0179	+/-0.0226	0.0386	pCi/g		
Europium-152		U -	-0.00132	+/-0.051	0.0439	+/-0.051	0.0914	pCi/g		
Europium-154		U	-0.0173	+/-0.063	0.052	+/-0.063	0.112	pCi/g		
Europium-155		U	0.0146	+/-0.0462		+/-0.0462	0.0835	pCi/g		
Lead-212			0.533	+/-0.0569		+/-0.0569	0.0644	pCi/g		
Lead-214			0.513	+/-0.0809		+/-0.0809	0.0616	pCi/g		
Manganese-54			-0.00392	+/-0.0219		+/-0.0219	0.0384	pCi/g		
Niobium-94		09.	330E-05	+/-0.0191		+/-0.0191	0.0345	pCi/g		
Potassium-40			9.21	+/-0.696	0.173	+/-0.696	0.374	pCi/g		
Radium-226		* 1	0.446	+/-0.0932		+/-0.0932	0.0664	pCi/g		
Silver–108m Thallium–208		U	0.00276 0.193	+/-0.0168 +/-0.0439		+/-0.0168 +/-0.0439	0.032 0.0357	pCi/g pCi/g		
The following Pr	rep Me	thods were pe	erformed							
Method	Descr	ription				Analyst	Date	Time	Prep Batch	•
Dry Soil Prep	Dry S	oil Prep GL-I	RAD-A-0	21		JMB1	11/30/06	5 1316	592096	
The following A			ere perfor	med						
Method	Descr	iption								
1	EML	HASL 300, 4.	5.2.3							

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

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< Result is less than value reported

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Certificate of Analysis

Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch M	tı
		Client Sam Sample ID			9522-000 17689602			Project: Client ID: Vol. Recv.:	YANK01204 YANK001		!
	roject:	Soils PO# 00									
C	Contact:	East Hampto Mr. Jack Mc		ticut 06424				F	Report Date: December	7, 2006	
	Company : Address :	Connecticut 362 Injun Ho		tomic Power							

Į

Result is greater than value reported >

The TIC is a suspected aldol-condensation product А

Target analyte was detected in the associated blank В

BD Results are either below the MDC or tracer recovery is low

С Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

Н Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

Sample results are rejected R

Analyte was analyzed for, but not detected above the MDL, MDA, or LOD. U

UI Gamma Spectroscopy—Uncertain identification
 X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

 \wedge RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

Preparation or preservation holding time was exceeded h

The above sample is reported on a dry weight basis.

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Certificate of Analysis

Comp Addre	•	Connecticut 362 Injun H		tomic Power			·			
Conta	ct:	East Hampto Mr. Jack Mo		ticut 06424				Rep	oort Date: Decemb	er 7, 2006
Projec		Soils PO# 0	· · .							
		Client Sam Sample ID Matrix: Collect Da Receive D Collector: Moisture:): ite:		9522-00 1768960 TS 21-NO 30-NO Client 44.9%	V-06			/ANK01204 /ANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Dat	e Time Batch Mt
Rad Gamma Spec	Analys	sis								
Gamma,Solid–FS Waived	SS GAN	1 & ALL FSS	226 Ingro	wth						
Actinium-228 Americium-241		U	0.985 0.011	+/0.159 +/-0.0288	0.0657 0.0241	+/-0.159 +/-0.0288	0.141 0.0495	pCi/g pCi/g	MJH1 12/0	4/06 0659 592142
Bismuth-212			0.629	+/-0.357	0.145	+/-0.357	0.309	pCi/g		
Bismuth~214			0.975	+/-0.109	0.0328	+/-0.109	0.0695	pCi/g		
Cesium-134		ŲI	0.00	. +/-0.0598		+/-0.0598	0.0517	pCi/g		,
Cesium-137			0.630	+/-0.0618		+/-0.0618	0.0424	pCi/g		·
Cobalt-60		U	0.00435	+/-0.0255		+/-0.0255	0.0468	pCi/g		
Europium-152			-0.00564	+/0.0581		+/-0.0581	0.0987	pCi/g		
Europium-154			-0.00448	+/-0.0854		+/-0.0854	0.132	pCi/g		
Europium-155		U	0.00567	+/-0.0451	0.0401		0.0826	pCi/g		
Lead-212			1.03	+/-0.0634		+/-0.0634	0.0548	pCi/g		
Lead-214			1.09	+/-0.106	0.034	+/-0.106	0.0711	pCi/g		
Manganese-54		U	0.0017	+/-0.0236		+/-0.0236	0.0413	pCi/g		
Niobium–94		U	0.0207	+/-0.0209		+/-0.0209	0.0393	pCi/g		
Potassium-40			11.3	+/-0.858	0.204	+/-0.858	0.446	pCi/g		
Radium-226		* *	0.975	+/-0.109	0.0328	+/-0.109	0.0695	pCi/g		
Silver–108m Thallium–208		U	-0.00821 0.329	+/-0.0196 +/-0.0512		+/-0.0196 +/-0.0512	0.0346 0.0366	pCi/g pCi/g		
The following Pre	p Meti	hods were pe	erformed							
	Descri		<u>.</u> .			Analyst	Date	Time	Prep Batch	· · · · · · · · · · · · · · · · · · ·
Dry Soil Prep	Dry So	il Prep GL-	RAD-A-0	21		JMB1	11/30/	06 1316	592096	· · · · · · · · · · · · · · · · · · ·
The following Ana	•		ere perfor	med						
Method	Descri	ption						· · · · · · · · · · · · · · · · · · ·		
1	EML H	HASL 300, 4.	.5.2.3							
Notes: The Qualifiers i	n thia	ranant ara d	ofined og	fallawa						

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

< Result is less than value reported

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Certificate of Analysis

Parameter	Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mt
	Client Sample ID: Sample ID:	9522-0001-024- I 176896024	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Contact: Project:	Mr. Jack McCarthy Soils PO# 002332		
Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd East Hampton, Connecticut 06424		Report Date: December 7, 2006

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

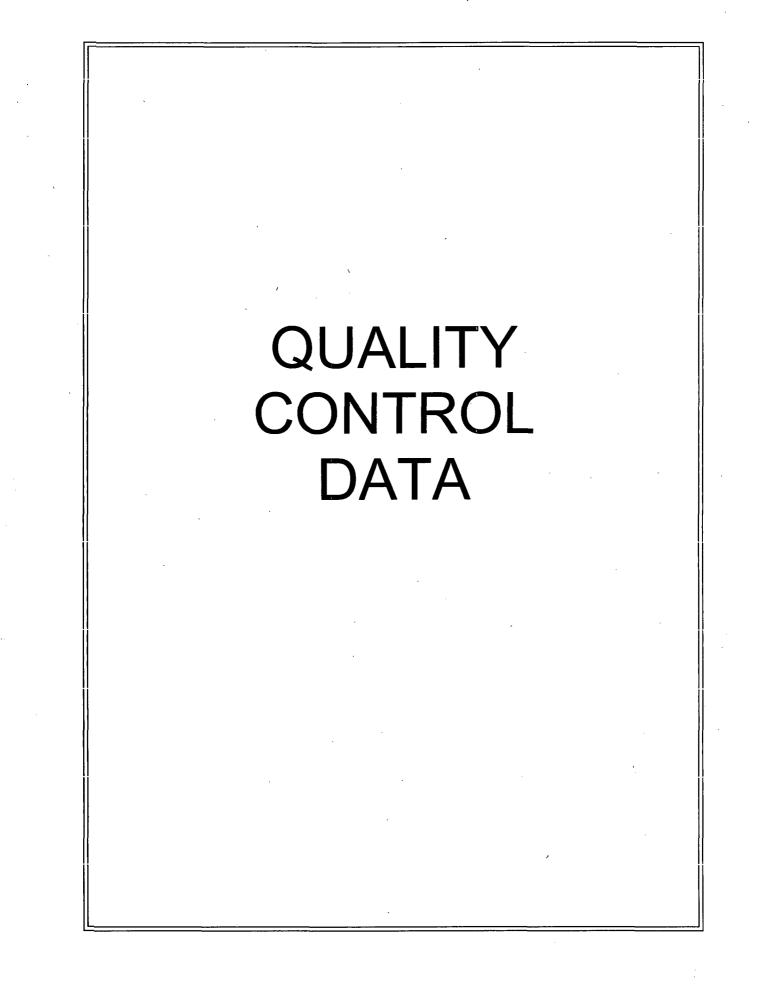
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.



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QC Summary

Client :

Connecticut Yankee Atomic Power

362 Injun Hollow Rd

Report Date: December 7, 2006 Page 1 of 12

	362 Injun Hollow Rd									
Contact:	East Hampton, Conn Mr. Jack McCarthy	ecticut								
Workorder:	176896									
Parmname		NOM	Sample (Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Alpha Spec										
Batch	592107		I.							
OC12012380	57 176896007 DUP									
Americium-241		U	0.105	U	0.0986	pCi/g	g 6		(0% - 100%) <i>4</i> XA1	12/03/06 09:01
		Uncert:	+/-0.153		+/-0.182					
		TPU:	+/-0.154		+/-0.183					
Curium-242		U	0.075	U	-0.00937	pCi/g	g 257		(0% - 100%)	
		Uncert:	+/-0.129		+/-0.0787					
·		TPU:	+/-0.130		+/-0.0788					
Curium-243/24	4	U	0.0863	U	0.00564	pCi/g	g 175		(0% - 100%)	
		Uncert:	+/-0.154		+/-0.153					
		TPU:	+/-0.154		+/-0.153					
QC12012380										
Americium-241		13.5			12.7	pCi/g		94	(75%-125%)	
		Uncert:			+/-1.32					
		TPU:			+/-2.06	~				
Curium-242				U	0.0185	pCi/g				
		Uncert:			+/-0.0736					
		TPU:			+/-0.0736	~				
Curium-243/24	4	11.7			11.1	pCi/g		95	(75%-125%)	
		Uncert:			+/-1.23					
		TPU:			+/-1.84					
QC12012380				I I	0.0052	-C:le				
Americium-241	l	I in conte		U	-0.0952 +/-0.0629	pCi/g	3			
	•	Uncert:			+/-0.0629				•	
Curium-242		TPU:		U	-0.0674	pCi/g	'n			
Curtum-242		Uncert:		U	+/-0.0467	pen e	Ë			
		TPU:			+/-0.0475					
Curium-243/24	4	TPU:		U	-0.173	pCi/g				
Curtum-2+5/2+	7	Uncert:		Ũ	+/-0.131	po., e	Ð			
		TPU:			+/-0.133					
QC12012380	58 176896007 MS	110.								
Americium-241		13.7 U	0.105		12.1	pCi/g	g	88	(75%-125%)	
		Uncert:	+/-0.153		+/-1.19		-			
		TPU:	+/-0.154		+/-1.87					
Curium-242		U	0.075	U	0.0267	pCi/g	g			
		Uncert:	+/-0.129		+/-0.099					
	7	TPU:	+/-0.130		+/-0.0991					
Curium-243/24	4	11.9 U	0.0863		11.6	pCi/Į	g	98	(75%-125%)	
		Uncert:	+/-0.154		+/-1.17					
		. TPU:	+/-0.154		· +/-1.80					
Batch	592108									
QC12012380	061 176896007 DUP									
Plutonium-238		U	0.0367	U	0.0113	pCi/g	g 106		(0% - 100%) AXA1	12/03/06 09:01

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QC Summary

		$\underline{\mathbf{v}}$	<u>. Su</u>	<u>mmai y</u>					
Workorder: 176896								Page 2 of 12	
Parmname	NOM	Sample (Qual	QC	Units	RPD%	REC%	Range Anls	t Date Time
Rad Alpha Spec									
Batch 592108									
	. Uncert:	+/-0.103		+/-0.107	,			•	
	TPU:	+/-0.103		+/-0.107					
Plutonium-239/240	U	0.0268	U	-0.0847	pCi/g	385		(0% - 100%)	
	Uncert:	+/-0.071		+/-0.0525					
	TPU:	+/-0.0711		+/-0.0535					
QC1201238063 LCS								٠.	
Plutonium-238			U	-0.034	pCi/g	;		(75%-125%)	
	Uncert:			+/-0.123					
	TPU:			+/-0.123					
Plutonium-239/240	12.0			10.9	pCi/g	Ş	91	(75%-125%)	
	Uncert:			+/-1.16					
	TPU:			+/-1.75					
QC1201238060 MB Plutonium-238			тт	0.0771	-C:la				
Flutomum-238	Uncert:		U	+/-0.165	pCi/g	;			
				+/-0.165					
Plutonium-239/240	TPU:		U	0.0681	pCi/g				
Flutomum-239/240	Uncert:		U	+/-0.228	pc//g	\$			
				+/-0.228					
QC1201238062 176896007 MS	TPU:								
Plutonium-238	U	0.0367	U	-0.0903	pCi/g	r		(75%-125%)	
Thursdan 250	Uncert:	+/-0.103	Ŭ	+/-0.175	pone	•		(1570 12570)	
	TPU:	+/-0.103		+/-0.176					
Plutonium-239/240	12.0 U	0.0268		11.2	pCi/g	r	93	(75%-125%)	
	Uncert:	+/-0.071		+/-1.17	p0#8	,	,,	(1570 12570)	
	TPU:	+/-0.0711		+/-1.78					
Batch 592109	110.			17-1.70					
QC1201238065 176896007 DUP Plutonium-241		6.51	U	4.12	nCi/a	. 0		(0% - 100%) <i>A</i> XA	1 12/05/06 20:00
Flutomum-241	U Uncert:	+/-7.02	U	4.12 +/-7.74	pCi/g	, 0		(076 - 10076) VIXA	1 12/03/06 20:09
				. +/-7.75					
QC1201238067 LCS	TPU:	+/-7.05		. +/-/./3					
Plutonium-241	139			136	pCi/g		98	(75%-125%)	12/05/06 20:42
	Uncert:			+/-11.8	pene	,	70	(1570 12570)	12/05/00 20.42
	TPU:			+/-17.6					
QC1201238064 MB	110.			()-17.0					
Plutonium-241			U	3.78	pCi/g	[12/05/06 19:53
	Uncert:			+/-6.72	F - " C	,			
	TPU:			+/-6.73					
QC1201238066 176896007 MS									
Plutonium-241	141 U	6.51		139	pCi/g	ţ	99	(75%-125%)	12/05/06 20:26
	Uncert:	+/-7.02		+/-12.2	1 0	·		· · · ·	•
	TPU:	+/-7.05		+/-18.1					
Rad Gamma Spec		-							
Batch 592140									
QC1201238139 176896001 DUP									
Actinium-228		0.690		0.579	pCi/g	18		(0% - 100%) MJH	1 12/05/06 11:48
	Uncert:	+/-0.169		+/-0.0989	r · · c			、 ····, ····	
				+/-0.0989					

QC Summary

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Workorder: 176896							Page 3	of 12	
Parmname	NOM	Sample (Qual	QC	Units R	PD%	REC% Range	Anlst	Date Time
Rad Gamma Spec									
Batch 592140									
	TPU:	+/-0.169							
Americium-241	110. U	-0.0319	U	0.022	pCi/g	1090	(0% - 100%)		
	Uncert:	+/-0.0718		+/-0.0771	1 0		(
	TPU:	+/-0.0718		+/-0.0771					
Bismuth-212		0.737		0.419	pCi/g	55	(0% - 100%)		•
	Uncert:	+/-0.318		+/-0.158					
	TPU:	+/-0.318		+/-0.158					
Bismuth-214		0.474		0.391	pCi/g	19	(0% - 100%)		
	Uncert:	+/-0.0988		+/-0.0636					
	TPU:	+/-0.0988		+/-0.0636					
Cesium-134	UI	0.00	U	0.028	pCi/g	73	(0% - 100%)		
	Uncert:	+/-0.0205		+/-0.0246					
	TPU:	+/-0.0205		+/-0.0246					
Cesium-137		0.0504		0.0316	pCi/g	46	(0% - 100%)		
	Uncert:	+/-0.044		+/-0.0185					
	TPU:	+/-0.044		+/-0.0185					
Cobalt-60	U	0.0122	UI	0.00	pCi/g	104	(0% - 100%)		
	Uncert:	+/-0.0226		+/-0.0324					*
	TPU:	+/-0.0226		+/-0.0324					
Europium-152	U	-0.0356	U	-0.0176	pCi/g	68	(0% - 100%)		
	Uncert:	+/-0.0562		+/-0.0329					
	TPU:	+/-0.0562		+/-0.0329					
Europium-154	U	0.0201	U	-0.0127	pCi/g	883	(0% - 100%)		
	Uncert:	+/-0.0657		+/-0.040					
	TPU:	+/-0.0657		+/-0.040					
Europium-155	U	-0.014	U	0.00505	pCi/g	424	(0% - 100%)		
	Uncert:	+/-0.0582		+/-0.042					
	TPU:	+/-0.0582		+/-0.042					
Lead-212		0.637		0.508	pCi/g	23*	(0% - 20%)		
	Uncert:	+/-0.0778		+/-0.0408					
	TPU:	+/-0.0778		+/-0.0408					
Lead-214		0.591		0.496	pCi/g	18	(0%-20%)		
	Uncert:	+/-0.0967		+/-0.0551					
	TPU:	+/-0.0967		+/-0.0551	~	• •			
Manganese-54	U	0.00981	U	0.00646	pCi/g	41	'(0% - 100%)		
	Uncert:	+/-0.0206		+/-0.0157					
	TPU:	+/-0.0206	•••	+/-0.0157	<u><u> </u></u>	(3			
Niobium-94	U	0.0153	U	0.00803	pCi/g	62	(0% - 100%)		
	Uncert:	+/-0.0127		+/-0.0119					
Determiner 40	TPU:	+/-0.0127		+/-0.0119	01	2	(00/ 200/)		
Potassium-40		8.72		9.01	pCi/g	3	(0% - 20%)		
	Uncert:	+/-0.980		+/-0.576					
	TPU:	+/-0.980		+/-0.576	<u> </u>	10	(00) 1000()		
Radium-226		0.474		0.391	pCi/g	19	(0% - 100%)		
	Uncert:	+/-0.0988		+/-0.0636					
C'1 100	TPU:	+/-0.0988		+/-0.0636	~		· · · · · · · · · · · · · · · · · · ·		L.
Silver-108m	U	-0.00701	U	-0.00673	pCi/g	4	(0% - 100%)	•	
	Uncert:	+/-0.0167		+/-0.0104					

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QC Summary

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Workorder: 176896							Page 4 of 1	2
Parmname	NOM	Sample Qual	QC	Units R	PD%	REC%	Range Anl	st Date Time
Rad Gamma SpecBatch592140							、	
	TPU:	+/-0.0167	+/-0.0104					
Thallium-208		0.169	0.195	pCi/g	14		(0% - 100%)	
	Uncert:	+/-0.0436	+/-0.0329					
	TPU:	+/-0.0436	+/-0.0329					
QC1201238140 LCS								
Actinium-228		U		pCi/g				12/04/06 17:43
	Uncert:		+/-0.544					
	TPU:		+/-0.544	<i>C</i> ./		105		
Americium-241	23.4		24.5	pCi/g		105	(75%-125%)	
·	Uncert:		+/-1.33					
D: 4 212	TPU:		+/-1.33	<u>C'1</u>				
Bismuth-212		U		pCi/g				
	Uncert:		+/-0.892					
	TPU:		+/-0.892	<u>C'1</u>				
Bismuth-214		U		pCi/g				
	Uncert:		+/-0.206					
	TPU:		+/-0.206	<u></u>				
Cesium-134		U.		pCi/g				,
	Uncert:		+/-0.129					
	TPU:		+/-0.129					
Cesium-137	9.52		9.77	pCi/g		103	(75%-125%)	
	Uncert:		+/-0.486					
	TPU:		+/-0.486					
Cobalt-60	14.0		14.0	pCi/g		100	(75%-125%)	
	Uncert:		+/-0.633					
	TPU:		+/-0.633					
Europium-152		, U		[·] pCi/g				
	Uncert:		+/-0.309					
	TPU:		+/-0.309					
Europium-154		U		pCi/g				
	Uncert:		+/-0.237					
	TPU:		+/-0.237					
Europium-155		U	0.200	pCi/g				
	Uncert:		+/-0.264					~
	TPU:		+/-0.264					
Lead-212		U	0.133	pCi/g				
	Uncert:		+/-0.139					
	TPU:		+/-0.139					
Lead-214		U	0.0188	pCi/g				
	Uncert:		+/-0.206					
	TPU:		+/-0.206				,	
Manganese-54	•	U	0.0506	pCi/g				
	Uncert:		+/-0.122					
	TPU:		+/-0.122				•	
Niobium-94		U		pCi/g				
	Uncert:		+/-0.122					
	TPU:		+/-0.122					
Potassium-40		U		pCi/g				
r otassium-40		0	0.210	PC"5				

QC Summary

Workorder: 176896								Page 5 of 12				
Parmname,	NOM	Sample Qual	QC	Units R	RPD%	REC%	Range 5	Anlst	Date	Time		
Rad Gamma Spec	NOM	<u>Sampie Quar</u>		<u> </u>		<u> </u>	<u>Kunge</u>	711151	Duit			
Batch 592140												
592140												
	Uncert:		+/-0.909									
	TPU:		+/-0.909									
Radium-226		U	0.0481	pCi/g		(75%-125%)				
·	Uncert:		+/-0.206						,			
	TPU:		+/-0.206									
Silver-108m		U	0.00823	pCi/g								
,	Uncert:		+/-0.100									
	TPU:		+/-0.100									
Thallium-208		U	0.0835	pCi/g								
	Uncert:		+/-0.106									
	TPU:		+/-0.106									
QC1201238138 MB			0.00005	C 11					12/05/0	< 11.A		
Actinium-228	T 1	U	0.00695	pCi/g					12/05/0	6 11:40		
	Uncert:		+/-0.0741									
	TPU:		+/-0.0741	<u> </u>								
Americium-241	• •	U	0.00711	pCi/g								
	Uncert:		+/-0.0184									
	TPU:		+/-0.0184	<u></u>								
Bismuth-212		U	0.139	pCi/g								
	Uncert:		+/-0.149									
	TPU:		+/-0.149	C 11								
Bismuth-214		U	0.0265	pCi/g								
	Uncert:		+/-0.0542									
a :	TPU:		+/-0.0542	<i>a</i> :/								
Cesium-134		U	0.00575	pCi/g								
	Uncert:		+/-0.0187									
	TPU:		+/-0.0187	<u> </u>								
Cesium-137		U	-0.0122	pCi/g								
	Uncert:		+/-0.0147									
	TPU:		+/-0.0147									
Cobalt-60		U	0.0207	pCi/g								
	Uncert:		+/-0.0135				•					
	TPU:		+/-0.0135	<u></u>								
Europium-152		U	0.00393	pCi/g								
	Uncert:		+/-0.0402									
D	TPU:	• •	+/-0.0402	C 11		,						
Europium-154	T T	U	-0.033	pCi/g								
	Uncert:		+/-0.0549									
	TPU:		+/-0.0549	C :/								
Europium-155		U	0.0303	pCi/g								
	Uncert:		+/-0.0311									
1 1 212	· TPU:		+/-0.0311									
Lead-212	••	U	0.0116	pCi/g								
	Uncert:		+/-0.0353									
	TPU:	· •••	+/-0.0353	C 11			•					
Lead-214		Ŭ	0.0313	pCi/g								
	Uncert:		+/-0.0318									
	TPU:		+/-0.0318									

QC Summary

Workorder: 176896		-			Page 6 of 12					
Parmname	NOM	M Sample Qual QC Units RPD% REC% Ra					-	Date Time		
Rad Gamma Spec						•				
Batch 592140										
Manganese-54		U	0.00269	pCi/g		١				
	Uncert:	Ų	+/-0.0189	P0.8						
	TPU:		+/-0.0189							
Niobium-94		U	-0.00121	pCi/g						
	Uncert:		+/-0.0166							
	TPU:		+/-0.0166							
Potassium-40		U	0.0654	pCi/g						
	Uncert:		+/-0.216							
	TPU:		+/-0.216							
Radium-226		U	0.0265	pCi/g						
	Uncert:		+/-0.0542							
	TPU:	,	+/-0.0542							
Silver-108m		U	-0.0139	pCi/g						
	Uncert:		+/-0.0167							
	TPU:		+/-0.0167							
Thallium-208		U	0.0157	pCi/g						
	Uncert:		+/-0.0195							
D : 1	TPU:		+/-0.0195							
Batch 592142										
QC1201238142 176890002 DUP										
Actinium-228		0.499	0.739	pCi/g	39		(0% - 100%) MJH1	12/04/06 07:00		
	Uncert:	+/-0.133	+/-0.139							
	TPU:	+/-0.133	+/-0.139							
Americium-241	U	0.0286 U	0.00936	pCi/g	101		(0% - 100%)			
	Uncert:	+/-0.0593	+/-0.0223							
	TPU:	+/-0.0593	+/-0.0223							
Bismuth-212		0.400	0.367	pCi/g	8		(0% - 100%)			
	Uncert:	+/-0.177	+/-0.223				,			
D: 4.014	TPU:	+/-0.177	+/-0.223	<u> </u>	10		(00)			
Bismuth-214	The sector	0.425	0.515	pCi/g	19		(0% - 100%)			
	Uncert:	+/-0.0754	+/-0.0798							
Cesium-134	TPU:	+/-0.0754 0.0213 UI	+/-0.0798	-Cile	01		(00/ 1000/)			
Cestum-194	U	0.0213 UI +/-0.0198	0.00 +/-0.0286	pCi/g	- 91		(0% - 100%)			
	Uncert: TPU:	+/-0.0198	+/-0.0286							
Cesium-137	IPU:	0.0722	0.0527	pCi/g	31		(0% - 100%)			
Cestum-157	Uncert:	+/-0.0297	+/-0.0252	peng	51		(070 - 10076)			
	TPU:	+/-0.0297	+/-0.0252							
Cobalt-60	U		0.00911	pCi/g	108		(0% - 100%)			
	Uncert:	+/-0.0183	+/-0.0209	peng	100		(070 - 10070)			
·	TPU:	+/-0.0183	+/-0.0209							
Europium-152	U U	0.00662 U	-0.00857	pCi/g	1550		(0% - 100%)			
L.	Uncert:	+/-0.0743	+/-0.0387	r8			(0/0 100/0)			
	TPU:	+/-0.0743	+/-0.0387							
Europium-154	U U	0.00889 U	-0.0259	pCi/g	409		(0% - 100%)			
	Uncert:	+/-0.098	+/-0.0566	. 0						
	TPU:	+/-0.098	+/-0.0566							
Europium-155	U	0.0169 U	0.0258	pCi/g	42		(0% - 100%)			
	U			. 0				•		

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QC Summary

$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Workorder: 176896		<u> </u>	Page 7 of 12								
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Parmname	NOM	Sample Qu	ual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Rad Gamma Spec											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Batch 592142											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		Uncert:	+/-0.0482		+/-0.0557							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$												
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Lead-212					pCi/g	g 11		(0% - 20%))		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		Uncert:	+/-0.0622		+/-0.0454		-					
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		TPU:	+/-0.0622		+/-0.0454							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Lead-214		0.556		0.640	pCi/g	g 14		(0% - 20%))		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		Uncert:	+/-0.0808		+/-0.0736							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		TPU:	+/-0.0808		+/-0.0736							
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Manganese-54	U	0.00229	U	0.00242	pCi/į	g 5		(0% - 100%))		
isobium-94 U 0-0108 U -0.00432 pCi/g 86 (0% - 100%) Uncert: +/-0.0173 +/-0.0161 TPU: +/-0.0173 +/-0.0161 11.4 10.1 pCi/g 12 (0% - 20%) Uncert: +/-0.094 +/-0.786 adium-226 0.0425 0.515 pCi/g 19 (0% - 100%) Uncert: +/-0.0754 +/-0.0798 TPU: +/-0.0754 +/-0.0798 Uncert: +/-0.0141 +/-0.0144 hallium-208 U 0.0032 U 0.0106 pCi/g 107 (0% - 100%) Uncert: +/-0.0141 +/-0.0144 TPU: +/-0.0141 +/-0.0144 TPU: +/-0.019 +/-0.0358 QC1201238143 LCS Ctinium-228 U 0.0108 pCi/g 26 (0% - 100%) Uncert: +/-0.0319 +/-0.0358 QC1201238143 LCS Ctinium-228 U -0.0385 pCi/g 104 (75% -125%) Uncert: +/-0.615 TPU: +/-0.617 TPU: +		Uncert:	+/-0.0177		+/-0.0176							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$,	TPU:	+/-0.0177		+/-0.0176							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Niobium-94	Ū	-0.0108	U	-0.00432	pCi/g	g 86		(0% - 100%))		
otassium-40 11.4 10.1 pCi/g 12 (0% - 20%) Uncert: +/-0.786		Uncert:	+/-0.0173		+/-0.0161							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		TPU:	+/-0.0173		+/-0.0161							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Potassium-40		11.4		10.1	pCi/g	g 12		(0% - 20%))		
adium-226 0.425 0.515 pCi/g 19 (0% - 100%) Uncert: $+/-0.0754$ $+/-0.0798$ TPU: $+/-0.0754$ $+/-0.0798$ TPU: $+/-0.0754$ $+/-0.0798$ U 0.0032 U 0.0106 pCi/g 107 (0% - 100%) Uncert: $+/-0.0141$ $+/-0.0144$ TPU: $+/-0.0141$ $+/-0.0144$ 0.144 0.188 pCi/g 26 (0% - 100%) Uncert: $+/-0.0319$ $+/-0.0358$ QC1201238143 LCS QC1201238143 LCS QC1201238143 LCS QC1201238143 LCS Uncert: $+/-0.019$ $+/-0.0355$ pCi/g 104 (75%-125%) Uncert: $+/-0.541$ TPU: $+/-0.541$ TPU: $+/-0.541$ TPU: $+/-0.541$ TPU: $+/-0.541$ ismuth-212 U 0.0109 pCi/g Uncert: $+/-0.557$ TPU: $+/-0.557$ TPU: $+/-0.577$ TPU: $+/-0.217$		Uncert:	+/-0.994		+/-0.786							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		TPU:	+/-0.994		+/-0.786							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Radium-226		0.425		0.515	pCi/g	g 19		(0% - 100%))		
ilver-108m U 0.032 U 0.0106 pCi/g 107 (0% - 100%) Uncert: $+/-0.0141$ $+/-0.0144$ TPU: $+/-0.0141$ $+/-0.0144$ TPU: $+/-0.0141$ $+/-0.0144$ TPU: $+/-0.0319$ $+/-0.0358$ QC1201238143 LCS QC1201238143 LCS QC1201238143 LCS QC1201238143 LCS Uncert: $+/-0.0319$ $+/-0.0385$ pCi/g 104 (75% - 125%) Uncert: $+/-0.615$ mericium-241 23.4 24.4 pCi/g 104 (75% - 125%) Uncert: $+/-0.541$ TPU: $+/-0.541$ TPU: $+/-0.541$ Uncert: $+/-0.541$ ismuth-212 U -0.109 pCi/g Uncert: $+/-0.957$ ismuth-214 U -0.166 pCi/g Uncert: $+/-0.957$ TPU: $+/-0.957$ TPU: $+/-0.217$		Uncert:	+/-0.0754		+/-0.0798							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		TPU:	+/-0.0754		+/-0.0798							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Silver-108m	U	0.0032	U	0.0106	pCi/g	g 107		(0% - 100%))		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		Uncert:	+/-0.0141		+/-0.0144							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		TPU:	+/-0.0141		+/-0.0144							
$\begin{array}{ccccccc} TPU: & +/-0.0319 & +/-0.0358 \\ \hline QC1201238143 & LCS \\ ctinium-228 & U & -0.0385 & pCi/g & 12/04/06 07:0 \\ & Uncert: & +/-0.615 & \\ & TPU: & +/-0.615 & \\ & uncert: & +/-0.541 & \\ & Uncert: & +/-0.541 & \\ & TPU: & +/-0.541 & \\ & TPU: & +/-0.541 & \\ & u & -0.109 & pCi/g & \\ & Uncert: & +/-0.957 & \\ & Uncert: & +/-0.957 & \\ & TPU: & +/-0.957 & \\ & Uncert: & +/-0.957 & \\ & Uncert: & +/-0.957 & \\ & TPU: & +/-0.217 & \\ & U & -0.146 & pCi/g & \\ & Uncert: & +/-0.217 & \\ & Uncert: & Uncert: & +/-0.217 & \\ & Uncert: & Uncert: & +/-0.217 & \\ & Uncert: & Uncert: & +/-0.21 & \\ & Uncert: & Uncert: & Uncert: & Uncert: & \\ & Uncert: & Un$	Thallium-208				0.188	pCi/g	g 26		(0% - 100%))		
$\begin{array}{cccc} QC1201238143 & LCS \\ \mbox{cctinium-228} & U & -0.0385 & pCi/g & 12/04/06 07:0 \\ \mbox{Uncert:} & +/-0.615 & & & & & & & & & & & & & & & & & & &$		Uncert:	+/-0.0319		+/-0.0358							
Letinium-228 U -0.0385 pCi/g 12/04/06 07:0 Uncert: +/-0.615 +/-0.615 12/04/06 07:0 mericium-241 23.4 24.4 pCi/g 104 (75%-125%) Uncert: +/-0.541 104 12/04/06 07:0 ismuth-212 U 23.4 PCi/g 104 (75%-125%) ismuth-212 U -0.109 pCi/g ismuth-214 U -0.109 pCi/g ismuth-214 U -0.146 pCi/g Uncert: +/-0.217 +/-0.217 U		TPU:	+/-0.0319		+/-0.0358							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$												
$\begin{array}{cccccccc} TPU: & +/-0.615 \\ mericium-241 & 23.4 & 24.4 & pCi/g & 104 & (75\%-125\%) \\ Uncert: & +/-0.541 \\ ismuth-212 & U & -0.109 & pCi/g \\ & Uncert: & +/-0.957 \\ TPU: & +/-0.957 \\ ismuth-214 & U & -0.146 & pCi/g \\ & Uncert: & +/-0.217 \\ & TPU: & +/-0.217 \end{array}$	Actinium-228			U		pCi/g	3				12/04/0	6 07:02
$\begin{array}{cccccccccccccccccccccccccccccccccccc$												
$\begin{array}{cccccccccccccccccccccccccccccccccccc$												
$\begin{array}{ccccc} TPU: & +/-0.541 \\ & U & -0.109 & pCi/g \\ & Uncert: & +/-0.957 \\ & TPU: & +/-0.957 \\ & U & -0.146 & pCi/g \\ & Uncert: & +/-0.217 \\ & TPU: & +/-0.217 \end{array}$	Americium-241					pCi/g	3	104	(75%-125%))		
ismuth-212 U -0.109 pCi/g Uncert: +/-0.957 ismuth-214 U -0.146 pCi/g Uncert: +/-0.217 TPU: +/-0.217												
Uncert: +/-0.957 TPU: +/-0.957 U -0.146 pCi/g Uncert: +/-0.217 TPU: +/-0.217		TPU:										
ismuth-214 TPU: +/-0.957 U -0.146 pCi/g Uncert: +/-0.217 TPU: +/-0.217	Bismuth-212			U		pCi/į	5					
ismuth-214 U -0.146 pCi/g Uncert: +/-0.217 TPU: +/-0.217												
Uncert: +/-0.217 TPU: +/-0.217		TPU:										
TPU: +/-0.217	Bismuth-214			U		pCi/g	3					
124 II 0.0070 -01/-		TPU:										
	Cesium-134			U	-0.0676	pCi/g	3					
Uncert: +/-0.149												
TPU: +/-0.149	-											•
	Cesium-137					pCi/g		109	(75%-125%))		
Uncert: +/-0.503												
TPU: +/-0.503												
	Cobalt-60					pCi/į	3	104	(75%-125%))		
Uncert: +/-0.677												
TPU: +/-0.677		TPU:			+/-0.677							

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QC Summary

		$\underline{v}\underline{v}$	<u>ummary</u>									
Workorder: 176896							Page 8 of 12					
Parmname	NOM	Sample Qual	QC	Units R	RPD%	REC%	Range	Anlst	Date	Time		
Rad Gamma SpecBatch592142												
Europium-152		U	-0.0484	pCi/g								
• · · ·	Uncert:		+/-0.266	1 0								
	TPU:		+/-0.266									
Europium-154		U		pCi/g								
,	Uncert:		+/-0.250									
	TPU:		+/-0.250									
Europium-155		U	0.144	pCi/g								
	Uncert:		+/-0.227						,			
	TPU:		+/-0.227									
Lead-212		U	-0.0264	pCi/g								
	Uncert:		+/-0.146									
	TPU:		+/-0.146									
Lead-214		U	0.0333	pCi/g								
	Uncert:		+/-0.193									
	TPU:		+/-0.193									
Manganese-54		U	0.0139	pCi/g								
	Uncert:		+/-0.142									
	TPU:		+/-0.142									
Niobium-94		U	-0.0307	pCi/g								
	Uncert:		+/-0.116									
	TPU:		+/-0.116									
Potassium-40		U	0.0841	pCi/g								
	Uncert:		+/-0.896									
	TPU:		.+/-0.896									
Radium-226		U	-0.146	pCi/g			(75%-125%)					
	Uncert:		+/-0.217									
6 ¹¹ 100	TPU:		+/-0.217									
Silver-108m		U	0.019	pCi/g								
	Uncert:		+/-0.109		1							
	TPU:		+/-0.109									
Thallium-208		U	-0.0275	pCi/g								
	Uncert:		+/-0.125									
	TPU:		+/-0.125									
QC1201238141 MB Actinium-228		U	0.016	-Cila					12/04/04	07.00		
Actimum-228	Uncert:	0	0.016 +/-0.0236	pCi/g					12/04/06	5.07:00		
			+/-0.0236									
Americium-241	TPU:	U	0.00128	pCi/g								
Americiani-2+1	Uncert:	0	+/-0.0195	pc//g								
	TPU:		+/-0.0195									
Bismuth-212	IFU.	U	0.0245	pCi/g								
	Uncert:	. 0	+/-0.102	PC"E								
	TPU:		+/-0.102									
Bismuth-214	IFU:	U	0.0232	pCi/g								
	Uncert:	U	+/-0.0167	peng								
	TPU:		+/-0.0167									
Cesium-134	ITU.	U	-0.00374	pCi/g								
	Uncert:	0	+/-0.00763	PO"5								
	Uncent.											

QC Summary

		<u>VC 5</u>	ummary								
Workorder: 176896					Page 9 of 12						
Parmname	NOM	Sample Qual	QC	Units RI	PD% I	REC%	Range	Anlst	Date 7	Fime	
Rad Gamma Spec											
Batch 592142											
	TPU:		+/-0.00763								
Cesium-137	110.	U		pCi/g							
	Uncert:		+/-0.00666	F B							
	TPU:		+/-0.00666								
Cobalt-60		U		pCi/g							
	Uncert:		+/-0.00816							•	
	TPU:		+/-0.00816								
Europium-152		U		pCi/g							
• .	Uncert:		+/-0.0183								
	TPU:		+/-0.0183								
Europium-154		U		pCi/g							
	Uncert:		+/-0.019	1 0							
	TPU:		+/-0.019								
Europium-155	11 0.	U		pCi/g							
	Uncert:	U U	+/-0.0183	P=8							
	TPU:		+/-0.0183								
Lead-212	110.	U		pCi/g							
	Uncert:	0	+/-0.0249	P01.8							
	TPU:		+/-0.0249								
Lead-214	110.	U		pCi/g							
	Uncert:	0	+/-0.0145	p08							
Υ	TPU:	·	+/-0.0145								
Manganese-54	110.	U		pCi/g							
manganose-54	Uncert:	0	+/-0.00775	p0#5							
	TPU:		+/-0.00775								
Niobium-94	IFU.	U		pCi/g							
Noolulii 94	Uncert:		+/-0.00734	peng							
	TPU:		+/-0.00734								
Potassium-40	IFU:	U		pCi/g							
i otassium-40	Uncert:	0	+/-0.098	peng							
			+/-0.098								
Radium-226	TPU:	Ŭ		pCi/g							
Kaulull-220	Uncert:	0	+/-0.0167	hc1,R							
			+/-0.0167								
Silver-108m	TPU:	U		pCi/g							
511761-10811	Uncert:	. 0	+/-0.0121	peng			1				
	TPU:		+/-0.0121								
Thallium-208	IPU:	UI		pCi/g					•		
mannun-208	Uncert:	01	+/-0.00876	pcng			. •				
			+/-0.00876								
	TPU:		+/-0.008/0								
Rad Gas FlowBatch592186							•				
QC1201238232 176896007 DUP											
Strontium-90		0.766	0.315	pCi/g	84*		(0% - 20%)) KSDI	12/07/06	12:19	
	Uncert:	+/-0.116	+/-0.0715			•					
	TPU:	+/-0.118	-+/-0.0719								
QC1201238234 LCS											
Strontium-90	4390		4740	pCi/g		108	(75%-125%))	12/07/06	12:24	
				-							

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QC Summary

Workorder: 176896		·		_		Page 10 of 12							
Parmname		NOM	Comolo (QC	Units	RPD%	REC%		Date Time			
			Sample (<u>Zuai</u>	<u> </u>	Units	RPD%	KEU %	Range Anlst	Date Time			
Rad Gas FlowBatch592186													
		Uncert:			+/-5.18								
		TPU:			+/-108								
QC1201238231 MB													
Strontium-90				U	0.00521	pCi/g	g			12/07/06 12:18			
		Uncert:			+/-0.017								
		TPU:			+/-0.017								
QC1201238233 176896007 Strontium-90	MS	4200	0.7((•	4820	-C:4	~	110	(750/ 1050/)	12/07/06 12:22			
Sironitum-90		4390	0.766		4830	pCi/g	3	110	(75%-125%)	12/07/06 12:23			
		Uncert:	+/-0.116		+/-5.59	÷							
		TPU:	+/-0.118		+/-120								
Rad Liquid ScintillationBatch592304													
QC1201238527 176518004	DUP												
Iron-55		U	-16.5	U	-9.15	pCi/Į	g 0		(0% - 100%) MXP1	12/02/06 19:38			
		Uncert:	+/-39.7		+/-36.9								
		TPU:	+/-39.7		+/-36.9								
QC1201238529 LCS													
Iron-55		797			803	pCi/g	3	101	(75%-125%)	12/02/06 20:11			
		Uncert:			+/-60.4								
		TPU:			+/-107								
QC1201238526 MB Iron-55				U	-10.8	pCi/g	•			12/02/06 10:22			
non-55		Uncert:		0	+/-29.0	hcu5	5			12/02/06 19:22			
		TPU:			+/-29.0								
QC1201238528 176518004	MS	по.			17-29.0								
Iron-55		806 U	-16.5		789	pCi/Į	2	98	(75%-125%)	12/02/06 19:54			
		Uncert:	+/-39.7		+/-72.2		- -		· · · ·				
		TPU:	+/-39.7		+/-126								
Batch 592310	•												
QC1201238547 176896007	DHP												
Nickel-63	201	U	-2.44	U	4.04	pCi/g	g 0		(0% - 100%) MXP1	12/04/06 21:37			
		Uncert:	+/-12.1		+/-12.8				. ,				
x		TPU:	+/-12.1		+/-12.8								
QC1201238549 LCS													
Nickel-63		513			503	pCi/g	g	98	(75%-125%)	12/04/06 22:10			
		Uncert:			+/-27.8								
		TPU:			+/-32.8								
QC1201238546 MB Nickel-63				U	2.04	-024				10/04/06 01:00			
INICKEI-03		Uncert		_	-3.04 +/-10.4	pCi/g	ŝ			12/04/06 21:20			
		Uncert: TPU:		-									
QC1201238548 176896007	MS	TPU:			+/-10.4								
Nickel-63	1110	513 U	-2.44		595	pCi/g	2	116	(75%-125%)	12/04/06 21:53			
		Uncert:	+/-12.1		+/-32.5	r - " t	, ,)	12.1.00 21.00			
		TPU:	+/-12.1		+/-38.5								
Batch 592312			-						,				
QC1201238555 176896007	DUP												
Technetium-99	201	U	0.194	U	0.175	pCi/g	g 11		(0% - 100%) KXR1	12/06/06 19:28			
		0				1	-		,				

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QC Summary

Workorder: 176896		<u>x</u> -		<u>,</u>	Page 11 of 12							
Parmname	NOM	Sample (Qual	QC	Units	RPD%	REC%	-	Date Time			
Rad Liquid Scintillation												
Batch 592312												
	Uncert:	+/-0.161		+/-0.153								
	TPU:	+/-0.162		+/-0.153								
QC1201238557 LCS												
Technetium-99	12.9			12.7	pCi/j	g	99	(75%-125%)	12/06/06 20:3			
	Uncert:			+/-0.375								
	TPU:			+/-0.471								
QC1201238554 MB				0.282	- C'I				12/06/06 19.5			
Technetium-99				0.283	pCi/	g			12/06/06 18:5			
	Uncert:			+/-0.148								
001001000556 176006007 140	TPU:			+/-0.148								
QC1201238556 176896007 MS Technetium-99	12.9 U	0.194		12.6	pCi/	(T	98	(75%-125%)	12/06/06 20:0			
recimentum-33	Uncert:	+/-0.161		+/-0.388	pen,	5	20	(1370 12370)	12/00/00 20:0			
	TPU:	+/-0.162		+/-0.480								
Batch 592313	Iro.	17-0.102		17-0.400								
QC1201238559 176896007 DUP Carbon-14		-0.0179	U	-0.0249	pCi/	g 0		(0% - 100%) AXD2	12/01/06 22.4			
Carbon-14	U Uncert:	+/-0.0898	0	+/-0.0889	pen,	в. V		(070 - 10070) (IAD2	12/01/00 22.4			
	TPU:	+/-0.0898		+/-0.0889								
QC1201238561 LCS	IPU.	1/-0.0898		17-0.0003								
Carbon-14	6.69			7.10	pCi/	g	106	(75%-125%)	12/02/06 00:5			
	Uncert:			+/-0.201	•	0		· · ·				
	TPU:			+/-0.229								
QC1201238558 MB												
Carbon-14			U	0.000718	pCi/	g			12/01/06 21:43			
	Uncert:			+/-0.0906								
	TPU:			+/-0.0906								
QC1201238560 176896007 MS												
Carbon-14	6.86 U	-0.0179		6.91	pCi/	g	101	(75%-125%)	12/01/06 23:50			
	Uncert:	+/-0.0898		+/-0.202								
D	TPU:	+/-0.0898		+/-0.228								
Batch 593064												
QC1201240326 176890008 DUP												
Tritium	U	-1.0	U	-1.35	pCi/	g 0		(0% - 100%) DFA1	12/06/06 09:52			
	Uncert:	+/-1.29		+/-1.29								
	TPU:	+/-1.29		+/-1.29								
QC1201240328 LCS Tritium	15.2			15.3	pCi/	a	100	(75%-125%)	12/06/06 14:0			
Intium				+/-0.929	pen/	g	100	(7570-12570)	12/00/00 14.0			
	Uncert:			+/-0.929								
	TPU.			+7-0.905								
QC1201240325 MB Tritium			U	-0.759	pCi/	g			12/06/06 07:4			
	Uncert:		č	+/-0.578	P.0.0	9						
	TPU:			+/-0.578								
QC1201240327 176890008 MS												
Tritium	19.8 U	-1.0		16.3	pCi/	g	83	(75%-125%)	12/06/06 11:5			
	Uncert:	+/-1.29		+/-2.05								
	TPU:	+/-1.29		+/-2.07	•							

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QC Summary

Workor	der: 176896							Page 1	12 of 12		
Parmnai	me	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Tim
Notes: The Qu	alifiers in this report are def	ined as follows:			•	•		T			
*	A quality control analyte r	ecovery is outside of s	pecified acceptance crit	eria							
<	Result is less than value re	•									
>	Result is greater than value	e reported									
А	The TIC is a suspected ald	ol-condensation produ	ict								
В	Target analyte was detecte	d in the associated bla	nk								
BD	Results are either below th	e MDC or tracer reco	very is low								
С	Analyte has been confirme	d by GC/MS analysis									
D	Results are reported from a	a diluted aliquot of the	sample								
Н	Analytical holding time wa	as exceeded				,					
J	Value is estimated										
N/A	Spike recovery limits do ne	ot apply. Sample con	centration exceeds spike	e concentra	tion by 43	c or more					
R	Sample results are rejected	l			•						
U	Analyte was analyzed for,	but not detected above	e the MDL, MDA, or LO	DD.							
UI	Gamma SpectroscopyUn	certain identification									
Х	Consult Case Narrative, Da	ata Summary package	, or Project Manager co	ncerning th	is qualifie	r					
Y	QC Samples were not spik	ed with this compoun	d								
^	RPD of sample and duplic	ate evaluated using +/	RL. Concentrations are	e <5X the I	RL <u>,</u>						
h	Preparation or preservation	n holding time was exe	ceeded								
** Indica ^ The Re sample is less than	icates that spike recovery lir ates analyte is a surrogate co elative Percent Difference (F s greater than five time 5X the RL, a control limit PSD, and SDILT results, the	ompound. RPD) obtained from thes (5X) the contract re- of +/- the RL is used of the the RL is used of the RL is used of the the RL is used of the	ne sample duplicate (DU quired detection limit (R sed to evaluate the DUP	JP) is evalu L). In case result.	uated agai es where e	nst the acce	ptence criter				

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

General Narrative

General Narrative for Connecticut Yankee Atomic Power Co. Work Order: 174936 SDG: MSR#06-1407

October 30, 2006

Laboratory Identification:

General Engineering Laboratories, LLC 2040 Savage Road Charleston, South Carolina 29407 (843) 556-8171

<u>Summary</u>

Sample receipt

The samples arrived at General Engineering Laboratories, LLC, Charleston, South Carolina on October 26, 2006 for analysis. Shipping container temperatures were checked, documented, and within specifications. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage.

Sample Identification The laboratory received the following samples:

Laboratory	Sample
Identification	Description
174936001	9522-01-005C
174936002	9522-01-007C
174936003	9520-0004-016F
174936004	9520-0004-017F
174936005	9504-0-010C
174936006	9504-0-013C
174936007	9520-0005-019F

Items of Note

There are no items to note.

Case Narrative

Sample analyses were conducted using methodology as outlined in General Engineering Laboratories (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Analytical Request

Four soil samples were analyzed for CHALL. Three soil samples were analyzed for FSSGAM.

Data Package

The enclosed data package contains the following sections: General Narrative, Chain of Custody and Supporting Documentation, Data Review Qualifier Definitions, and data from the following fractions: Radiochemistry.

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Cheryl Jones

Project Manager

GENERAL ENGINEERING LABORATORIES, LLC a Member of THE GEL GROUP, INC. P.O. BOX 30712 Charleston, SC 29417 • 2040 Savage Road (29407) Phone (843) 556-8171 • Fax 343) 766-1178 www.gel.com

State	Certification
Alaska	UST-062
Arizona	AZ0668
Arkansas	88-0651
CLIA	42D0904046
California	01151CA
Colorado	GenEngLabs
Connecticut	PH-0169
Dept. of Navy	NFESC 413
EPA	WG-15J
Florida/NELAP	E87156
Georgia	E87156 (FL/NELAP)
Hawaii	N/A
Idaho	N/A
Illinois	200029
Indiana	C-SC-01
Kansas	E-10332
Kentucky	90129
Louisiana	03046
Maryland	270
Massachusetts	M-SC012
Michigan	9903
Nevada	SC12
New Jersey	SC002
New Mexico	FL NELAP E87156
New York	11501
North Carolina	233
North Carolina Drinking W	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania	68-00485
South Carolina	10120001/10585001/10120002
Tennessee	02934
Texas	TX213-2006A
Texas NELAP	T104704235-06-TX
U.S. Dept. of Agriculture	S-52597
US Army Corps of Engineer	N/A
Utah	8037697376 GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

List of current GEL Certifications as of 30 October 2006

Chain of Custody and Supporting Documentation

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Connecticut Y 362 Injun I	ankee At Iollow Road, E 860-267	East Hampton	wer C , CT 0642	ompan 4	ıy			Ch	ain o	f Custoo	ly Form	No. 2006-00637
Project Name: Haddam Ne	eck Decomm	nissioning	•				Aı	ialyses	Reques	sted	Lab Use Only	· · · · · · · · · · · · · · · · · · ·
Contact Name & Phone: Jack McCarthy 860-267-39	24		Media Code	Sample Type	Container Size-						Comments:	
Analytical Lab (Name, Cit General Engineering Labor 2040 Savage Road Charleston, SC 29407 ATT: Cheryl Jones (843-5	atories 56-8171)			Code	&Type Code							· · ·
Priority: 30 D. 14 E Other:	D. 🛛 7 D.					CHALL					1	749361
Sample Designation	Date	Time			4.14 	5		•			Comment, Preservation	Lab Sample ID
9522-01-005C	10-18 OC	1355	TS	G	BP	X					· · · · · · · · · · · · · · · · · · ·	
9522-01-0070	10-18-06	1425	15	6	BP	K						
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NÒTES: PO #: 002332		₹#: °G-1	107	⊠ L	TP QA] Radw	aste Q	A [] Non QA	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: 12. Deg. C Custody Sealed? YX N []
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3) Relinquished By		Date/Tim	ie	4) Rece	ived By		• 1	- - - - - -	Date/		79802834 3252 Bill of Lading #	Y N D
5) Relinquished By		Date/Tim	ne	6) Rece	ived By				Date/	Time		

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Project Name: Haddam N	eck Decomn	nissioning				-	An	alyses F	Request	ed		Lab Use Only	
Contact Name & Phone: Jack McCarthy 860-267-	-3924			·.		• •						Comments:	
Analytical Lab (Name, Cit General Engineering Labo 2040 Savage Road. Charle 843 556 8171. Attn. Cher Priority: 30 D. 14 D	ratories ston SC. 294 yl Jones					FSSGAM	FSSALL						
					Container.								749361,
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Project Name: Haddam Nec Decommissioning	Connecticut Yankee Atomic Power Company 362 Injun Hollow Road, East Hampton, CT 06424 860-267-2556							424									
	ck						A	nalyses	Reques	ted		Lab Use Only					
Contact Name & Phone: Jack McCarthy 860-267-392	24	×	Media	Sample Type	Container Size-	· · · · · · · · · · · · · · · · · · ·						Comments:					
Analytical Lab (Name, City General Engineering Labora 2040 Savage Road Charleston, SC 29407 ATT: Cheryl Jones (843-55	atories			Code	&Type Code												
Priority: 30 D. 14 D. Other:	7 D.]			CHALL				•	••		1749361				
Sample Designation	Date	Time				C					·· .	Comment, Preservation	Lab Sample ID				
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NOTES: PO #: 002332	MS	sr #: 26-1	407		TP QA] Radw	vaste Q	a [] Non	QA	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: <u>-18</u> Deg. C Custody Sealed?				
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Health Physics Procedure

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Connecticut Y 362 Injun	Ankee At Hollow Road, F 860-26	East Hampton			ý			Ch	ain o	f Cus	stod	y Form	No. 2006-00640
Project Name: Haddam N					-		An	alyses l	Request	ed		Lab Use Only	
Contact Name & Phone: Jack McCarthy 860-267-3924											· · ·	Comments:	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones Priority: 30 D. 14 D. 7 D. 3 D.						FSSGAM	FSSALL						
Sample Designation	Date	Time	Media Code	Sämple Type Code	Container Size- &Type Code	λ. 						Comment, Preservation	[74936]. Lab Sample ID
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NOTES: PO #: 002332 1) Relinquished By 3) Relinquished By	h ()	06-1 381 1 407 Date/Tin 10/25/01 Date/Tin	ne 1430	'P# NA	Janoe			waste (Time	QA 00	Samples Shipped Via: Samples Shipped Via: Fed Ex UPS Hand Other 7980 25343252 Bill of Lading #	Internal Container Temp.: <u>/8</u> Deg. C Custody Sealed? Custody Seal Intact? Y N L

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	onnecticut Yankee atement of Work for Analytical Lab Services	CY-ISC-SOW-00)]
Di	Figure 1. Sample Check-in List		а —
SI	06#:MSR#06-1407		
W	ork Order Number:1749361		· - 1 > - 7
Sh	ipping Container ID: 1980 2834 3252 Chain of Custody	#2001-00639	50637
1. 2.	Custody Seals on shipping container intact? Custody Seals dated and signed?	Yes [] No []	:
3.	Chain-of-Custody record present?	Yes X No [] Yes X No []	
4. 5. 6.	Cooler temperature	Wet [] Dry	
7.	Sample holding times exceeded?	Yes [] No [X	
	Samples have: <u>Lape</u> hazard labels custody sealsappropriate sample labels		
9.	Samples are: 		
L	brokenhave air bubbles		2- _m .ex 14 7-44 7-44
10. 11.	Were any anomalies identified in sample receipt? Description of anomalies (include sample numbers):	(es [] No KI	
·			
		nte: 10 26 06	
Telepi	ioned to:OnBy		
	10		

Data Review Qualifier Definitions

Data Review Qualifier Definitions

Qualifier Explanation

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- B Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL</p>
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- d 5-day BOD-The 2:1 depletion requirement was not met for this sample
- E Organics-Concentration of the target analyte exceeds the instrument calibration range
- E Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- H Analytical holding time was exceeded
- h Preparation or preservation holding time was exceeded
- J Value is estimated
- N Metals-The Matrix spike sample recovery is not within specified control limits
- N Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- ND Analyte concentration is not detected above the reporting limit
- UI Gamma Spectroscopy-Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- Z Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

GENERAL ENGINEERING LABORATORIES, LLC a Member of THE GEL GROUP, INC. P.O. BOX 30712 Charleston, SC 29417 • 2040 Savage Road (29407) Phone (843) 556-8171 • Fa

RADIOLOGICAL ANALYSIS

Radiochemistry Case Narrative Connecticut Yankee Atomic Power Co. (YANK) Work Order 174936

Method/Analysis Information

Product:	Alphaspec Am241, Cm, Solid ALL FSS
Analytical Method:	DOE EML HASL-300, Am-05-RC Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	583311
Prep Batch Number:	583211
Dry Soil Prep GL-RAD-A-021 Batch Number:	583196

Sample ID	Client ID
174936001	9522-01-005C
174936002	9522-01-007C
174936005	9504-0-010C
174936006	9504-0-013C
1201216888	Method Blank (MB)
1201216890	174936001(9522-01-005C) Matrix Spike (MS)
1201216891	Laboratory Control Sample (LCS)
1201217370	174936001(9522-01-005C) Sample Duplicate (DUP)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 14.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 174936001 (9522-01-005C).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The blank, 1201216888 (MB), did not meet the detection limit due to keeping the blank volume consistent with the other sample aliquots. All other samples met the detection limits.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Alphaspec Pu, Solid-ALL FSS
1 Toduct.	Alphaspee 1 u, Sond-ALL 155
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	583312
Prep Batch Number:	583211
Dry Soil Prep GL-RAD-A-021 Batch Number:	583196

Sample ID	Client ID
174936001	9522-01-005C
174936002	9522-01-007C
174936005	9504-0-010C
174936006	9504-0-013C
1201216892	Method Blank (MB)
1201216893	174936001(9522-01-005C) Sample Duplicate (DUP)
1201216894	174936001(9522-01-005C) Matrix Spike (MS)
1201216895	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 14.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 174936001 (9522-01-005C).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint Pu241, Solid-ALL FSS
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	583313
Prep Batch Number:	583211
Dry Soil Prep GL-RAD-A-021 Batch Number:	583196

Sample ID	Client ID
174936001	9522-01-005C
174936002	9522-01-007C
174936005	9504-0-010C
174936006	9504-0-013C
1201216896	Method Blank (MB)
1201216897	174936001(9522-01-005C) Sample Duplicate (DUP)
1201216898	174936001(9522-01-005C) Matrix Spike (MS)
1201216899	Laboratory Control Sample (LCS)

SOP Reference .

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-035 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration réquirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (OC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 174936001 (9522-01-005C).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

The batch was recounted due to a low LCS recovery.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived	
Analytical Method:	EML HASL 300, 4.5.2.3	
Prep Method:	Dry Soil Prep	
Analytical Batch Number:	583389	
Prep Batch Number:	583196	

Sample ID	Client ID
174936001	9522-01-005C
174936002	9522-01-007C
174936003	9520-0004-016F
174936004	9520-0004-017F
174936005	9504-0-010C
174936006	9504-0-013C
174936007	9520-0005-019F ~
1201217095	Method Blank (MB)
1201217096	174911001(9801-0-R101-SFCC-01-C1 (0-2in)) Sample Duplicate (DUP)
1201217097	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 13.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 174911001 (9801-0-R101-SFCC-01-C1 (0-2in)).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to high counting uncertainty.	Bismuth-212	1201217096
UI	Data rejected due to high peak-width.	Cesium-134	1201217095
บบ่	Data rejected due to interference.	Europium-155	174936002
		Manganese-54	174936002
			174936005
UI	Data rejected due to low abundance.	Cesium-134	174936001
			174936002
	s		174936005
			174936007
			1201217096
		Lead-214	1201217095

Method/Analysis Information

Product:	GFPC, Sr90, solid-ALL FSS
Analytical Method:	EPA 905.0 Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	583243
Prep Batch Number:	583211
Dry Soil Prep GL-RAD-A-021 Batch Number:	583196

Sample ID	Client ID
174936001	9522-01-005C
174936002	9522-01-007C
174936005	9504-0-010C
174936006	9504-0-013C
1201216717	Method Blank (MB)
1201216718	174936001(9522-01-005C) Sample Duplicate (DUP)
1201216719	174936001(9522-01-005C) Matrix Spike (MS)
1201216720	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 10.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volumes in this batch.

Designated QC

The following sample was used for QC: 174936001 (9522-01-005C).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples were recounted due to being originally counted on detectors with expired calibrations.

Chemical Recoveries

All chemical recoveries meet the required acceptance limits for this sample set.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

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The blank result for 1201216717 (MB) is greater than the MDA but less than the detection limit.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint Tc99, Solid-ALL FSS
Analytical Method:	DOE EML HASL-300, Tc-02-RC Modified
Analytical Batch Number:	583233

Sample ID	Client ID
174936001	9522-01-005C
174936002	9522-01-007C
174936005	9504-0-010C
174936006	9504-0-013C
1201216689	Method Blank (MB)
1201216690	174936001(9522-01-005C) Sample Duplicate (DUP)
1201216691	174936001(9522-01-005C) Matrix Spike (MS)
1201216692	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-005 REV# 13.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 174936001 (9522-01-005C).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples 174936001 (9522-01-005C) and 174936002 (9522-01-007C) were recounted due to spectral interference.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

The result for sample 174936006 (9504-0-013C) is biased high due to spectral interference.

Qualifier information

Qualifier	Reason	Analyte	Sample
Х	Sample result biased high due to spectral interference.	Technetium-99	174936006

Method/Analysis Information

Product:	Liquid Scint Fe55, Solid-ALL FSS
Analytical Method:	DOE RESL Fe-1, Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	583239
Prep Batch Number:	583211
Dry Soil Prep GL-RAD-A-021 Batch Number:	583196

Sample ID	Client ID
174936001	952 [′] 2-01-005C
174936002	9522-01-007C
174936005	9504-0-010C
174936006	9504-0-013C
1201216709	Method Blank (MB)
1201216710	174936001(9522-01-005C) Sample Duplicate (DUP)
1201216711	174936001(9522-01-005C) Matrix Spike (MS)
1201216712	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-040 REV# 3.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 174936001 (9522-01-005C).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint Ni63, Solid-ALL FSS
Analytical Method:	DOE RESL Ni-1, Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	583241
Prep Batch Number:	583211
Dry Soil Prep GL-RAD-A-021 Batch Number:	583196

Sample ID	Client ID
174936001	9522-01-005C
174936002	9522-01-007C
174936005	9504-0-010C
174936006	9504-0-013C
1201216713	Method Blank (MB)
1201216714	174936001(9522-01-005C) Sample Duplicate (DUP)
1201216715	174936001(9522-01-005C) Matrix Spike (MS)
1201216716	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-022 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 174936001 (9522-01-005C).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:

Analytical Method:

EPA 906.0 Modified

Analytical Batch Number: 583234

Sample ID	Client ID
174936001	9522-01-005C
174936002	9522-01-007C
174936005	9504-0-010C
174936006	9504-0-013C
1201216693	Method Blank (MB)
1201216694	174936001(9522-01-005C) Sample Duplicate (DUP)
1201216695	174936001(9522-01-005C) Matrix Spike (MS)
1201216696	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-002 REV# 13.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 174936001 (9522-01-005C).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Sample 174936005 (9504-0-010C) was recounted due to high MDA.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint C14, Solid All,FSS
Analytical Method:	EPA EERF C-01 Modified
Analytical Batch Number:	583236

Sample ID	Client ID
174936001	9522-01-005C
174936002	9522-01-007C
174936005	9504-0-010C
174936006	9504-0-013C
1201216701	Method Blank (MB)
1201216702	174936001(9522-01-005C) Sample Duplicate (DUP)
1201216703	174936001(9522-01-005C) Matrix Spike (MS)
1201216704	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-003 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 174936001 (9522-01-005C).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

11/2/04 Reviewer/Date:_

SAMPLE DATA SUMMARY

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report for

YANK001 Connecticut Yankee Atomic Power Co.

Client SDG: MSR#06-1407 GEL Work Order: 174936

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a surrogate compound

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

ND The analyte concentration is not detected above the detection limit.

The above sample is reported on a dry weight basis except where prohibited by the analytical procedure. Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.

muth

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC 2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

٢.

Company : Address :	Connecticut 362 Injun H		Atomic Power						,		
Contact: Project:	East Hampto Mr. Jack Mo Soils PO# 0	lcCarthy	cticut 06424				R	Report Date: No	vember 2	!, 2006	
110,000	5005 I On V	02332	,								
	Client Sam Sample ID Matrix: Collect Da Receive D Collector: Moisture:	D: ate: Date:		9522-01 1749360 TS 18-OC1 26-OC1 Client 37.8%	001 T-06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time Batch	Mto
Rad Alpha Spec Analysi	is										
Alphaspec Am241, Cm,	, Solid ALL FS	SS									
Americium-241	U	0.00136	+/-0.138	0.115	+/-0.138	0.327	pCi/g	MXA	10/30/06	6 1058 58331	1 1
Curium-242	U	0.0391	+/-0.110	0.0674	+/-0.110	0.237	pCi/g	I			
Curium-243/244	U			0.132		0.361	pCi/g				
Alphaspec Pu, Solid–A	ILL FSS										
Plutonium-238	U	-0.104	+/-0.112	0.133	+/-0.113	0.352	pCi/g	MXA	10/30/06	5 1058 58331	2 2
Plutonium-239/240	U	-0.137	+/-0.0631	0.120	+/-0.0652	0.326	pCi/g	I			
Liquid Scint Pu241, Sol	_				,		r U				
Plutonium-241	U	-5.01	+/-7.31	6.36	+/-7.31	13.4	pCi/g	MXA	11/02/Ó6	5 0824 58331	3 3
Rad Gamma Spec Analy	vsis							I			
Gamma,Solid–FSS GA Waived		3 226 Ingro	wth			1					
Actinium-228		0.942		0.0684		0.148	pCi/g	MJH1	10/31/06	6 0910 58338	9 5
Americium-241		0.232		0.0857		0.177	pCi/g				
Bismuth-212		1.25		0.152		0.326	pCi/g				
Bismuth-214		1.01	+/-0.155	0.0431	+/-0.155	0.091	pCi/g				
Cesium-134	UL				+/-0.0505	0.061	pCi/g				
Cesium-137	T	1.58		0.0221	+/-0.100	0.0469	pCi/g				
Cobalt-60	U	0.0278			+/-0.0308	0.0585	pCi/g				
Europium-152	U				+/-0.0735 +/-0.0885	0.123	pCi/g				
Europium–154 Europium–155	U U	0.0164 0.0621	+/-0.0885 +/-0.0836		+/-0.0885 +/-0.0836	0.139 0.143	pCi/g pCi/g				
Lead-212	0	1.10			+/-0.0830	0.0838	pCi/g				
Lead-212 Lead-214		0.962		0.0400		0.0921	pCi/g	,			
Manganese-54	IJ	-0.00466			+/-0.0271	0.0474	pCi/g				
Niobium-94	U				+/-0.0232	0.0401	pCi/g				
Potassium-40	-	12.1	+/-1.00	0.191	+/-1.00	0.423	pCi/g				
Radium-226		1.01	+/-0.155	0.0431		0.091	pCi/g				
Silver-108m	U3	3.670E-05		0.0213	+/-0.026	0.0446	pCi/g				
Thallium-208	,	0.306	+/-0.0549	0.0218	+/-0.0549	0.0461	pCi/g				
Rad Gas Flow Proportion	onal Counting	g									
GFPC, Sr90, solid-AL	L FSS										
Strontium-90		0.0263	+/-0.0109	0.00825	+/-0.011	0.0172	pCi/g	KSDI	11/01/06	6 2100 58324	3 €

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Certificate of Analysis

Company :	Connecticut Yankee Atomic Power
Address :	362 Injun Hollow Rd
Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy

Soils PO# 002332

Project:

Report Date: November 2, 2006

. •	Client Sam Sample ID			9522-01 1749360			Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt
Rad Liquid Scintillation	Analysis					•			
LSC, Tritium Dist, Solid	HTD2,ALL	FSS							
Tritium	U	3.72	+/-5.94	4.71	+/-5.94	10.2	pCi/g	DFA1 10/28/0	6 0650 583234 7
Liquid Scint C14, Solid J	All FSS								
Carbon-14	U	0.179	+/-0.112	0.0898	+/-0.112	0.184 ·	pCi/g	AXD2 10/27/0	6 2110 583236 8
Liquid Scint Fe55, Solid	-ALL FSS								
Iron-55	U	14.2	+/-19.7	12.8	+/-19.7	27.0	pCi/g	MXP1 11/01/0	6 1809 583239 9
Liquid Scint Ni63, Solid	-ALL FSS								
Nickel-63	U	-0.799	+/-7.83	6.60	+/-7.83	13.8	pCi/g	MXP1 11/01/0	6 1536 583241 1
Liquid Scint Tc99, Solid	-ALL FSS								
Technetium-99	U	0.320	+/-0.221	0.181	+/-0.221	0.367	pCi/g	KXR1 10/31/0	6 2145 583233 1
				,					

The following	Prep Methods were performed					
Method	Description	Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	WXLI	10/26/06	1442	583196	

The following Analytical Methods were performed Method Description

Methoa	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, Pu-11-RC Modified
5	EML HASL 300, 4.5.2.3
6	EPA 905.0 Modified
7	EPA 906.0 Modified
8	EPA EERF C-01 Modified
9	DOE RESL Fe-1, Modified
10	DOE RESL Ni-1, Modified
11	DOE EML HASL-300, Tc-02-RC Modified
12	DOE EML HASL-300, Tc-02-RC Modified
13	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium-243	Alphaspec Am241, Cm, Solid ALL	92	(15%-125%)	
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	93	(15%-125%)	

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Certificate of Analysis

Address :	362 Injun Hollow Rd		
Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: November 2, 2006
Project:	Soils PO# 002332		
	Client Sample ID:	9522-01-005C	Project: YANK01204

174936001

Client ID:

YANK001

		,	Vol. Recv.:		
Parameter	Qualifier Result Uncertainty	LC TPU	MDA Units	DF Analyst Date	Time Batch Mte
Plutonium-241	Liquid Scint Pu241, Solid-ALL FS	88	(25%-125%)		
Strontium-90	GFPC, Sr90, solid-ALL FSS	76	(25%-125%)		
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	76	(25%-125%)		
Iron-55	Liquid Scint Fe55, Solid-ALL FS	83	(15%-125%)		
Nickel-63	Liquid Scint Ni63, Solid-ALL FS	88	(25%-125%)		
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	88	(25%-125%)		
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	50	(15%-125%)		
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	50	(15%-125%)		

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low

Company : Connecticut Yankee Atomic Power

Sample ID:

- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy---Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun H		tomic Power						1			
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 0	Carthy	ticut 06424				R	eport Date: No	ovember	2, 2006		
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	te: ate:		9522–0 1749360 TS 18–OC 26–OC Client 18%	002 Г—06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001				
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time Bate	h Mı	- .(
Rad Alpha	Spec Analysi	s										-	-
Alphaspec	: Am241, Cm,	Solid ALL FS	S										
Americiu		U	0.0547	+/-0.122	0.0789	+/-0.123	0.237	pCi/g	MXA 1	10/30/0	6 1058 5833	311	1
Curium-2		U	0.0395	+/-0.0893		+/-0.0894	0.180	pCi/g	~				
Curium-2	243/244	· U	-0.0258	+/-0.0943	0.0912	+/-0.0944	0.262	pCi/g					
• •	: Pu, Solid–Ai	LL FSS								,			
Plutoniun		U	-0.0671	+/-0.0439		+/-0.0444	0.252	pCi/g	MXA I	10/30/0	6 1058 5833	312	2
Plutoniun	n-239/240	` U	0.0733	+/-0.145	0.0925	+/-0.145	0.269	pCi/g					
	nt Pu241, Sol	id–ALL FSS											
Plutoniun	n-241	U	4.10	+/-7.32	5.96	+/-7.33	12.5	pCi/g	MXA	11/02/0	6 0840 5833	313	3
Rad Gamm	a Spec Analy	sis							I				
	olid–FSS GAI		226 Ingro	wth .									
Actinium	-228		4.39	+/-0.204	0.0457	+/-0.204	0.0959	pCi/g	MJH1	10/31/0	6 0925 5833	389	5
Americiu		U	-0.147	+/-0.0988	0.0841	+/-0.0988	0.170	pCi/g					
Bismuth-	-212		2.99	+/-0.322	0.128	+/-0.322	0.264	pCi/g					
Bismuth-			1.41	+/-0.0972		+/-0.0972	0.0611	pCi/g					
Cesium-		UI	0.00	+/-0.0358		+/-0.0358	0.0564	pCi/g					
Cesium-			2.55	+/-0.0752		+/-0.0752	0.0386	pCi/g					
- Cobalt-6		U	0.0262	+/-0.0175		+/-0.0175	0.0351	pCi/g					
Europium		U	-0.03	+/-0.059	0.0503	+/-0.059	0.103	pCi/g					
Europium		U	0.0248	+/-0.0468		+/-0.0468	0.0893	pCi/g					
Europium		UI	0.00	+/0.0881		+/-0.0881	0.114	pCi/g					
Lead-212			4.38	+/-0.0865		+/-0.0865	0.0585	pCi/g					
Lead-214		тп	1.56 0.00	+/-0.100 +/-0.0272	0.0346	+/-0.100 +/-0.0272	0.0707 0.0331	pCi/g pCi/g					
Mangane Niobium-		UI U	0.00	+/-0.0272 +/-0.0182		+/-0.0272 +/-0.0182	0.0335	pCi/g pCi/g					
Potassiun		U	2.51	+/-0.375	0.0102		0.0355	pCi/g pCi/g					
Radium-			1.41	+/-0.0972		+/-0.0972	0.0611	pCi/g					
Silver-10		U	-0.00514	+/-0.0191		+/-0.0191	0.0353	pCi/g					
Thallium		-	1.40	+/-0.0595		+/-0.0595	0.0359	pCi/g					
Rad Gas Fl	ow Proportia	nal Counting						1 0					
	• 90, solid–ALI	-											
Strontium			0.0327	+/-0.00864	0.00613	+/-0.00866	0.0128	pCi/g	KSDI	11/01/0	6 2100 5832	243	e
	Scintillation	Analysis						F = - 8					
•		•											

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Certificate of Analysis

	Address :	362 Injun H								
, (Contact:	East Hampto Mr. Jack Mo		ticut 06424				Re	port Date: Noven	nber 2, 2006
]	Project:	Soils PO# 0	02332							
		Client Sam Sample ID	ple ID:		9522-01 1749360				YANK01204 YANK001	
Parameter	1	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst D	ate Time Batch Mi
Rad Liquid S	cintillation	Analysis				v # **				
	n Dist, Solia	I-HTD2,ALL	FSS							
Tritium		U	3.14	+/-7.71	6.23	+/-7.71	13.5	pCi/g	DFA1 10	/28/06 0706 583234
Liquid Scint			0.0054		0.0044		0.104	0.1		
Carbon-14		U	0.0254	+/-0.113	0.0944	+/-0.113	0.194	pCi/g	AXD2 10	/27/06 2158 583236
Liquid Scint	Fe55, Solid	-ALL FSS U	8.48	+/-18.0	11.8	+/-18.0	24.9	pCi/g	MXP1 11	/01/06 1825 583239
Liquid Scint	Ni63, Solid	-ALL FSS						1 0		
Nickel-63		U	2.80	+/-7.02	5.78	+/-7.02	12.1	pCi/g	MXP1 11.	/01/06 1558 583241 1
Liquid Scint		-ALL FSS								
Technetium	n-99	4	0.321	+/-0.163	0.126	+/-0.163	0.262	pCi/g	KXR1 10	/31/06 2246 583233 1
		`								
Th. 6-11	D M	0 J.	с ,		*					
Method		thods were period	ertormed			Analyst	Date	Time	Prep Batch	
		•		21		WXL1	10/26/0	· · · · · · · · · · · · · · · · · · ·	583196	
Dry Soil Prep	Dry S	oil Prep GL-	KAD-A-0	21		WALI	10/26/0	06 1442	585190	
The followin			ere perfor	med						
Method	Descr	iption			1					
1	DOE	EML HASL-	300, Am-0	5-RC Modified	l					
2	DOE	EML HASL-	300, Pu-1	I-RC Modified		•				
3	DOE	EML HASL-	300, Pu-1	-RC Modified						
4	DOE	EML HASL-	300, Pu-1	I-RC Modified						
5		HASL 300, 4.								
6		905.0 Modifie								
7	EPA 9	906.0 Modifie	d							

9 DOE RESL Fe-1, Modified

8

10 DOE RESL Ni-1, Modified

11DOE EML HASL-300, Tc-02-RC Modified12DOE EML HASL-300, Tc-02-RC Modified

EPA EERF C-01 Modified

Company : Connecticut Yankee Atomic Power

13 DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium-243	Alphaspec Am241, Cm, Solid ALL	93	(15%-125%)	
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	91	(15%-125%)	

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Certificate of Analysis

Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		
Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: November 2, 2006
Project:	Soils PO# 002332		
	Client Sample ID: Sample ID:	9522-01-007C 174936002	Project: YANK01204 Client ID: YANK001 Vol. Recv.:

Parameter	Qualifier Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtc
Plutonium-241	Liquid Scint P	u241, Solid-ALL FS		94	(2	25%-125%)		
Strontium-90	GFPC, Sr90, s	olid-ALL FSS		100	(2	25%-125%)		
Carrier/Tracer Recovery	GFPC, Sr90, s	olid-ALL FSS		100	(2	25%-125%)		
Iron-55	Liquid Scint F	e55, Solid-ALL FS		86	(1	5%-125%)		
Nickel-63	Liquid Scint N	i63, Solid-ALL FS		90	(2	25%-125%)		
Carrier/Tracer Recovery	Liquid Scint N	i63, Solid-ALL FS		90	(2	25%-125%)		
Technetium-99	Liquid Scint T	c99, Solid-ALL FS		113	(1	5%-125%)		
Carrier/Tracer Recovery	Liquid Scint T	c99, Solid-ALL FS		113	(1	5%-125%)		

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC 2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

	Address :	362 Injun H		tomic Power						
	Contact:	East Hampto Mr. Jack Mc		ticut 06424				Re	eport Date: November	2, 2006
	Project:	Soils PO# 0	-							
·		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:): ite:		9520-00 1749360 TS 19-OCT 26-OCT Client 15.4%	Г—06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch M
	Spec Analy			— .						
Gamma,So Waived	lid–FSS GAI	M & ALL FSS	226 Ingro	wth					,	
Actinium-	-728		0.747	+/-0.134	0.0498	+/-0.134	0.105	pCi/g	MIH1 10/31/0	06 0927 583389
Americiun		U	0.0504	+/-0.105	0.0823	+/-0.105	0.169	pCi/g	1111111 10.01.	10 0921 000000
Bismuth-2		-	0.654	+/-0.242	0.105	+/-0.242	0.221	pCi/g		•
Bismuth-2			0.970	+/-0.0713		+/-0.0713	0.0544	pCi/g		
Cesium-1		U	0.0184	+/-0.0256		+/-0.0256	0.0372	pCi/g		
Cesium-1		-	0.125	+/-0.0228		+/-0.0228	0.0273	pCi/g		
Cobalt-60		U	-0.00778	+/-0.0166		+/-0.0166	0.0286	pCi/g		
Europium		Ŭ	0.00444	+/-0.044	0.0366	+/-0.044	0.076	pCi/g		
Europium		Ū	-0.0216	+/-0.0534		+/-0.0534	0.0927	pCi/g		
Europium		Ū	0.0674	+/-0.0698		+/-0.0698	0.0852	pCi/g		
Lead-212			0.838	+/-0.0517		+/-0.0517	0.045	pCi/g		
Lead-214			1.12	+/-0.0838	0.0267	+/-0.0838	0.0553	pCi/g		
Manganes	e-54	U	0.0154	+/-0.0174	0.0152	+/0.0174	0.032	pCi/g		
Niobium-		U	-0.00323	+/-0.015	0.0124	+/-0.015	0.026	pCi/g		
Potassium	-40		12.1	+/-0.758	0.140	+/-0.758	0.303	pCi/g		
Radium-2	226		0.970	+/-0.0713	0.026	+/-0.0713	0.0544	pCi/g		
Silver-108		U	-0.00181	+/-0.0144	0.0125	+/-0.0144	0.0261	pCi/g		
. Thallium–	-208		0.238	+/-0.0369	0.013	+/-0.0369	0.0273	pCi/g		
<u> </u>	<u> </u>	hods were pe	erformed							
Method		iption				Analyst	Date	Time		
Dry Soil Prep	p Dry S	oil Prep GL-I	RAD-A-0	21		WXL1	10/26/0	6 1443	3 583196	
The followi Method	ng Analytica Descr	l Methods we	ere perfor	ned	<u>`</u>					<u> </u>
		HASL 300, 4.	<u> </u>							
			4 11 12							

The Qualifiers in this report are defined as follows :

Company : Connecticut Yankee Atomic Power

A quality control analyte recovery is outside of specified acceptance criteria *

< Result is less than value reported

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Parameter	Qualifier Result Uncertaint	y LC TPU	MDA Units DF Analyst Date Time Batch Mte
	Client Sample ID: Sample ID:	9520-0004-016F 174936003	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Project:	Soils PO# 002332		
Contact	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: November 2, 2006
Compar Address			

Result is greater than value reported >

The TIC is a suspected aldol-condensation product А

Target analyte was detected in the associated blank В

BD Results are either below the MDC or tracer recovery is low

С Analyte has been confirmed by GC/MS analysis

Results are reported from a diluted aliquot of the sample D

Η Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

Sample results are rejected R

Analyte was analyzed for, but not detected above the MDL, MDA, or LOD. U

UI Gamma Spectroscopy—Uncertain identification
 X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^' RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

Preparation or preservation holding time was exceeded h

The above sample is reported on a dry weight basis.

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Certificate of Analysis

	Fast Hampto								
ject:	Mr. Jack Mc Soils PO# 00	Carthy	ticut 06424				Rep	port Date: November	2,2006
	Matrix: Collect Dat	: te:		1749360 TS 19-OCT	Г-06	Cl	ient ID: y	YANK01204 YANK001	
	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch M
ec Analys	sis)			
FSS GAM	1 & ALL FSS	226 Ingro	wth						
4 2 4 5	U U U U U U U U U	0.492 -0.0222 0.424 0.778 0.00206 0.168 -0.0183 -0.00147 -0.0213 0.00598 0.616 0.926 0.0215 0.00767 9.31 0.778	+/-0.157 +/-0.0995 +/-0.289 +/-0.115 +/-0.0338 +/-0.0358 +/-0.024 +/-0.0645 +/-0.0645 +/-0.0645 +/-0.0913 +/-0.0229 +/-0.0209 +/-0.0209 +/-0.115 +/-0.0211 +/-0.0438	0.143 0.0326 0.0207 0.0171 0.0187 0.0498 0.0528 0.0479 0.0293 0.0374 0.0202 0.0179 0.166 0.0326 0.0168	+/-0.289 +/-0.115 +/-0.0338 +/-0.0358 +/-0.024 +/-0.061 +/-0.0645 +/-0.0551 +/-0.0645 +/-0.0913 +/-0.0229 +/-0.0209 +/-0.0209 +/-0.115 +/-0.0211	0.140 0.149 0.303 0.0688 0.0438 0.0363 0.0408 0.103 0.115 0.0986 0.0603 0.0776 0.0426 0.0376 0.366 0.366 0.0688 0.0352 0.0402	pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g	MJH1 10/31/	06 0927 583389
ren Metl	hads were ne	erformed							
					Analyst	Date	Time	Prep Batch	
	- (RAD-A-0	21		WXLI	10/26/06	1444	583196	
nalytical	Methods we	ere nerfor	med			1			
		, perior						- <u> </u>	
EML F	HASL 300, 4.	5.2.3							
	FSS GAN	Sample ID Matrix: Collect Da Receive Da Collector: Moisture: Qualifier ec Analysis FSS GAM & ALL FSS U U U U U U U U U U U U U U U U U U	Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture: Qualifier Result Prep Methods were performed Description Matrix: Collector: Noisture: Qualifier Result Result 0.492 0.424 0.778 U -0.0222 0.424 0.778 U -0.0222 0.424 0.778 U -0.0222 0.424 0.778 U -0.0226 0.424 0.778 U -0.0213 U -0.0147 U -0.0213 U -0.00183 0.426 0.616 0.926 U 0.0215 U 0.00767 9.31 0.778 U -0.00183 0.222	Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture: Qualifier Result Uncertainty Ex Analysis FSS GAM & ALL FSS 226 Ingrowth U = -0.0222 + -0.0995 0.424 + -0.289 0.778 + -0.115 U = 0.00206 + -0.0338 0.168 + -0.0358 U = -0.0183 + -0.024 U = 0.00147 + -0.0615 U = 0.00147 + -0.0615 U = 0.00147 + -0.0645 U = 0.00147 + -0.0645 0.926 + -0.0913 U = 0.0213 + -0.0249 U = 0.00767 + -0.0229 U = 0.00767 + -0.0211 0.222 + -0.0438 Trep Methods were performed Description	Sample ID: 1749360 Matrix: TS Collect Date: 19-OC1 Receive Date: 26-OC1 Collector: Client Moisture: 18.7% Qualifier Result Uncertainty LC Example 1D: 18.7% Qualifier Result Uncertainty LC See Analysis 0.492 +/-0.157 0.0658 FSS GAM & ALL FSS 226 Ingrowth 0.424 +/-0.289 0.143 0.778 +/-0.115 0.0326 U 0.00206 +/-0.0338 0.0207 0.168 +/-0.051 0.0479 0.168 +/-0.051 0.0478 U -0.0147 +/-0.0645 0.0293 0.926 +/-0.0913 0.0374 U 0.00598 +/-0.0645 0.0293 0.926 +/-0.0229 0.0202 U 0.00767 +/-0.0209 0.179 9.31 +/-0.0211 0.0168 0.222 +/-0.0438 0.0192 0.222 +/-0.0438 0.0192 U 0.00767 +/-0.0211 0.0168	Sample ID: 174936004 Matrix: TS Collect Date: 19 $-$ OCT -06 Receive Date: 26 $-$ OCT -06 Collector: Client Moisture: 18.7% LC TPU re Analysis FSS GAM & ALL FSS 226 Ingrowth 41 U -0.0222 +/-0.157 0.0658 +/-0.157 41 U -0.0222 +/-0.0995 0.0726 +/-0.289 0.778 +/-0.115 0.0326 +/-0.115 0 0.0206 +/-0.0338 0.0207 +/-0.0338 0.168 +/-0.038 0.0171 +/-0.034 U -0.0183 +/-0.024 0.0187 +/-0.0645 U -0.0147 +/-0.0645 0.0293 +/-0.0645 U 0.00598 +/-0.0551 0.0479 +/-0.0213 U 0.00767 +/-0.0229 0.0202 +/-0.0229 U 0.00767 +/-0.0211 0.0168 +/-0.0213 U 0.00767 +/-0.0211 0.0168 +/-0.0213 U 0.00767 +/-0.0219 0.0374 +/-0.0219<	Sample ID: 174936004 Cl Matrix: Cl Matrix: Collect Date: 19–0CT–06 Receive Date: 26–0CT–06 Collector: Client Moisture: 18.7% Qualifier Result Uncertainty LC TPU MDA ex Analysis J J J J J FSS GAM & ALL FSS 226 Ingrowth $0.492 + t/-0.157$ $0.0658 + t/-0.157$ 0.140 H1 U $-0.0222 + t/-0.0995$ $0.0726 + t/-0.0995$ 0.149 $0.424 + t/-0.289$ $0.143 + t/-0.289$ 0.303 $0.778 + t/-0.015$ $0.0358 + 0.0363$ U $0.00206 + t/-0.038 + 0.0217 + t/-0.0358 + 0.0363$ $0.0376 + t/-0.0358 + 0.0663$ $0.0163 + t/-0.024 + 0.0488 + t/-0.061 + 0.0498 + t/-0.0551 + 0.0479 + t/-0.0551 + 0.0986 + 0.0603 + 0.926 + t/-0.0913 + 0.0374 + t/-0.0913 + 0.0776 + 0.0229 + 0.0426 + 0.0229 + 0.0426 + 0.0229 + 0.0426 + 0.0229 + 0.0426 + 0.0229 + 0.0426 + 0.0229 + 0.0426 + 0.0229 + 0.0438 + 0.0402 + 0.0178 + t/-0.0115 + 0.0688 + 0.0211 + 0.0352 + 0.0166 + t/-0.090 + 0.366 + 0.0778 + t/-0.0153 + t/-0.0211 + 0.0352 + t/-0.0438 + 0.0402 + 0.0211 + 0.0352 + t/-0.0438 + 0.0402 + 0.0211 + 0.0352 + t/-0.0438 + 0.0402 + 0.0438 + 0.0402 + 0.0438 + 0.0402 + 0.0438 + 0.0402 + 0.0438 + 0.0402 + 0.0438 + 0.0402 + 0.0438 + 0.0402$	Sample ID: Matrix: 174936004 TS Chent ID: Vol. Recv.: Chent ID: Vol. Recv.: Collect Date: 19-OCT-06 Vol. Recv.: Receive Date: 26-OCT-06 Vol. Recv.: Collector: Client Noisture: 18.7% Qualifier Result Uncertainty LC TPU MDA Units FSS GAM & ALL FSS 226 Ingrowth 0.492 +/-0.157 0.0658 +/-0.157 0.140 pCi/g 0.424 +/-0.289 0.134 +/-0.289 0.303 pCi/g 0.778 +/-0.115 0.0326 +/-0.138 0.0438 pCi/g 0.168 +/-0.0338 0.0207 +/-0.0338 0.0438 pCi/g 0.168 +/-0.051 0.0498 +/-0.061 0.103 pCi/g 0.0171 +/-0.0645 0.0293 +/-0.0645 0.163 pCi/g 0.0006 +/-0.0645 0.0293 +/-0.0645 0.164 pCi/g 0.0183 +/-0.021 0.0374 +/-0.0219 0.0376 pCi/g	Sample ID: 174936004 Chent ID: YANK001 Matrix: TS Vol. Recv.: Vol. Recv.: Vol. Recv.: Collect Date: 26-OCT-06 Collector: Client Noisture: 18.7% Qualifier Result Uncertainty LC TPU MDA Units DF Analyst Date re Analysis ////////////////////////////////////

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

< Result is less than value reported

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mt
		Client Sample ID: Sample ID:	9520-0004-017F 174936004	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: November 2, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Certificate of Analysis

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	Company : Address :	Connecticut 362 Injun He		tomic Power							a.		
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	Carthy	eticut 06424				R	eport Date: No	vember	2, 2006		
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	e: .te:		9504-0 1749360 TS 10-OC 26-OC Client 43.4%	005 Г—06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001				Rummer-
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time	Batch N	Mtc
Rad Alpha Sp	ec Analysis	5											
Alphaspec A	m241, Cm,	Solid ALL FS	S										
Americium-	-241	U	0.0682	+/-0.103	0.0315	+/-0.103	0.158	pCi/g	MXA l	10/30/0	6 1058 :	583311	1
Curium–242		U	-0.046	+/-0.0403		+/-0.0408	0.258	pCi/g					
Curium-24		U	-0.10	+/-0.0956	0.126	+/-0.0966	0.348	pCi/g					
Alphaspec Pi Plutonium–		LL FSS U	0.0235	+/-0.087	0.0589	+/-0.087	0.197	pCi/g	MXA	10/30/0	6 1058 :	583312	2
D1	220/240		0.000						1				
Plutonium-		U	0.0235	+/-0.0869	0.0588	+/-0.087	0.197	pCi/g					
Liquid Scint			^ъ					0.1					•
Plutonium-	241	U	0.00	+/-6.56	5.51	+/-6.56	11.6	pCi/g	MXA 1	11/02/0	6 0856 :	583313	3
Rad Gamma S	Spec Analy	sis							1				
		A & ALL FSS	226 Ingro	wth		-							
Waived			220										
Actinium-2	28		0.635	+/-0.167	0.0577	+/-0.167	0.129	pCi/g	MJHI	10/31/0	6 0928 3	583389	5
Americium-	-241	U	0.0432	+/-0.109	0.0836	+/-0.109	0.174	pCi/g					
Bismuth-21	2		0.532	+/-0.302	0.151	+/-0.302	0.329	pCi/g					
Bismuth-21	4		0.566	+/-0.113	0.0405	+/-0.113	0.0866	pCi/g					
Cesium-134	4	UI	0.00	+/0.0454	0.0264	+/-0.0454	0.0566	pCi/g					
Cesium-13	7		0.402	+/-0.057	0.0194	+/-0.057	0.042	pCi/g					
Cobalt-60		Ū	0.00339	+/-0.0231		+/-0.0231	0.0448	pCi/g					
Europium-1		U	0.00635	+/-0.0624		+/-0.0624	0.109	pCi/g					
Europium-1			-0.00961	+/0.0889		+/-0.0889	0.141	pCi/g					
Europium-1	155	U	0.0463	+/-0.0667		+/-0.0667	0.125	pCi/g					
Lead-212	•		0.655	+/-0.0666		+/-0.0666	0.0584	pCi/g					
Lead-214	~ .		0.611	+/-0.108	0.038	+/-0.108	0.0804	pCi/g					
Manganese-		UI	0.00	+/-0.0682		+/-0.0682	0.0405	pCi/g					
Niobium-94		U	-0.0145	+/-0.0248		+/-0.0248	0.0421	pCi/g					
Potassium-			10.0	+/-1.01	0.181	+/-1.01	0.414	pCi/g					
Radium-22			0.566	+/-0.113	0.0405	+/-0.113	0.0866	pCi/g					
Silver-108n Thallium-2		U	-0.0205 0.223	+/-0.0201 +/-0.0488		+/-0.0201 +/-0.0488	0.0342 0.0392	pCi/g					
Rad Gas Flow		nal Counting		17 0.0400	0.0101	1/ 0.0400	0.0392	· pCi/g					
	-	-	5										
GFPC, Sr90, Strontium-9		. 133	0.0242		0.00500	1/ 0.0000	0.0107		VOD 1	11/01/0	C 3100	502242	~
		A malausta	0.0342	+/0.00877	0.00599	+/-0.0088	0.0126	pCi/g	KSDI	11/01/0	6 2 1 0 0 3	583243	6
Rad Liquid So	mination	Analysis											

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Certificate of Analysis

Address :	362 Injun Hollow Rd			
Cantanti	East Hampton, Connecticut 06424		l	Report Date: November 2, 2006
Contact:	Mr. Jack McCarthy			
Project:	Soils PO# 002332			
	Client Sample ID: Sample ID:	9504–0–010C 174936005	Project: Client ID:	YANK01204 YANK001

Company : Connecticut Yankee Atomic Power

	Sample ID	•		1749300	103		Vol. Recv.:	IANKUUI	
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mte
Rad Liquid Scintillation	on Analysis							·	· · · · · ·
LSC, Tritium Dist, So	lid–HTD2,ALL	FSS							
Tritium	U	-0.632	+/-6.79	5.72	+/-6.79	11.9	pCi/g	DFA1 11/01/0	6 0800 583234 8
Liquid Scint C14, Sol	id All,FSS								
Carbon-14	U	0.0868	+/-0.115	0.0942	+/-0.115	0.193	≥ pCi/g	AXD2 10/27/0	6 2245 583236 9
Liquid Scint Fe55, So	lid–ALL FSS					•			
Iron-55	U	2.22	+/-18.6	12.4	+/-18.6	26.3	pCi/g	MXP1 11/01/0	6 1842 583239 11
Liquid Scint Ni63, So	lid–ALL FSS								
Nickel-63	U	-4.66	+/-6.33	5.51	+/-6.33	11.5	pCi/g	MXP1 11/01/0	6 1619 583241 1
Liquid Scint Tc99, So	lid–ALL FSS								
Technetium-99	U	0.475	+/-0.296	0.236	+/-0.296	0.486	pCi/g	KXR1 10/31/0	6 0310 583233 1.

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	WXLI	10/26/06	1444	583196

The following Analytical Methods were performed Method Description

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, Pu-11-RC Modified
5	EML HASL 300, 4.5.2.3
6	EPA 905.0 Modified
7	EPA 905.0 Modified
8	EPA 906.0 Modified
9	EPA EERF C-01 Modified
10	DOE RESL Fe-1, Modified
11	DOE RESL Ni-1, Modified
12	DOE EML HASL-300, Tc-02-RC Modified
13	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium-243	Alphaspec Am241, Cm, Solid ALL	85	(15%-125%)	
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	95	(15%-125%)	

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Certificate of Analysis

Address :	362 Injun Hollow Rd			
Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy			Report Date: November 2, 2006
Project:	Soils PO# 002332			
	Client Sample ID:	9504-0-010C	Project:	YANK01204

174936005

Client ID:

YANK001

	Sample 1D.	17495000	,5	Vol. Recv.:				
Parameter	Qualifier Result Unc	certainty LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mte	
Plutonium-241	Liquid Scint Pu241, S	Solid-ALL FS	102	(2	25%-125%)			
Strontium-90	GFPC, Sr90, solid-A	84	(2	25%-125%)				
Carrier/Tracer Recovery	GFPC, Sr90, solid-A	ALL FSS	84	(2	25%-125%)			
Iron-55	Liquid Scint Fe55, Sc	olid-ALL FS	82	(15%-125%)				
Nickel-63	Liquid Scint Ni63, Sc	olid-ALL FS	93	(2	25%-125%)			
Carrier/Tracer Recovery	Liquid Scint Ni63, Sc	olid-ALL FS	93	(2	25%-125%)			
Technetium-99	Liquid Scint Tc99, So	olid-ALL FS	78	78 (15%-125%)				
Carrier/Tracer Recovery	Liquid Scint Tc99, So	olid-ALL FS	78	(1	15%-125%)			
-								

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low

Company: Connecticut Yankee Atomic Power

Sample ID:

- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company Address :	: Connecticut 362 Injun H		tomic Power								
Contact:	East Hampto Mr. Jack Mo	cCarthy	ticut 06424				R	eport Date: No	vember 2	, 2006	
Project:	Soils PO# 0	02332					1				
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:): ate:		9504–0- 1749360 TS 10–OC 26–OC Client 48.5%	006 T-06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	·		
Parameter	Qualifier	Result	Uncertainty	LC	TPU .	MDA	Units	DF Analys	st Date	Time Batch	1 Mte
Rad Alpha Spec Analy	sis										
Alphaspec Am241, Cn	ı, Solid ALL FS	S									
Americium-241			+/-0.0621	0.0513	+/-0.0621	0.180	pCi/g	MXA 1	10/30/06	5 1058 58331	11
Curium-242	U	0.0786	+/0.108	0.0396	+/-0.108	0.164	pCi/g				
Curium-243/244	· U	-0.109	+/-0.0823	0.115	+/-0.0836	0.307	pCi/g				
Alphaspec Pu, Solid–	ALL FSS										
Plutonium-238	U	-0.00331	+/-0.105	0.0892	+/-0.105	0.253	pCi/g	MXA I	10/30/06	5 1058 58331	12 2
Plutonium-239/240	U	0.120	+/-0.149	0.082	+/-0.150	0.239	pCi/g				
Liquid Scint Pu241, Se	olid–ALL FSS										
Plutonium-241	U	0.741	+/-6.61	5.58	+/-6.61	11.7	pCi/g	MXA 1	11/02/06	5 0913 58331	13 3
Rad Gamma Spec Ana	lysis						,	-			
Gamma,Solid–FSS G.	-	S 226 Ingro	wth								
Waived											
Actinium-228		0.506	+/-0.193	0.0706	+/-0.193	. 0.151	pCi/g	MJH1	10/31/06	5 0929 58338	39 5
Americium-241	U	-0.00807	+/-0.113	0.0819	+/-0.113	0.169	pCi/g				
Bismuth-212		0.519	+/-0.319	0.151	+/-0.319	0.322	pCi/g				
Bismuth-214		0.717	+/-0.116	0.0427	+/-0.116	0.0896	pCi/g				
Cesium-134	U	0.00314	+/-0.029	0.0232	+/-0.029	0.0493	pCi/g				
Cesium-137		0.684	+/-0.076	0.0208	+/-0.076	0.044	pCi/g				
Cobalt-60	U-	-0.000581	+/-0.0261	0.0212	+/-0.0261	0.0462	pCi/g		•		
Europium-152	U	-0.0282	+/-0.0661	0.0534	+/-0.0661	0.111	pCi/g				
Europium-154	U	0.0313	+/-0.076	0.0646	+/-0.076	0.140	pCi/g				
Europium-155	U	0.0397	+/-0.0774	0.0508	+/-0.0774	0.105	pCi/g				
Lead-212		0.596	+/-0.0656		+/-0.0656	0.0753	pÇi/g				
Lead-214		0.676	+/-0.107	0.0383	+/-0.107	0.0799	pCi/g				
Manganese-54	U	0.0203	+/-0.0251		+/-0.0251	0.047	pCi/g				
Niobium-94	U	-0.00724	+/-0.0293		+/-0.0293	0.042	pCi/g				
Potassium-40		5.95	+/-0.804	0.187		0.412	pCi/g				
Radium-226		0.717	+/-0.116	0.0427		0.0896	pCi/g				
Silver-108m	U		+/-0.0405		+/-0.0405	0.0383	pCi/g				
Thallium-208		0.180	+/-0.0485	0.0208	+/-0.0485	0.0439	pCi/g				
Rad Gas Flow Proport		3									
GFPC, Sr90, solid-A	LL FSS										
Strontium-90		0.178	+/-0.0136	0.00626	+/-0.0145	0.0131	pCi/g	KSDI	11/01/06	5 2100 58324	43 E
Rad Liquid Scintillatio	on Analysis		. ,								

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Certificate of Analysis

Company :Connecticut Yankee Atomic PowerAddress :362 Injun Hollow Rd

East Hampton, Connecticut 06424 Contact: Mr. Jack McCarthy Project: Soils PO# 002332 Report Date: November 2, 2006

	Client Sam Sample ID	nple ID:		9504–0- 1749360			Project: Client ID: Vol. Recv.:	YANK01204 YANK001
Parameter	Qualifier	Result	Uncertainty	LC	TPU	, MDA	Units	DF Analyst Date Time Batch M
Rad Liquid Scintillati	on Analysis							
LSC, Tritium Dist, Sc	olid-HTD2,ALL	FSS						
Tritium	U	-1.43	+/-6.02	5.17	+/-6.02	11.2	pCi/g	DFA1 10/28/06 0738 583234
Liquid Scint C14, Sol	lid All,FSS							
Carbon-14	U	0.190	+/-0.121	0.0969	+/-0.121	0.199	pCi/g	AXD2 10/27/06 2332 583236
Liquid Scint Fe55, Sc	olid–ALL FSS							
lron-55	U	4.58	+/-18.8	12.4	+/-18.8	26.2	pCi/g	MXP1 11/01/06 1858 583239
Liquid Scint Ni63, So	olid-ALL FSS							
Nickel-63	U	-3.51	+/-7.96	6.83	+/-7.96	14.3	pCi/g	MXP1 11/01/06 1641 583241
Liquid Scint Tc99, Sc	olidALL FSS							
Technetium-99	Х	1.20	+/-0.319	0.237	+/-0.320	0.489	pCi/g	KXR1 10/31/06 0327 583233

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	WXLI	10/26/06	1445	583196

The following Analytical Methods were performed Method Description

Method	Description		
Ī	DOE EML HASL-300, Am-05-RC Modified		
2	DOE EML HASL-300, Pu-11-RC Modified		
3	DOE EML HASL-300, Pu-11-RC Modified		
4	DOE EML HASL-300, Pu-11-RC Modified		
5	EML HASL 300, 4.5.2.3		
6	EPA 905.0 Modified		
7 .	EPA 905.0 Modified		
8.	EPA 906.0 Modified		
9	EPA EERF C-01 Modified		
10	DOE RESL Fe-1, Modified		
11	DOE RESL Ni-1, Modified		
12	DOE EML HASL-300, Tc-02-RC Modified		
13	DOE EML HASL-300, Tc-02-RC Modified		
14	DOE EML HASL-300, Tc-02-RC Modified		
Surrogate/Trac	eer recovery Test Re	covery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	98	(15%-125%)

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power 362 Injun Hollow Rd Address : East Hampton, Connecticut 06424 Report Date: November 2, 2006 Contact: Mr. Jack McCarthy Project: Soils PO# 002332

				04–0–013C 4936006		Project: Client ID: Vol. Recv.:	YANK01204 YANK001		
Parameter	Qualifier Re	sult Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt	
Plutonium-242	Alphaspec	Pu, Solid-ALL FSS		99		(15%-125%)			
Plutonium-241	Liquid Scint Pu241, Solid-ALL FS			101		(25%-125%)			
Strontium-90	GFPC, Sr	90, solid–ALL FSS		95		(25%-125%)			
Carrier/Tracer Recovery	GFPC, Sr	90, solid–ALL FSS		95		(25%-125%)			
Iron-55	Liquid Sci	nt Fe55, Solid-ALL FS	5	88		(15%-125%)			
Nickel-63	Liquid Sci	nt Ni63, Solid-ALL FS	5	86		(25%-125%)			
Carrier/Tracer Recovery	Liquid Sci	nt Ni63, Solid-ALL FS	5	86		(25%-125%)			
Technetium-99	Liquid Sci	nt Tc99, Solid-ALL FS	5	79		(15%-125%)			
Carrier/Tracer Recovery	Liquid Sci	nt Tc99, Solid-ALL FS	5	79		(15%-125%)			

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- В Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- С Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- Η Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- Sample results are rejected R
- Analyte was analyzed for, but not detected above the MDL, MDA, or LOD. U
- UI Gamma Spectroscopy--Uncertain identification
- Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier Х
- Y QC Samples were not spiked with this compound
- \wedge RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- Preparation or preservation holding time was exceeded h

The above sample is reported on a dry weight basis.

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun H		tomic Power						•
	Contact:	East Hampto Mr. Jack Mc	Carthy	ticut 06424				Rep	oort Date: Novembe	er 2, 2006
Р	roject:	Soils PO# 0	02332							
	÷.	Client Sam Sample ID Matrix: Collect Da Receive D Collector: Moisture:	te:		9520-00 1749360 TS 23-OC 26-OC Client 8.59%	Г06	((ANK01204 (ANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mte
Rad Gamma S	Spec Analy	/sis								
	-	M & ALL FSS	226 Inoro	wth						
Waived			220 mg	,					•	
Actinium-2	28		0.956	+/-0.140	0.0577	+/-0.140	0.125	pCi/g	MJH1 10/31	/06 0930 583389 1
Americium-	-241	U	-0.0344	+/-0.0932	0.0853	+/-0.0932	0.176	pCi/g		
Bismuth-21	2		0.469	+/-0.323	0.150	+/-0.323	0.320	pCi/g		
Bismuth-21	4		0.547	+/-0.0937	0.0337	+/-0.0937	0.0717	pCi/g		
Cesium-134	4	UI	0.00	+/-0.0287	0.0245	+/-0.0287	0.0518	pCi/g		
Cesium-132	7		0.128	+/-0.041	0.0183	+/-0.041	0.0391	pCi/g		
Cobalt-60		U	0.0143	+/-0.0233	0.0193	+/-0.0233	0.0426	pCi/g		
Europium-1	152	U	-0.0255	+/-0.0562	0.0466	+/-0.0562	0.0979	pCi/g		
Europium-1	154	U	-0.0349	+/-0.0722	0.0565	+/-0.0722	0.123	pCi/g		
Europium-1	155	Ú	0.0307	+/-0.0645	0.0594	+/-0.0645	0.122	pCi/g		
Lead-212			0.754	+/-0.0632		+/0.0632	0.0601	pCi/g		
Lead-214			0.623	+/-0.085	0.0372	+/-0.085	0.0779	pCi/g		
Manganese-		U	0.0044	+/-0.0225		+/-0.0225	0.0417	pCi/g		
Niobium–94		U	0.00264	+/-0.0188		+/-0.0188	0.0351	pCi/g		
Potassium-			11.2	+/-0.971	0.126	+/-0.971	0.290	pCi/g		
Radium-22			0.547	+/-0.0937		+/-0.0937	0.0717	pCi/g		
Silver-108n		U	0.0078	+/-0.0199		+/-0.0199	0.0363	pCi/g		
Thallium-2	08 .		0.265	+/-0.044	0.0179	+/-0.044	0.038	pCi/g		
	D 14		. .							
The following			erformed				D-4-	T :	Dava Datak	
Method		ription				Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry S	oil Prep GL-	RAD-A-0	21		WXL1	10/26/0	6 1445	583196	
The following			ere perfor	med						
Method		iption				· · · · · · · · · · · · · · · · · · ·				-f
1	EML	HASL 300, 4	.5.2.3							
Notes:										

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

< Result is less than value reported

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Certificate of Analysis

Parameter	Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mte
	Client Sample ID: Sample ID:	9520-0005-019F 174936007	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Contact: Project:	Mr. Jack McCarthy Soils PO# 002332		
Address :	362 Injun Hollow Rd East Hampton, Connecticut 06424		Report Date: November 2, 2006
Company :			

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

UI Gamma Spectroscopy—Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.



Client :

Connecticut Yankee Atomic Power

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QC Summary

Report Date: November 2, 2006 Page 1 of 9

Client :	362 Injun Hollow Rd								Page 1 of 9	
Contact:	East Hampton, Conn Mr. Jack McCarthy	ecticut								
Workorder:	174936									
Parmname		NOM	Sample (Oual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Alpha Spec				-	~~					
Batch	583311									
OC12012173	70 174936001 DUP									
Americium-241		U	0.00136	U	-0.0141	pCi/g	243		(0% - 100%) <i>4</i> XA1	10/30/06 10:58
		Uncert:	+/-0.138		+/-0.0635			,		
		TPU:	+/-0.138		+/-0.0635					
Curium-242		. U	0.0391	U	-0.0144	pCi/g	433		(0% - 100%)	
		Uncert:	+/-0.110		+/-0.020					
		TPU:	+/-0.110		+/-0.020					
Curium-243/244	4	U	-0.0385	U	0.0308	pCi/g	1800		(0% - 100%)	
		Uncert:	+/-0.139		+/-0.104					
		TPU:	+/-0.140		+/-0.104					
QC120121689		2 (0			2.51	-Cile		02	(750/ 1750/)	10/30/06 10:58
Americium-241		2.69			2.51 +/-0.236	pCi/g		93	(75%-125%)	10/30/00 10.38
		Uncert:			+/-0.236					
Curium-242		TPU:		U	-0.00394	pCi/g				
Curtum-242		Uncert:		. 0	+/-0.0135	peng				
		TPU:			+/-0.0135					
Curium-243/244	4	3.24			2.95	pCi/g		91	(75%-125%)	
Curium 2 15/2 1	•	Uncert:			+/-0.256	p0.5		,,	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
		TPU:			+/-0.422					
QC12012168	88 MB									
Americium-241				U	-0.0169	pCi/g				10/30/06 10:58
		Uncert:			+/-0.0283					
		TPU:			+/-0.0284					
Curium-242				U	0.0056	pCi/g				
		Uncert:	•		+/-0.030					
		TPU:			+/-0.030					
Curium-243/244	4			U	0.0146	pCi/g				
		Uncert:		۰.	+/-0.0557					
		TPU:			+/-0.0557					
	90 174936001 MS	127	0.00126		12.4	-Cile		00	(75%-125%)	10/20/06 10.59
Americium-241		13.7 U	0.00136		13.4	pCi/g		98	(7370-12370)	10/30/06 10:58
		Uncert: TPU:	+/-0.138 +/-0.138		+/-1.31 +/-2.08					
Curium-242			0.0391	U	0.0528	pCi/g				
Currum-242		U Uncert:	+/-0.110	0	+/-0.0991	pens				
		TPU:	+/-0.110		+/-0.0993					,
Curium-243/244	4	16.5 U	-0.0385		16.0	pCi/g		97	(75%-125%)	
Outruin 2 15/2 1		Uncert:	+/-0.139		+/-1.43	P0.6	1		(101012010)	
		TPU:	+/-0.140		+/-2.41					
Batch	583312									
	93 174936001 DUP									
Plutonium-238	95 174750001 DUF	U	-0.104	U	-0.0623	pCi/g	50		(0% - 100%) <i>4</i> XA1	10/30/06 10:58

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QC Summary

					Su	mmary					
Workorder: 17	4936									Page 2 of 9	
Parmname			NOM	Sample (Qual	QC	Units R	RPD%	REC%	Range Anlst	Date Time
Rad Alpha Spec											
Batch 5833	512										
			Uncert:	+/-0.112		+/-0.114				1	
			TPU:	+/-0.113		+/-0.114					
Plutonium-239/240			U	-0.137	U	-0.0217	pCi/g	145		(0% - 100%)	
			Uncert:	+/-0.0631		+/-0.108		,			
			TPU:	+/-0.0652		+/-0.108					
QC1201216895	LCS					0.00501	C :1			(750/ 1050/)	10/20/06 10 50
Plutonium-238					U	0.00501	pCi/g			(75%-125%)	10/30/06 10:58
			Uncert:			+/-0.0185					
Plutonium-239/240			TPU: 2.49			+/-0.0186 2.37	nCila		05	(75%-125%)	
Plutonium-239/240			Uncert:			+/-0.239	pCi/g		95	(7370-12370)	
			TPU:			+/-0.334					
QC1201216892	MB		IPU:			17-0.554					
Plutonium-238	MD				U	-0.0011	pCi/g				10/30/06 10:58
			Uncert:		-	+/-0.0122	F 0				
)		TPU:			+/-0.0122					
Plutonium-239/240			110.		U	0.000219	pCi/g				
			Uncert:			+/-0.0119					
			TPU:			+/-0.0119					
QC1201216894	174936001	MS									
Plutonium-238			U	-0.104	U	0.0643	pCi/g			(75%-125%)	10/30/06 10:58
			Uncert:	+/-0.112		+/-0.142					
			TPU:	+/-0.113		+/-0.142					
Plutonium-239/240			12.6 U	-0.137		12.8	pCi/g		102	(75%-125%)	
			Uncert:	+/-0.0631		+/-1.22	÷				
			TPU:	+/-0.0652		+/-1.79					
Batch 5833	\$13										
QC1201216897	174936001	DUP									
Plutonium-241			U	-5.01	U	1.93	pCi/g	0		(0% - 100%) <i>A</i> XA1	11/02/06 09:45
			Uncert:	+/-7.31		+/-8.93					
			TPU:	+/-7.31		+/-8.93					
QC1201216899	LCS		25.0			27 0	011		70	(750/ 1050/)	11/02/07 10 10
Plutonium-241			35.9			27.9	pCi/g		78	(75%-125%)	11/02/06 10:18
-			Uncert:			+/-2.66					
00120121/00/	MD		TPU:			+/-3.77					
QC1201216896 Plutonium-241	MB				U	4.08	pCi/g				11/02/06 09:29
			Uncert:		Ŭ	+/-8.97	P01.6				11,02,00 0,12,
			TPU:			+/-9.01					
QC1201216898	174936001	MS									
Plutonium-241			141 U	-5.01		124	pCi/g		88	(75%-125%)	11/02/06 10:01
			Uncert:	+/-7.31		+/-11.4					
			TPU:	+/-7.31		+/-16.5		-			
Rad Gamma Spec											
Batch 5833											
QC1201217096	174911001	DUP									
Actinium-228				0.325		0.320	pCi/g	2		(0% - 100%) MJH1	10/31/06 10:33
			Uncert:	+/-0.119		+/-0.135					
						+/-0.135					

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QC Summary

		<u>, 20</u>	<u>iiiiiiai y</u>					
							Page 3 of 9	
NOM	Sample	Qual	QC	Units R	PD%	REC%	Range Anlst	Date Time
TPU:	+/-0.119					·		
U	0.018	U	0.0192	pCi/g	6		(0% - 100%)	
Uncert:	+/-0.0921		+/-0.058					
TPU:	+/-0.0921		+/-0.058					
	0.274	UI	0.00	pCi/g	36		(0% - 100%)	
Uncert:	+/-0.157		+/-0.192					
TPU:	+/-0.157		+/-0.192					
	0.423		0.448	pCi/g	6	1	(0% - 100%)	
Uncert:	+/-0.070		+/-0.0781					
TPU:	+/-0.070		+/-0.0781					
UI	0.00	UI	0.00	pCi/g	16	. 1	(0% - 100%)	
Uncert:	+/-0.033		+/-0.0327					
TPU:	+/-0.033		+/-0.0327		÷			
UI	0.00	U	-0.00065	pCi/g	208		(0% - 100%)	
Uncert:	+/-0.0281		+/-0.0206					
TPU:	+/-0.0281		+/-0.0206					
U	-0.013	U	0.00792	pCi/g	827		(0% - 100%)	
Uncert:	+/-0.0169		+/-0.0186					
TPU:	+/-0.0169							
U	0.024	U	0.0167	pCi/g	36		(0% - 100%)	
Uncert:	+/=0.041		+/-0.0509					
TPU:	+/-0.041		+/-0.0509					
U	0.00185	U	-0.0485	· pCi/g	216	•	(0% - 100%)	
Uncert:	+/-0.0495		+/-0.0647					
TPU:	+/-0.0495		+/-0.0647					
· U	0.0651	U	-0.033	pCi/g	612		(0% - 100%)	
Uncert:	+/-0.0432		+/-0.0473					
TPU:	+/-0.0432		+/-0.0473					
	0.285		0.346	pCi/g	19		(0% - 100%)	
Uncert:	+/-0.0477		+/-0.0549					
TPU:	+/-0.0477		+/-0.0549					
	0.402		0.419	pCi/g	4		(0% - 100%)	
Uncert:	+/-0.0695	•						
TPU:	+/-0.0695							
U	0.000309	U	0.014	pCi/g	191		(0% - 100%)	
Uncert:	+/-0.0169		+/-0.0173			-		
TPU:	+/-0.0169							
U	0.00718	U		pCi/g	21		(0% - 100%)	
Uncert:	+/-0.0145		+/-0.0158					
TPU:	+/-0.0145		+/-0.0158					
				pCi/g	8		(0% - 20%)	
Uncert:	+/-0.674							
TPU:	+/-0.674							
	0.423		0.448	pCi/g	6		(0% - 100%)	
Uncert:	+/-0.070		+/-0.0781					
TPU:	+/-0.070		+/-0.0781					
U	0.00582	U	-0.00782	pCi/g	1360		(0% - 100%)	
Uncert:	+/-0.0134		+/-0.0162					
	TPU: Uncert: TPU: Uncert: TPU: Uncert: TPU: UI Uncert: TPU: UI Uncert: TPU: U Uncert: TPU: U Uncert: TPU: U Uncert: TPU: U Uncert: TPU: U Uncert: TPU: U Uncert: TPU: U Uncert: TPU: U Uncert: TPU: U Uncert: TPU: U Uncert: TPU: U Uncert: TPU: U Uncert: TPU: U Uncert: TPU: U U Uncert: TPU: U U Uncert: TPU: U U Uncert: TPU: U U Uncert: TPU: U U Uncert: TPU: U U Uncert: TPU: U U Uncert: TPU: U U U Uncert: TPU: U U U U U U U U U U U U U U U U U U	NOMSampleTPU: $+/-0.119$ U0.018Uncert: $+/-0.0921$ TPU: $+/-0.0921$ 0.274Uncert: $+/-0.157$ TPU: $+/-0.157$ TPU: $+/-0.157$ TPU: $+/-0.070$ Uncert: $+/-0.070$ UI0.00Uncert: $+/-0.033$ TPU: $+/-0.033$ UI0.00Uncert: $+/-0.0281$ U -0.013 Uncert: $+/-0.0281$ U -0.013 Uncert: $+/-0.0469$ U 0.024 Uncert: $+/-0.0495$ U 0.024 Uncert: $+/-0.0495$ U 0.0651 Uncert: $+/-0.0495$ U 0.0651 Uncert: $+/-0.0432$ TPU: $+/-0.0432$ TPU: $+/-0.0477$ TPU: $+/-0.0477$ 0.402Uncert:Uncert: $+/-0.0477$ 0.402Uncert:Uncert: $+/-0.0695$ U 0.00309 Uncert: $+/-0.0695$ U 0.00718 Uncert: $+/-0.0145$ TPU: $+/-0.0145$ TPU: $+/-0.0145$ TPU: $+/-0.070$ U 0.00718 Uncert: $+/-0.674$ TPU: $+/-0.674$ 0.423Uncert:Uncert: $+/-0.070$ TPU: $+/-0.070$ U 0.00582	NOMSample QualTPU: $+/-0.119$ U 0.018 UUncert: $+/-0.0921$ TPU: $+/-0.0921$ 0.274 UIUncert: $+/-0.157$ TPU: $+/-0.157$ 0.423Uncert: $+/-0.070$ TPU: $+/-0.070$ UI 0.00 UIUncert: $+/-0.033$ UI 0.00 UIUncert: $+/-0.033$ UI 0.00 UUncert: $+/-0.0281$ U -0.013 UUncert: $+/-0.0281$ U -0.013 UUncert: $+/-0.0691$ U 0.024 UUncert: $+/-0.0169$ U 0.024 UUncert: $+/-0.0169$ U 0.024 UUncert: $+/-0.041$ U 0.00185 UUncert: $+/-0.0432$ TPU: $+/-0.0432$ U 0.0651 UUncert: $+/-0.0432$ TPU: $+/-0.0432$ U 0.0651 UUncert: $+/-0.0477$ TPU: $+/-0.0432$ U 0.000309 UUncert: $+/-0.0477$ TPU: $+/-0.0477$ TPU: $+/-0.0477$ TPU: $+/-0.0477$ TPU: $+/-0.01695$ U 0.000309 UUncert: $+/-0.01695$ U 0.000718 UUncert: $+/-0.0145$ TPU: $+/-0.0145$ TPU: $+/-0.0145$ TPU: $+/-0.0145$ TPU: $+/-0.0145$ TPU: $+/-0.0145$ Uncert: $+/-0.070$ TPU: $+/-$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	NOM Sample Qual QC Units R U 0.018 U 0.0192 pCi/g Uncert: +/-0.0921 +/-0.058 0.274 UI 0.00 pCi/g Uncert: +/-0.157 +/-0.192 0.423 0.448 pCi/g Uncert: +/-0.070 +/-0.0781 1.000 pCi/g Uncert: +/-0.070 +/-0.0781 1.000 pCi/g Uncert: +/-0.033 +/-0.0327 1.000 pCi/g Uncert: +/-0.0281 +/-0.0206 pCi/g Uncert: +/-0.0281 +/-0.0206 pCi/g Uncert: +/-0.0169 +/-0.0186 1.000792 pCi/g Uncert: +/-0.0169 +/-0.0186 1.000792 pCi/g Uncert: +/-0.0169 +/-0.0186 1.000792 pCi/g Uncert: +/-0.041 +/-0.0509 1.000185 1.000792 pCi/g Uncert: +/-0.0432 +/-0.0477 1.00033 pCi/g <	NOM Sample Qual QC Units RPD% U 0.018 U 0.0192 pCi/g 6 Uncert: +/-0.0921 +/-0.058 pCi/g 36 Uncert: +/-0.157 +/-0.192 pCi/g 6 Uncert: +/-0.070 +/-0.192 pCi/g 6 Uncert: +/-0.070 +/-0.0781 pCi/g 6 Uncert: +/-0.033 +/-0.0327 pCi/g 208 UI 0.00 U -0.0065 pCi/g 208 Uncert: +/-0.0281 +/-0.0206 pCi/g 827 Uncert: +/-0.0169 +/-0.0186 pCi/g 36 Uncert: +/-0.0169 +/-0.0186 pCi/g 36 Uncert: +/-0.0169 +/-0.0186 pCi/g 36 Uncert: +/-0.041 +/-0.0509 pCi/g 36 Uncert: +/-0.0432 +/-0.0473 pCi/g 412 Uncert: +/-0.0432	NOM Sample Qual QC Units RPD% REC% TPU: $+/0.081$ 0.0192 pCi/g 6 6 Uncert: $+/0.0921$ $+/0.058$ 7 <	NOM Sample Qual QC Units RPD% REC% Range Aulst TPU: $\pm/0.019$ 0.0192 pCi/g 6 (0%-100%) Uncert: $\pm/0.0921$ $\pm/0.058$ (0%-100%) (0%-100%) Uncert: $\pm/0.0921$ $\pm/0.058$ (0%-100%) (0%-100%) Uncert: $\pm/0.0137$ $\pm/0.0192$ (0%-100%) (0%-100%) Uncert: $\pm/0.0137$ $\pm/0.0781$ (0%-100%) (0%-100%) Uncert: $\pm/0.033$ $\pm/0.0327$ (0%-100%) (0%-100%) Uncert: $\pm/0.033$ $\pm/0.0327$ (0%-100%) (0%-100%) Uncert: $\pm/0.0281$ $\pm/0.0266$ (0%-100%) (0%-100%) Uncert: $\pm/0.0281$ $\pm/0.0266$ (0%-100%) (0%-100%) Uncert: $\pm/0.0281$ $\pm/0.0266$ (0%-100%) (0%-100%) Uncert: $\pm/0.0281$ $\pm/0.0286$ (0%-100%) (0%-100%) Uncert: $\pm/0.0495$ $\pm/0.0473$ (0%-100%) (0%-100%)

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QC Summary

		<u>QC Su</u>	mmary			*		
Workorder: 174936		-					Page 4 of 9	
Parmname	NOM	Sample Qual	QC	Units I	RPD%	REC%	Range Anlst	Date Time
Rad Gamma Spec								
Batch 583389								
	TPU:	+/-0.0134	+/-0.0162					
Thallium-208		0.107	0.108	pCi/g	2		(0% - 100%)	
	Uncert:	+/-0.031	+/-0.036					
	TPU:	+/-0.031	+/-0.036					
QC1201217097 LCS	•		0.144	<u> </u>				10/21/06 10 56
Actinium-228		U	0.166	pCi/g				10/31/06 10:56
	Uncert:		+/-0.579					
A	TPU:		+/-0.579	-01		100	(750/ 1050/)	
Americium-241	23.4		25.2	pCi/g		108	(75%-125%)	
	Uncert:		+/-1.33					
Diamuth 212	TPU:		+/-1.33 0.169	-Cil-				
Bismuth-212	I I	U	+/-0.989	pCi/g				
	Uncert:							•
Bismuth-214	TPU:	H	+/-0.989 0.208	nCi/a				
BISHUUI-214	I lu - ente	U		pCi/g				
	Uncert:		+/-0.235					
Cesium-134	TPU:	L	+/-0.235	- nCila				
Cesium-134	I I., a mode	U	0.0196	pCi/g				
	Uncert:		+/-0.149					
Conjum 127	TPU:		+/-0.149	-Cila		106	(750/ 1250/)	
Cesium-137	9.54		10.1	pCi/g		106	(75%-125%)	
	Uncert:		+/-0.474					
Cabult 60	TPU:		+/-0.474	-Ci/-		101	(750/ 1750/)	
Cobalt-60	14.2		14.4	pCi/g		101	(75%-125%)	
	Uncert:		+/-0.640					
Europium 150	TPU:		+/-0.640	-C:/-				
Europium-152	TI A	U	-0.0221	pCi/g				
	Uncert:		+/-0.301					
Europium-154	TPU:		+/-0.301 -0.0891	nCila				
Europium-134	L la mante	· U	+/-0.300	pCi/g				
	Uncert:							
Europium-155	TPU:		+/-0.300 0.246	-Cila				
Europhini-155	[]	U		pCi/g				
,	Uncert:		+/-0.296					
L and 212	TPU:	п	+/-0.296	nCila				•
Lead-212	I I. a a mt.	U	0.0927 +/-0.160	pCi/g				
	Uncert:							
Lead-214	TPU:	11	+/-0.160 -0.0668	nCila				
Leau-214	Uncerte	U	+/-0.216	pCi/g				
	Uncert:			•				
Manganese-54	TPU:	U	+/-0.216 0.0637	pCi/g				
manganese-54	Uncert:	U	+/-0.141	pcng			•	
,			+/-0.141 +/-0.141					
Niobium-94	TPU:	U	+/-0.141 -0.0941	pCi/g				
Intolull-27	Uncert:	U	+/-0.131	peng				
Potassium-40	TPU:		+/-0.131 0.512	nCil-				
1 0(45510111-40		U	0.512	pCi/g				

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QC Summary

	*	<u>QC Su</u>	mmary				
Workorder: 174936						Page 5 of 9	
Parmname	NOM	Sample Qual	QC	Units RPD%	REC%	Range Anist	Date Time
Rad Gamma Spec Batch 583389							
Bach 505509							
	Uncert:		+/-1.01				
	TPU:		+/-1.01				
Radium-226		U	0.208	pCi/g		(75%-125%)	
	Uncert:		+/-0.235				
C ¹¹ 100	TPU:		+/-0.235	<u></u>			
Silver-108m		U	0.00145	pCi/g			
	Uncert:		+/-0.116				
T U O OO	TPU:		+/-0.116	<u>au</u>			
Thallium-208		U	0.109	pCi/g			
	Uncert:		+/-0.124				
	TPU:		+/-0.124				
QC1201217095 MB Actinium-228		· U	0.017	-Cila			10/31/06 09:31
Actinum-228	I Import.	0	+/-0.0424	pCi/g			10/31/00 09.31
	Uncert:						
Americium-241	TPU:	U	+/-0.0424 0.00734	pCi/g			
Americiani-241	Uncert:	U	+/-0.0106	peng			
	TPU:		+/-0.0106				
Bismuth-212	IPU.	U	0.000324	pCi/g			
Disindui-212	Uncert:	0	+/-0.0883	peng		•	·
	TPU:		+/-0.0883				
Bismuth-214	IPU:	U	0.0233	pCi/g			
Dismuti-214	Uncert:	0	+/-0.033	peng			
	TPU:		+/-0.033				
Cesium-134	IFU.	UI	0.00	pCi/g			
Cesium-194	Uncert:	01	+/-0.0377	peng			
	TPU:		+/-0.0377				
Cesium-137	110.	U	-0.00239	pCi/g			
	Uncert:	0	+/-0.0102	peng			
	TPU:		+/-0.0102				
Cobalt-60	110.	U	0.0115	pCi/g			
	Uncert:	0	+/-0.0112	P018			
	TPU:		+/-0.0112				
Europium-152		U	-0.00208	pCi/g			
	Uncert:		+/-0.0274	10			
۰ ۲	TPU:		+/-0.0274				
Europium-154		U	0.0176	pCi/g			
1	Uncert:		+/-0.030	1 - 5			
	TPU:		+/-0.030				
Europium-155		Ŭ	0.00314	pCi/g			
·	Uncert:		+/-0.0186	1 0			
	TPU:		+/-0.0186				
Lead-212	-	U	0.0227	pCi/g			•
	Uncert:		+/-0.0166				
	TPU:		+/-0.0166				
Lead-214		UI	0.00	pCi/g			
	Uncert:		+/-0.0396				
	TPU:		+/-0.0396				

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QC Summary

		<u>VC S</u>	unninal y						
Workorder: 174936							Page 6 d	of 9	
Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec Batch 583389									
Manganese-54		U	-0.00543	pCi/g	<u>1</u>				
6	Uncert:	_	+/-0.0113	F - 1	2				
	TPU:		+/-0.0113			•			
Niobium-94		U		pCi/g	3				
	Uncert:		+/-0.0109						
D	TPU:		+/-0.0109	<u> </u>					
Potassium-40	• • • • • • • • • • • • • • • • • • •	U	0.356 +/-0.179	pCi/g	5				
	Uncert: TPU:		+/-0.179						
Radium-226	\mathbf{X} IPU:	U		pCi/g	ĩ				
	Uncert:	Ũ	+/-0.033	p0#8					
	TPU:		+/-0.033						
Silver-108m		U		−pCi/g	3				,
	Uncert:		+/-0.00831						
	TPU:		+/-0.00831						
Thallium-208		U		pCi/g	3				
	Uncert:		+/-0.0183						
Rad Gas Flow	TPU:		+/-0.0183						
Batch 583243									
QC1201216718 174936001 DUP									*
Strontium-90		0.0263	0.0557	pCi/g	g 72		(0% - 100%)	KSDI	11/02/06 09:35
	Uncert:	+/-0.0109	+/-0.019						ι.
	TPU:	+/-0.011	+/-0.019						
QC1201216720 LCS Strontium-90	1.64		1.34	pCi/g	Ŧ	82	(75%-125%)		11/02/06 09:35
Suomum 20	Uncert:		+/-0.0863	pene	0	02	(1570-12570)		11102/00 07:55
	TPU:		+/-0.0946						
QC1201216717 MB									
Strontium-90			0.0333	pCi/g	3				11/02/06 09:35
	Uncert:		+/-0.0137						
	TPU:		+/-0.0137						
QC1201216719 174936001 MS Strontium-90	5.18	0.0263	4.66	pCi/g	•	89	(75%-125%)		11/02/06 09:35
Stollum-yo	Uncert:	+/-0.0109	+/-0.304	peng	5	09	(7370-12370)		11/02/00 09.33
	TPU:	+/-0.011	+/-0.330						
Rad Liquid Scintillation									
Batch 583233									
QC1201216690 174936001 DUP									
Technetium-99	U	0.320 U		pCi/g	g 0		(0% - 100%)	KXRI	10/31/06 04:00
,	Uncert:	+/-0.221	+/-0.291						
	TPU:	+/-0.221	+/-0.291						
QC1201216692 LCS Technetium-99	13.0		12.9	pCi/g	T	99	(75%-125%)		10/31/06 04:32
Teennettum-39	Uncert:		+/-0.501	pen g	ś	"	(7576-12576)		10/51/00 04.52
	TPU:		+/-0.601						
QC1201216689 MB	11 0.		., 0.001						
Technetium-99		U	0.047	pCi/g	g				10/31/06 03:43
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QC Summary

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Workorder: 174936		<u>V</u>	Su	innar <u>y</u>					
N								Page 7 of 9	
Parmname	NOM	Sample (<u>Jual</u>	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Liquid ScintillationBatch583233									
	Uncert: TPU:			+/-0.238 +/-0.238					
QC1201216691 174936001 MS Technetium-99	13.1 U	0.320		12.5	pCi/g	5	96	(75%-125%)	10/31/06 04:16
	Uncert: TPU:	+/-0.221 +/-0.221		+/-0.543 +/-0.631					
Batch 583234									
QC1201216694 174936001 DUP Tritium	U	3.72	U	-6.31	pCi/g	g 0		(0% - 100%) DFA1	10/28/06 08:10
~	Uncert: TPU:	+/-5.94 +/-5.94	•	+/-6.86	r c	, -		(,,	· · · · ·
QC1201216696 LCS	IPU:	⊤/-3.94		⊤/-0.60					
Tritium	51.5			45.3	pCi/g	5	88	(75%-125%)	10/28/06 08:42
	Uncert:			+/-8.97					
	TPU:			+/-9.01					
QC1201216693 MB			U	0.82	-Cile				10/28/06 07:54
Tritium	Uncert:		U	-0.82 +/-5.74	pCi/g	<u>,</u>			10/28/00 07:34
	TPU:			+/-5.74					
QC1201216695 174936001 MS	110.			., 5., 1					
Tritium	60.3 U	3.72		48.1	pCi/g	5	80	(75%-125%)	10/28/06 08:26
	Uncert:	+/-5.94		+/-10.1			•		
D L	TPU:	+/-5.94		+/-10.1					
Batch 583236									
QC1201216702 174936001 DUP		0.170		0.0710	C 14	0		(00/ 1000/) AVD2	10/00/06 01:06
Carbon-14	U Uncert:	0.179 +/-0.112	U	0.0712 +/-0.108	pCi/g	g 0		(0% - 100%) AXD2	10/28/06 01:06
	TPU:	+/-0.112		+/-0.108					
QC1201216704 LCS	IFU.			17-0.100					
Carbon-14	6.78			6.63	pCi/g	5	98	(75%-125%)	10/28/06 02:40
	Uncert:			+/-0.229					
	TPU:	,		+/-0.251					
QC1201216701 MB Carbon-14			U	0.0836	pCi/g				10/28/06 00:19
Carbon-14	Uncert:		U	+/-0.109	pent	5			10/28/00 00.19
	TPU:			+/-0.109					
QC1201216703 174936001 MS									
Carbon-14	7.17 U	0.179		6.59	pCi/g	5	92	(75%-125%)	10/28/06 01:53
	Uncert:	+/-0.112		+/-0.237					
	TPU:	+/-0.112		+/-0.258					
QC1201216710 174936001 DUP		14.2	.,	2.25	C '1	0		(00/ 1000/\\ AVD 1	11/01/06 10:15
Iron-55	U Uncert:	14.2	U	-3.35 +/-19.4	pCi/g	g 0		(0% - 100%) MXP1	11/01/06 19:15
	TPU:	+/-19.7 +/-19.7		+/-19.4					
QC1201216712 LCS	IFU.	1/*17.1							
Iron-55	57.2			54.5	pCi/g	5	95	(75%-125%)	11/01/06 19:47
	· Uncert:	Ŧ		+/-3.71					a.
	TPU:			+/-5.38					

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QC Summary

Workorder: 174936						Page 8 of 9	
Parmname	NOM	Sample Qua	I QC	Units RPD%	REC%	Rangé Anlst	Date Time
Rad Liquid Scintillation							
Batch 583239							
QC1201216709 MB							
Iron-55		ι	-0.337	pCi/g			11/01/06 16:51
	Uncert:		+/-1.02				
	TPU:		+/-1.02				
QC1201216711 174936001 MS							
Iron-55	611 U	14.2	593	pCi/g	97	(75%-125%)	11/01/06 19:31
	Uncert:	+/-19.7	+/-37.3	× .			
,	TPU:	+/-19.7	+/-58.7				
Batch 583241							
QC1201216714 174936001 DUP							
Nickel-63	U	-0.799 U	0.571	pCi/g	0	(0% - 100%) MXPI	11/01/06 17:24
,	Uncert:	. +/-7.83	+/-7.52				
	TPU:	+/-7.83	+/-7.52		•		
QC1201216716 LCS							
Nickel-63	179		160	pCi/g	90	(75%-125%)	11/01/06 18:07
-	Uncert:		+/-6.78				
	TPU:		+/-8.10				
QC1201216713 MB							
Nickel-63		U		pCi/g			11/01/06 17:02
	Uncert:		+/-2.38				
	TPU:		+/-2.38				
QC1201216715 174936001 MS				<i></i>		(250(1050()	
Nickel-63	535 U	-0.799	448	pCi/g	84	(75%-125%)	11/01/06 17:45
	Uncert:	+/-7.83	+/-19.0				
	TPU:	+/-7.83	+/-24.7				

Notes:

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

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QC Summary

Workorder:	174936							Page 9	of 9		
Parmname	· · · · · · · · · · · · · · · · · · ·	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
^											

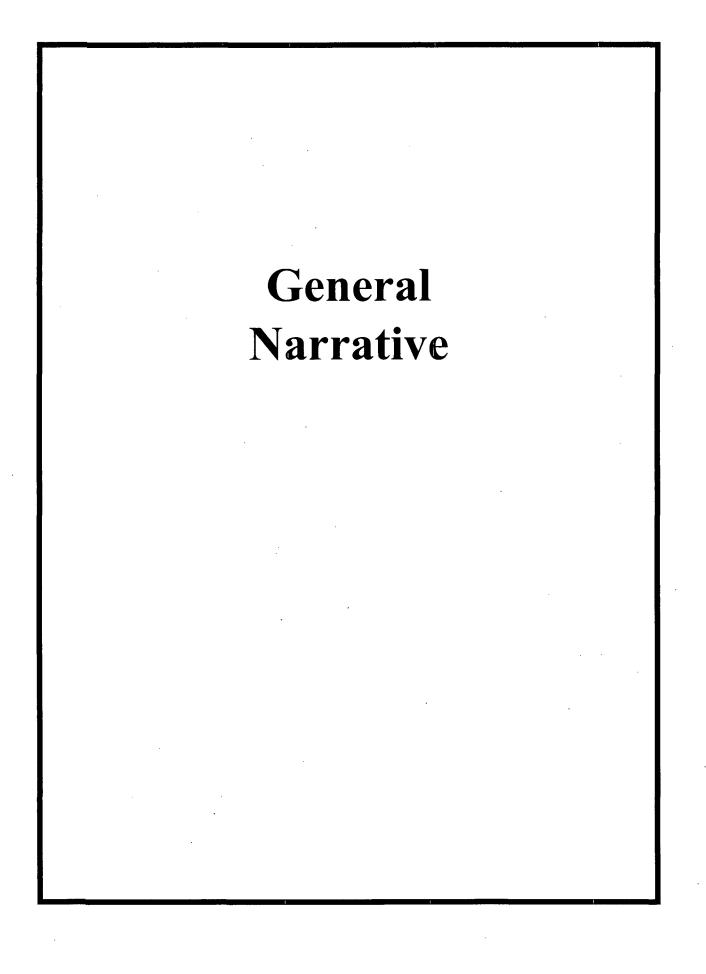
h Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

** Indicates analyte is a surrogate compound.

[^] The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result. For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.



General Narrative for Connecticut Yankee Atomic Power Co. Work Order: 177540 SDG: MSR#06-1549

December 14, 2006

Laboratory Identification:

General Engineering Laboratories, LLC 2040 Savage Road Charleston, South Carolina 29407 (843) 556-8171

Summary

Sample receipt

The samples arrived at General Engineering Laboratories, LLC, Charleston, South Carolina on November 10, 2006 and November 30, 2006 for analysis. Shipping container temperatures were checked, documented, and within specifications. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage.

Sample Identification The laboratory received the following samples:

Laboratory	Sample
Identification	Description
177540001	9522-0001-001F
177540002	9522-0001-002F
177540003	9522-0001-003F
177540004	9522-0001-004F
177540005	9522-0001-005F
177540006	9522-0001-006F
177540007	9522-0001-009F
177540008	9522-0001-010F
177540009	9522-0001-011F
177540010	9522-0001-012F
177540011	9522-0001-013F
177540012	9522-0001-015F
177540013	9522-0001-016F
177540014	9522-0001-021-I
177540015	9522-0001-024-I
177540016	9522-0002-002F
177540017	9522-0002-003F
177540018	9522-0002-005F
177540019	9522-0002-007F
177540020	9522-0002-008F
177540021	9522-0002-010F
177540022	9522-0002-011F
177540023	9522-0002-012F
177540024	9522-0002-013F
177540025	9522-0002-014F

1775400269522-0002-016F1775400279522-0003-001F1775400289522-0003-003F1775400299522-0003-003F1775400309522-0003-004F1775400319522-0003-005F1775400329522-0003-007F1775400339522-0003-008F1775400349522-0003-009F1775400359522-0003-010F1775400369522-0003-011F1775400379522-0003-012F1775400389522-0003-013F1775400399522-0003-013F1775400409522-0003-014F1775400419522-0003-015F1775400429522-0004-001F1775400439522-0004-002F1775400459522-0004-003F1775400469522-0004-003F1775400479522-0004-003F1775400489522-0004-004F1775400499522-0004-004F1775400509522-0004-014F1775400519522-0004-013F1775400529522-0004-013F1775400539522-0004-013F1775400549522-0004-013F1775400559522-0004-013F		
1775400289522-0003-002F1775400299522-0003-003F1775400309522-0003-004F1775400319522-0003-005F1775400329522-0003-007F1775400339522-0003-008F1775400349522-0003-008F1775400359522-0003-010F1775400369522-0003-011F1775400379522-0003-012F1775400389522-0003-013F1775400399522-0003-013F1775400409522-0003-014F1775400419522-0003-015F1775400429522-0004-001F1775400439522-0004-002F1775400459522-0004-002F1775400469522-0004-003F1775400479522-0004-008F1775400489522-0004-008F1775400499522-0004-01F1775400509522-0004-01F1775400519522-0004-01F1775400539522-0004-012F1775400549522-0004-013F	177540026	9522-0002-016F
1775400299522-0003-003F1775400309522-0003-004F1775400319522-0003-005F1775400329522-0003-007F1775400339522-0003-008F1775400349522-0003-009F1775400359522-0003-010F1775400369522-0003-011F1775400379522-0003-012F1775400389522-0003-013F1775400399522-0003-014F1775400409522-0003-014F1775400419522-0003-015F1775400429522-0004-001F1775400439522-0004-003F1775400459522-0004-003F1775400469522-0004-003F1775400479522-0004-008F1775400489522-0004-008F1775400499522-0004-01F1775400509522-0004-01F1775400519522-0004-01F1775400539522-0004-012F1775400549522-0004-013F	177540027	9522-0003-001F
1775400309522-0003-004F1775400319522-0003-005F1775400329522-0003-005F1775400339522-0003-008F1775400349522-0003-009F1775400359522-0003-010F1775400369522-0003-010F1775400379522-0003-012F1775400389522-0003-012F1775400399522-0003-014F1775400409522-0003-014F1775400419522-0003-014F1775400429522-0004-001F1775400439522-0004-001F1775400439522-0004-003F1775400459522-0004-005F1775400469522-0004-005F1775400479522-0004-008F1775400489522-0004-01F1775400499522-0004-01F1775400509522-0004-01F1775400519522-0004-01F1775400529522-0004-01F1775400539522-0004-01F1775400549522-0004-01F	177540028	9522-0003-002F
1775400319522-0003-005F1775400329522-0003-007F1775400339522-0003-008F1775400349522-0003-009F1775400359522-0003-010F1775400369522-0003-011F1775400379522-0003-012F1775400389522-0003-012F1775400399522-0003-013F1775400409522-0003-014F1775400419522-0003-014F1775400429522-0004-001F1775400439522-0004-002F1775400459522-0004-003F1775400459522-0004-005F1775400469522-0004-008F1775400479522-0004-008F1775400489522-0004-01F1775400509522-0004-01F1775400519522-0004-01F1775400519522-0004-01F1775400539522-0004-01F1775400549522-0004-01F	177540029	9522-0003-003F
1775400329522-0003-007F1775400339522-0003-008F1775400349522-0003-009F1775400359522-0003-010F1775400369522-0003-011F1775400379522-0003-012F1775400389522-0003-013F1775400399522-0003-013F1775400399522-0003-014F1775400409522-0003-015F1775400419522-0004-001F1775400429522-0004-002F1775400439522-0004-002F1775400459522-0004-003F1775400469522-0004-006F1775400479522-0004-008F1775400489522-0004-010F1775400509522-0004-01F1775400519522-0004-01F1775400539522-0004-01F1775400549522-0004-01F	177540030	9522-0003-004F
1775400339522-0003-008F1775400349522-0003-009F1775400359522-0003-010F1775400369522-0003-011F1775400379522-0003-012F1775400389522-0003-013F1775400399522-0003-014F1775400409522-0003-015F1775400419522-0004-001F1775400429522-0004-002F1775400439522-0004-003F1775400459522-0004-003F1775400469522-0004-006F1775400479522-0004-008F1775400489522-0004-01F1775400499522-0004-01F1775400509522-0004-01F1775400519522-0004-01F1775400539522-0004-01F1775400549522-0004-01F	177540031	9522-0003-005F
1775400349522-0003-009F1775400359522-0003-010F1775400369522-0003-011F1775400379522-0003-012F1775400389522-0003-013F1775400399522-0003-014F1775400409522-0003-014F1775400419522-0003-015F1775400429522-0004-001F1775400439522-0004-003F1775400459522-0004-003F1775400469522-0004-005F1775400479522-0004-006F1775400489522-0004-008F1775400499522-0004-010F1775400509522-0004-010F1775400519522-0004-012F1775400539522-0004-013F1775400549522-0004-014F	177540032	9522-0003-007F
1775400359522-0003-010F1775400369522-0003-011F1775400379522-0003-012F1775400379522-0003-013F1775400389522-0003-013F1775400399522-0003-014F1775400409522-0003-015F1775400419522-0004-001F1775400429522-0004-002F1775400439522-0004-003F1775400459522-0004-003F1775400469522-0004-005F1775400479522-0004-008F1775400489522-0004-010F1775400499522-0004-010F1775400509522-0004-010F1775400519522-0004-012F1775400539522-0004-013F1775400549522-0004-014F	177540033	9522-0003-008F
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1775400379522-0003-012F1775400389522-0003-013F1775400399522-0003-014F1775400409522-0003-015F1775400419522-0004-001F1775400429522-0004-002F1775400439522-0004-003F1775400459522-0004-005F1775400469522-0004-006F1775400479522-0004-008F1775400489522-0004-009F1775400499522-0004-01F1775400509522-0004-01F1775400519522-0004-01F1775400529522-0004-01F1775400539522-0004-012F1775400549522-0004-014F1775400549522-0004-014F	177540035	9522-0003-010F
1775400389522-0003-013F1775400399522-0003-014F1775400409522-0003-015F1775400419522-0004-001F1775400429522-0004-002F1775400439522-0004-003F1775400459522-0004-003F1775400469522-0004-005F1775400479522-0004-006F1775400489522-0004-008F1775400499522-0004-010F1775400509522-0004-010F1775400519522-0004-012F1775400529522-0004-013F1775400539522-0004-014F1775400549522-0004-014F	177540036	9522-0003-011F
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1775400409522-0003-015F1775400419522-0004-001F1775400429522-0004-002F1775400439522-0004-003F1775400459522-0004-005F1775400469522-0004-006F1775400479522-0004-008F1775400489522-0004-009F1775400499522-0004-010F1775400509522-0004-011F1775400519522-0004-012F1775400529522-0004-013F1775400539522-0004-014F1775400549522-0004-015F	177540038	9522-0003-013F
1775400419522-0004-001F1775400429522-0004-002F1775400439522-0004-003F1775400459522-0004-005F1775400469522-0004-006F1775400479522-0004-008F1775400489522-0004-009F1775400499522-0004-010F1775400509522-0004-011F1775400519522-0004-012F1775400529522-0004-013F1775400539522-0004-014F1775400549522-0004-015F	177540039	9522-0003-014F
1775400429522-0004-002F1775400439522-0004-003F1775400459522-0004-005F1775400469522-0004-006F1775400479522-0004-008F1775400489522-0004-009F1775400499522-0004-010F1775400509522-0004-011F1775400519522-0004-012F1775400529522-0004-013F1775400539522-0004-014F1775400549522-0004-015F	177540040	9522-0003-015F
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1775400469522-0004-006F1775400479522-0004-008F1775400489522-0004-009F1775400499522-0004-010F1775400509522-0004-011F1775400519522-0004-012F1775400529522-0004-013F1775400539522-0004-014F1775400549522-0004-015F	177540043	9522-0004-003F
1775400479522-0004-008F1775400489522-0004-009F1775400499522-0004-010F1775400509522-0004-011F1775400519522-0004-012F1775400529522-0004-013F1775400539522-0004-014F1775400549522-0004-015F	177540045	9522-0004-005F
1775400489522-0004-009F1775400499522-0004-010F1775400509522-0004-011F1775400519522-0004-012F1775400529522-0004-013F1775400539522-0004-014F1775400549522-0004-015F	177540046	9522-0004-006F
1775400499522-0004-010F1775400509522-0004-011F1775400519522-0004-012F1775400529522-0004-013F1775400539522-0004-014F1775400549522-0004-015F	177540047	9522-0004-008F
1775400509522-0004-011F1775400519522-0004-012F1775400529522-0004-013F1775400539522-0004-014F1775400549522-0004-015F	177540048	9522-0004-009F
1775400519522-0004-012F1775400529522-0004-013F1775400539522-0004-014F1775400549522-0004-015F	177540049	9522-0004-010F
1775400529522-0004-013F1775400539522-0004-014F1775400549522-0004-015F	177540050	9522-0004-011F
1775400539522-0004-014F1775400549522-0004-015F	177540051	9522-0004-012F
177540054 9522-0004-015F	177540052	9522-0004-013F
	177540053	9522-0004-014F
177540055 9522-0004-016F	177540054	9522-0004-015F
	177540055	9522-0004-016F

Items of Note

The above samples were relogged at the request of Arthur Hammond on 12/11/06. See attached emails.

Case Narrative

Sample analyses were conducted using methodology as outlined in General Engineering Laboratories (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Analytical Request

Fifty-four soil samples were analyzed for Strontium-90.

Data Package

The enclosed data package contains the following sections: General Narrative, Chain of Custody and Supporting Documentation, Data Review Qualifier Definitions, and data from the following fractions: Radiochemistry.

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Cheryl Jones Project Manager

GENERAL ENGINEERING LABORATORIES, LLC a Member of THE GEL GROUP, INC. P.O. BOX 30712 Charleston, SC 29417 • 2040 Savage Road (29407) Phone (843) 556-8171 • Fax 643) 766-1178 www.gel.com

State	Certification
Alaska	UST-062
Arizona	AZ0668
Arkansas	88-0651
CLIA	42D0904046
California	01151CA
Colorado	GenEngLabs
Connecticut	PH-0169
Dept. of Navy	' NFESC 413
EPA	WG-15J
Florida/NELAP	E87156
Georgia	E87156 (FL/NELAP)
Hawaii	N/A
Idaho	N/A
Illinois	200029
Indiana	C-SC-01
Kansas	E-10332
Kentucky	90129
Louisiana	03046
Maryland	270
Massachusetts	M-SC012
Michigan	9903
Nevada	SC12
New Jersey	SC002
New Mexico	FL NELAP E87156
New York	11501
North Carolina	233
North Carolina Drinking W	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania	68-00485
South Carolina	10120001/10585001/10120002
Tennessee	02934
Texas	TX213-2006A
Texas NELAP	T104704235-06-TX
U.S. Dept. of Agriculture	S-52597
US Army Corps of Engineer	N/A
Utah	8037697376 GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

List of current GEL Certifications as of 14 December 2006

Chain of Custody and Supporting Documentation



GPP-GGGR-R5104-003-Attachment B-CY-001 Major

Connecticut 362 Injur	Yankee At n Hollow Road, E 860-267	ast Hampton			y			Ch	ain o	f Cu	stod	y Form	No. 2006-00666		
Project Name: Haddam			[r	[An	alyses	Request	ed	T	Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-26	······································			i.								Comments: Relog For Sr-C	10 per		
843 556 8171. Attn. Che	City, State) poratories leston SC. 29407 eryl Jones		ngineering Laboratories age Road. Charleston SC. 29407 171. Attn. Cheryl Jones					SSGAM	FSSALL					Relog for Sr-C 12/11/06 request	1-177540
Priority: 30 D. 14	ority: 🗌 30 D. 🗍 14 D. 🔀 7 D. 🗍 3 D.				Container							170	08961,		
Sample Designation	Date	Time	Media Code	Sample Type Code	Size- &Type Code							Comment; Preservation	Lab Sample ID		
9522-0001-012F	11/09/06	0808	TS	Ģ	BP	X									
9522-0001-015F	11/09/06	0815	TS	G	BP	X						······································			
9522-0001-002F	11/09/06	0954	TS	G	BP	X									
9522-0001-001F	11/09/06	0955	TS	G	BP	X	1		1						
9522-0001-003F	11/09/06	0958	TS	G	BP	X									
9522-0001-010F	11/09/06	1052	TS	G	BP	X									
9522-0001-014F	11/09/06	1054	TS	G	BP		X								
9522-0001-009F	11/09/06	1057	ΤŜ	G	BP	Х									
9522-0001-009FS	11/09/06	1057	TS	G	BP	X									
9522-0001-008F	11/09/06	1311	TS	G	BP		X								
9522-0001-011F	11/09/06	1312	TS	G	BP	X	-								
NOTES: PO #: 002332	MSR #:	4 1/4-1 06-1387 1505	SSW	P# NÅ	⊠ LTP (QA [] Rad	waste (QA [] Noi	ı QA	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: Deg. C Custody Sealed? Y □ N □		
1) Relinquished By		Date/Tin			aus		30	06	10:			Other	Custody Seal Intact?		
3) Relinquished By	Date/Time 4) Received By						- 1		Date	Time		Bill of Lading #	YONO		

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Connecticut Y 362 Injun	Yankee At Hollow Road, E 860-267	East Hampton			y -			Ch	ain o	f Cu	stod	y Form	No. 2006-00667
Project Name: Haddam N	Veck Decomm	nissioning					An	alyses l	Request	ed	T	Lab Use Only	
Contact Name & Phone: Jack McCarthy 860-267	7-3924					:						Comments:	
Analytical Lab (Name, Ci General Engineering Lab 2040 Savage Road. Charl 843 556 8171. Attn. Cher	oratories eston SC. 294 ryl Jones					FSSGAM	FSSALL						
Priority: 🗌 30 D. 🔲 14 1	D. 🔀 7 D. 🗌] 3 D.			Container							17(596 ¹
Sample Designation	Date	Time	Media Code	Sample Type Code	Size- &Týpe Code							Comment, Preservation	Lab Sample ID
9522-0001-013F	11/09/06	1337	TS	G	BP	X						- 11.	
9522-0001-005F	11/09/06	1358	TS	G	BP	X						1 2	
9522-0001-006F	11/09/06	1400	TS	G	BP	X							
9522-0001-004F	11/09/06	1405	TS	G	BP	X							2 2
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NOTES: PO #: 002332	MSR #:	1505	SSW	P# NA	🛛 LTP ()A [] Rad	waste (QA [] Nor	QA.	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: Deg. Custody Sealed? Y \N \
I) Relinquished By	1) Relinquished By Date/Time 2) Repeived By						n	06	Date/	Time		D Other	Custody Seal Intact?
3) Relinquished By Date/Time 4) Received By					ived By		, <u> </u>			/Time		Bill of Lading #	Y D N D

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GPP-GGGR-R5104-003-Attachment B-CY-001 Major

Connecticut Y 362 Injun F	ankee At Iollow Road, J 860-26	East Hampton,			ý	Chain of Custody Form No. 2006-00671										
Project Name: Haddam N	eck Decomi	missioning					Analyses Requested Lab Use Only									
Contact Name & Phone: Jack McCarthy 860-267-	k McCarthy 860-267-3924 alytical Lab (Name, City, State) neral Engineering Laboratories 40 Savage Road. Charleston SC. 29407 3 556 8171. Attn. Cheryl Jones											Comments:				
General Engineering Labo 2040 Savage Road. Charle						FSSGAM	FSSALL									
Priority: 🗌 30 D. 📃 14 D		Samule		<u>ت</u> ،						1740	08961					
Sample Designation	Sample Media Type Code Code	Sizë- &Type Code							Comment, Preservation	Lab Sample ID						
9522-0001-016F	11/15/06	2735	TS	G	BP	X										
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3) Relinquished By		Date/Tim	e	4) Recei	ived By		1			/Time		Bill of Lading #	ŶŒŃŬ			

Connecticut Y 362 Injun F	ankeé Át Hollow Road, E 860-267	East Hampton,			y	-		Ĉh	ain c	of Cu	stod	y Form	No. 2006-00677
Project Name: Haddam N	eck Decomn	nissioning					Ar	alyses	Reques	ted		Lab Use Only	
Contact Name & Phone: Jack McCarthy 860-267-	-3924											Comments:	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 343 556 8171. Attn. Cheryl Jones						ESSGAM	FSSALL		, ,				
Priority: 🗌 30 D. 🛄 14 D). 🛛 7 D. 🗌] 3 D.			Container	1						1	768961.
Sample Designation	Date	Time	Media Codé	Sample Type Code	Size- &Type Code							Comment, Preservation	Lab Sample ID
9522-0001-017-I	11/16/06	0716	TS	G	BP	X		l					
9522-0001-018-I	11/16/06	0717	TS	G	BP	X				1	1	· · · · · · · · · · · · · · · · · · ·	
9522-0001-019-1	11/16/06	0718	TS	G	BP	X					·		
9522-0001-020-I	11/16/06	0719	TS	G	BP	X		<u> </u>					
9522-0001-021·I	11/16/06	1335	TS	G	BP	Х							
9522-0001-022-I	11/16/06	1340	TS	G	BP	X						-	
9522-0001-023-I	11/16/06	1345	TS	G	BP	X							
		06-1 381 1505											
NOTES: PO #: 002332	P# NA	X LTP Ç	<u>9</u> A [waste (QA [] Nor	n QA	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp:: Deg. Custody Sealed? Y N			
1) Relinquished By		Date/Tim	e	2) Rece	ved By	[]	30	106		/Time		Other	Custody Seal Intact?
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GPP-GGGR-R5104-003-Attachment B-CY-001 Major

Connecticut 362 Injun	Yankee Af Hollow Road, H 860-26	East Hampton			y		- <u></u> , <u>-</u> , <u>-</u> ,- <u>-</u> ,	Cha	ain o	f Cus	stod	y Form	No. 2006-00684									
Project Name: Haddam N							An	lyses F	Request	ed		Lab Use Only										
Contact Name & Phone: Jack McCarthy 860-267	7-3924											Comments:										
General Engineering Lab 2040 Savage Road. Charl	ytical Lab (Name, City, State) eral Engineering Laboratories Savage Road. Charleston SC. 29407 556 8171. Attn. Cheryl Jones					FSSGAM	FSSALL															
Priority: 🗍 30 D. 🗍 14	⊠ 7 D. □ 3 D.] 7 D. 🗌 3 D.		7 D. 🗌 3 D.		₫ 7 D. 🗌 ȝ D.		7 D. 🗌 3 D.		7 D. 🗌 3 D.		Sample Type	Container Size- & Type							ť	76896%
Sample Designation					& Type Code							Comment, Preservation	Lab Sample ID									
9522-0001-024-1	11/21/06	1254	ΤŞ	G	BP	X							· · · · · · · · · · · · · · · · · · ·									
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<u></u>		+						<u> </u>		<u> </u>			· · · · · · · · · · · · · · · · · · ·									
NOTES: PO #: 002332	MSR #:	06-1287 15 05	ssw	′P#ŇÁ	LTP ()A [Rad	waste Q	24 [Non	QA	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: Deg. C Custody Sealed? Y□ N□									
I) Relinquished By		Date/Tin	ne	1 7 8 71	ved By	11	30	66		Тіте ЛО		D Other	Custody Seal Intact?									
3) Relinquished By		Date/Tin	ie	4) Rece	ived By				Date/	'Time		Bill of Lading #	ΥΟΝΟ									

CY-ISC-SOW-0	01
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Yes [] No [)	-
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Yes X No [] Signed	
	Yes [] No [] Yes [] No []

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Page 45 of 56



SAMPLE RECEIPT & REVIEW FORM

	ATORIES'				PM use only						
	Client: YonLet At		50		SDG/ARCOC/Work Order: 176890, 176896						
F	Date Received: 11 3	Ω.			PM(A) Review (ensure non-conforming items are resolved prior to signing):						
ſ	Received By:	n	/		Curtha						
л Г		4									
	Sample Receipt Criteria	Vac	3	VV :	Comments/Qualifiers (Required for Non-Conforming Items)						
ſ	Shipping containers received intact and sealed?		1	Τ	Circle Applicable: seals broken damaged container leaking container other (describe)						
	Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.				Circle Coolant / ice bags blue ice dry ice none other describe) See Below						
3	Chain of custody documents included with shipment?										
4	Sample containers intact and sealed?	1			Circle Applicable: seals broken damaged container leaking container other (describe)						
5	Samples requiring chemical preservation at proper pH?			1	Sample ID's, containers affected and observed pH:						
6	VOA vials free of headspace (defined as < 6mm bubble)?		V	1	Sample ID's and containers affected:						
7	Are Encore containers present? (If yes, immediately deliver to VOA laboratory)										
8	Samples received within holding time?	\checkmark	·	*.	id's and tests affected:						
9	Sample ID's on COC match ID's on bottles?	~			Sample ID's and containers affected:						
10	Date & time on COC match date & time on bottles?	V		•.	Sample ID's affected:						
1	Number of containers received match number indicated on COC?	<i>\</i>			Sample ID's affected:						
2	COC form is properly signed in relinquished/received sections?			\checkmark	not signed						
a	Air Bill, Tracking #'s, & Additional Comments	19 19 79	80 38 98		104 Signed 9092 2742-20 190 5266 8785-16- 1092 2710-170 7988 9092 2731-17° 5266 8796-18 7928 -9092 2753-17°						
		Regulated	Regulated	High Level	RSO RAD Receipt #						
	Radiological Classification?	\leq			Maximum Counts Observed*: 150 CPM						
	PCB Regulated? Shipped as DOT Hazardous	\leq									
	Material? If yes, contact Waste Manager or ESH Manager.				Hazard Class Shipped: UN#:						
	Regulated as a Foreign Soil?	×									
	PM (or PMA) review of Hazard classi	ficati	on:		Initials (P) Date: 1130 Ula						
				فيصب							



SAMPLE RECEIPT & REVIEW FORM CONTINUATION FORM

$\begin{array}{c c c c c c c c c c c c c c c c c c c $		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Fed Ex 7928 9092 2740	$1 - 20^{\circ}$
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	V J ans	3 17°
	7980 5266 87	96-18
$ \begin{array}{c} \hline $	87	85-16
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$ \begin{array}{c} - 06667 \\ - 00671 \\ - 00671 \\ - 00684 \\ - 00684 \\ - 00691 \\ - 00685 \\ - 00666 \\ \end{array} $		
$ \begin{array}{c} - 00671 \\ - 00671 \\ - 00684 \\ - 00684 \\ - 00687 \\ - 00686 \\ - 00685 \\ - 00666 \\ \end{array} $		
$ \begin{array}{r} - 00617 \\ \hline $		
$ - \frac{00689}{-00691} \\ - \frac{00686}{-00685} \\ - 00666 $		
$ - 00691 \\ - 00686 \\ - 00666 \\ - 00666 $		
$ - 00 686 \\ - 00 685 \\ - 00666 $		
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- 00666		
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GPP-GGGR-R5104-003-Attachment B-CY-001 Major

Connecticut 362 Injur	Yankee Åt Hollow Road, H 860-26	East Hampton,			у	<u></u>		Ch	ain c	of Cu	stoc	y Form No. 2006-0064.7		
Project Name: Haddam	Neck Decomr	nissioning			[An	alyses I	Reques	sted		Lab Use Only		
Contact Name & Phone: Jack McCarthy 860-26				1								Comments:		
Analytical Lab (Name, C General Engineering Lab 2040 Savage Road. Char 843 556 8171. Attn. Che Priority: 30 D. 14	ooratories leston SC, 29 eryl Jones				Container	FSSGAM	FSSALL					175906 % - 175908 % -	FSS ALL FSSGAM FSSGAM	
Sample Designation	Date	Time	Media Code	Sample Type Code	Size- & Type Code							Comment, Preservation	Lab Sample ID	
9522-0002-001F	10/30/06	0813	TS	G	BP		X				<u> </u>			
9522-0002-002F	10/30/06	0757	TS	G	BP	X								
9522-0002-003F	10/30/06	0817	TS	G	BP	X								
9522-0002-004F	10/30/06	0741	TS	G	BP		X				·		19	
9522-0002-005F	10/30/06	1013	TS	G	BP	X				· ·				
9522-0002-006F	10/30/06	1020	TS	G	BP	X								
9522-0002-007F	10/30/06	0945	TS	G	BP	X								
9522-0002-007FS	10/30/06	0945	TS	G	BP	X					E			
9522-0002-008F	10/30/06	1031	TS	G	BP	X								
9522-0002-009F	10/30/06	1035	TS	G	BP	X								
9522-0002-010F	10/30/06	1051	TS	G	BP	X								
NOTES: PO #: 002332	MSR #:	06-1381 M 1460 M 1460 M	₩ ₩ ₩	P# NA	🛛 LŤP (QA [] Rad	waste (QA (🗌 Noi	i QA	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: <u>17</u> ° Deg. C Custody Sealed? Y D N	
1) Relinquisted By	Q.	Date/Tim 11/8/06 /		2) Rece	ived By	2°	· · · · · · · · · · · · · · · · · · ·	_[1-]/	Date	e/Time 911	5	Other 8327	Custody Seal Intact?	
3) Relinquished By		Date/Time 4) Received By			Date/Time						7985 3887 1194 8	, Y¢ŹN⊡		

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Connecticut Y 362 Injun F	ankee At Iollow Road, E 860-267	ast Hampton			ý			Ch	ain o	f Cus		y Form	No. 2006-00648
Project Name: Haddam Ne	eck Decomm	issioning		· · · ·			An	alyses I	Request	ed		Lab Use Only	
Contact Name & Phone: Jack McCarthy 860-267-	3924							,				Comments:	
Analytical Lab (Name, Cit General Engineering Labor 2040 Savage Road. Charles 843 556 8171. Attn. Chery	ratories ston SC. 294 /I Jones					FSSGAM	FSSALL				ŕ		
Priority: 🗌 30 D. 🛄 14 D	riority: 🗌 30 D. 📄 14 D. 🔀 7 D. 🛄 3 D.					Ц						1759081	
Sample Designation	Date	Time	Media Code	Sample Type Code	Size- &Type Code							Comment, Preservation	Lab Sample ID
9522-0002-013F	10/30/06	1100	TS	G	BP	X							
9522-0002-011F	10/30/06	1322	TS	6	BP	X							
9522-042-014F	10/30/06	1325	TS	6	BP	\times		L	· · ·			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
9512-0102-016F	10/30/61	1328	TS	C	BP	X	ļ	ļ					-
9522-0502-012F	10/20/16	1340	TS	6	BP	ĻΧ.	ļ	ļ	ļ		┣┫		·
9522-0002-015F	1031/06	1.400	75	G	BP:	ĻΧ.	ļ		 		┟╌──┤	<u></u>	
					+		┼───-	<u> </u>		<u> </u>	-		
			<u> </u>	<u> </u>	<u>+</u>	┼	<u> </u>	<u> </u>	<u> </u>	<u> </u> -	┨──┤		
······································			<u> </u>	+	<u> </u>	·		<u> </u>		<u> </u>			
	-												
NOTES: PO #: 002332	MŠR #:	06- 1381- 7 1460 1460	4" SSW 18	P#NA	🛛 LTP (QA 🗌 Radwaste QA 📋 Non QA						Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: <u>77°</u> Deg. C Custody Sealed? Y D N
1) Relinquished By	£ 11,	2 Date/Time 2) Receiv 						11-70	5-12/2	Time 9:15	5	Other 5337 7955 3589 4494 Mar	Custody Seal Intact?
3) Refinquished By	nquished By Date/Time				4) Received By Date/Time							Bill of Lading #	

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•		ter
	Connecticut Yankee Statement of Work for Analytical Lab Services CY-ISC-SOW-00	<u>I</u>
•	Figure 1. Sample Check-in List	•
Ľ	Date/Time Received:	
S	DG#:MSR #06-1460	
v	Vork Order Number:175906, 175908	•
S	hipping Container ID: <u>7985 3869 8327</u> Chain of Custody # <u>3006-001647</u> , <u>2006-0</u>	201054 20218
1		
2.		1. 1. 1.
3.		*.
· 4.	~~~	
.5.	Vermiculite/packing materials is: Wet [] Dry [] NA D	•
6.		
7.	Sample holding times exceeded? Yes [] No []	
	8. Samples have:	
	hazard labels	· · · · ·
	custody sealsappropriate sample labels	· · ·
9). Samples are:	
	in good conditionleaking	· · ·
	brokenhave air bubbles	1.
10.	Were any anomalies identified in sample receipt? Yes [] No [4]	
11.	Description of anomalies (include sample numbers):	
		·
	ole Custodian/Laboratory: Tw Side Date: 11-10-06	
eler	ohoned to:OnBy	
		• • •
	80 Clm	· .



SAMPLE RECEIPT & REVIEW FORM

"ATORIES"				PM:use only						
Client: Comecticut Vo	yak	ee	1	SDG/ARCOC/Work Order: 175906, 175908						
Date Received: 11-10-0				PM(A) Review (ensure non-conforming items are resolved prior to signing):						
Received By:				Clarkton						
		<u>,</u>								
Sample Receipt Criteria	Yes	NA	°N	Comments/Qualifiers (Required for Non-Conforming Items)						
1 Shipping containers received intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)						
Samples requiring cold 2 preservation within (4 +/- 2 C)? Record preservation method.				Circle Coolant # ice bags blue ice dry ice none other describe)						
3 Chain of custody documents included with shipment?	\square									
4 Sample containers intact and sealed?			~	Circle Applicable: seals broken damaged container leaking container other (describe)						
5 Samples requiring chemical preservation at proper pH?				Sample ID's, containers affected and observed pH:						
$\begin{array}{c} 6 \\ \text{(defined as } < 6 \text{mm bubble)} \end{array}$				Sample ID's and containers affected:						
Are Encore containers present? 7 (If yes, immediately deliver to VOA laboratory)										
8 Samples received within holding time?				Id's and tests affected:						
9 Sample ID's on COC match ID's on bottles?				Sample ID's and containers affected:						
10 Date & time on COC match date & time on bottles?		•		Sample ID's affected:						
11 Number of containers received match number indicated on COC?				Sample ID's affected:						
12 COC form is properly signed in relinquished/received sections?										
14 Air Bill , Tracking #'s, & Additional Comments			•							
Suspected Hazard Information	Non- Regulated	Regulated	High Level	RSO RAD Receipt #						
B PCB Regulated?				Maximum Counts Observed*: 80 USM						
C Material? If yes, contact Waste Manager or ESH Manager.	V			Comments: Hazard Class Shipped: UN#:						
PM (or PMA) review of Hazard clas	sificat	ion		Initials COX Date: 1113/06						
				0						

GPP-GGGR-R5104-003-Attachment B-CY-001 Major

Health Physics Procedure

Connecticut Yankee Atomic Power Company 362 Injun Hollow Road, East Hampton, CT 06424 860-267-2556								Ch	Nö. 2006-00655			
Project Name: Haddam Ne	ck Decomn	nissioning				Γ	Ar	alyses	Reques	sted	Lab Use Only	
Contact Name & Phone: Jack McCarthy 860-267-:	3924										Comments:	· · · · · · · · · · · · · · · · · · ·
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones						FSSGAM	FSSALL				175874- FSSA 175901- FSS A	047 11/14/06
Priority: 🗌 30 D. 🗌 14 D	. 🛛 7 D. 🗌] 3 D.			Container	Ц	⊢Trii				175901 - Esce	ANA ESS BIL
Sample Designation	Date	Time	Media Code	Sample Type Code	Size- &Type Code						Comment, Preservation	Lab Sample ID
4-22-613-011F	11/3/06	1255	TS	G	BP	×					······································	
910)- 100)F	11/1/00	1256	TS	G	BP	*		1				
1522-003-003E	1113/06	17:00	TS	G	BP	X						
9+22-033-025F	11/3/66	130.)	75	÷.	Br							
45076003-604F	11/2/02	1312	75	G	BP	LX_	ļ		ļ			
95)) - 01-3-056 F	1/3/60	1314	<u>, TS</u>	<u>Č</u>	<u> </u>	<u> </u>						
953-003-007F	11/3/00	1316	75	6	181	$ \times $		<u> </u>	ļ			· · · · · · · · · · · · · · · · · · ·
9507.003-003F	1/1/60	1317	$\frac{TS}{TS}$	6	BC		<u> </u>	+				
9511-023-028FS	117700	<u> </u>	<u> </u>	<u> </u>								
NOTES: PO#: 002332	MSR #:	06- 1381 ¥ 1 459	l "" SSW] P# NA	 LTP (] 2A [Rac	lwaste (QA	Non QA	Samples Shipped Via: Fed.Ex UPS Hand	Internal Container Temp.: <u>1</u> S ^o Deg. C Custody Sealed? Y S N D
1) Relinquished by)	Date/Tim	e	2) Rece	ived By				Date	/Time		Custody Seal
John JUL Ebst	·/	1/4/06	0800		an st	he -	(1-100	la	9:15	Other Intact?	
3) Relinquished By Date/Tim			e			Z		/Time	7955 3591 5025 Bill of Lading #	Ý 🗹 🛛 🗆		

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Connecticut Y 362 Injun F	y	Chain of Custody Form No. 2006-00656												
Project Name: Haddam Ne	eck Decomr	nissioning					Analyses Requested					Lab Use Only		
Contact Name & Phone: Jack McCarthy 860-267-	3924											Comments:		
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones						FSSGAM	FSSALL							
Priority: 🗌 30 D. 🗌 14 D	. 🛛 7 D. 🗌] 3 D.			Container	Ĥ	Ч					175874-FSSGAM 175901-FSSALL		
Sample Designation	Date	Time	Media Code	Sample Type Code	Size- &Type Code							Comment, Preservation	Lab Sample ID	
9522-0003-009F	11/6/06	0734	TS	G	BP	X		1						
9522-0003-011F	11/6/06	0737	TS	G	BP	X		1		F				
9522-0003-010F	11/6/06	0739	TS	G	BP	X								
9522-0003-012F	11/6/06	0741	TS	G	BP	X		1		1				
9522-0003-014F	11/6/06	0800	TS	G	BP	X				1				
9522-0003-015F	11/6/06	0803	TS	G	BP	X		1	1					
9522-0003-013F	11/6/06	0805	TS	Ģ	BP	X								
9522-0003-016F	11/6/06	1028	TS	G	BP	-**	X		1	1			3+	
						- nite		1	-					
NOTES: PO #: 002332 MSR #: 06- 1381 % SSWP# NA 🛛 LTP QA 🗌 Radwaste QA 🗌 Non QA Samples Shipped 1459 J459 IUPS Hand							UPS	Internal Container Temp.: <u>18°</u> Deg. C Custödy Sealed? Y Ø N □						
1) Relinquished By Date/Tim July 20 Date 11/9/06				2) Rece	ved By			11-10-		/Time		Other	Custody Seal Intact?	
3) Relinquished By		Date/Tim	e	4) Rece						/Time		7 985 3891 5025 Bill of Lading #	YZNI	

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· • .	Connecticut Yankee CY-ISC-SOW-001	-
· .	Statement of Work for Analytical Lab Services	
•	Figure 1. Sample Check-in List	
•	Date/Time Received:11-10-06 9:15	•
÷.	SDG#:MSR # 06 - 1469	·, ·
· ·	Work Order Number:175874_175901	· . ·
т. г.	Shipping Container ID: 7985 3891 5085 Chain of Custody # 2006-00655, 2006-00	1056
	1. Custody Seals on shipping container intact? Yes [] No []	
	AT A TALE I	
. .	2. Custody Seals dated and digited.	. š.
		2 (s •
• • •	4. Cooler temperature 18°	
•	5. Vermiculite/packing materials is: Wet [] Dry [] NA D	
	6. Number of samples in shipping container:	· · ·
	7. Sample holding times exceeded? Yes [] No [/]	
	<u> tape</u> hazard labels custody seals appropriate sample labels	
	9. Samples are:	· ·
• •	7. Dampies ac.	`
	in good conditionleaking	
	in good conditionleaking brokenhave air bubbles 10. Were any anomalies identified in sample receipt? Yes [] No []	
	in good conditionlesking brokenhave air bubbles	
	in good conditionleaking brokenhave air bubbles 10. Were any anomalies identified in sample receipt? Yes [] No []	
	in good conditionleaking brokenhave air bubbles 10. Were any anomalies identified in sample receipt? Yes [] No []	
-] 	in good conditionleaking brokenhave air bubbles 10. Were any anomalies identified in sample receipt? Yes [] No []	
; - -	in good conditionleaking brokenhave air bubbles 10. Were any anomalies identified in sample receipt? Yes [] No [] 11. Description of anomalies (include sample numbers):	
, - - -	in good conditionleaking brokenhave air bubbles 10. Were any anomalies identified in sample receipt? Yes [] No []/ 11. Description of anomalies (include sample numbers):	

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SAMPLE RECEIPT & REVIEW FORM

	TATORIES				PM use only							
Cli	ent: Connecticity Vo	فحاك	ve		SDG/ARCOC/Work Order: 175874,175901							
Da	te Received: 11-10-Clo				PM(A) Review (ensure non-conforming items are resolved prior to signing):							
Re	ceived By: -1-5				1 Curth							
	Sample Receipt Criteria	Yes	NA	°Z	Comments/Qualifiers (Required for Non-Conforming Items)							
1	Shipping containers received intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)							
2	Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.	· ·			Circle Coolant # ice bags blue ice dry ice none other déscribe)							
3	Chain of custody documents included with shipment?											
4	Sample containers intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)							
5	Samples requiring chemical preservation at proper pH?				Sample ID's, containers affected and observed pH:							
6	VOA vials free of headspace (defined as < 6 mm bubble)?				Sample ID's and containers affected:							
7	Are Encore containers present? (If yes, immediately deliver to VOA laboratory)											
8	Samples received within holding time?				Id's and test affected:							
9	Sample ID's on COC match ID's on bottles?				Sample ID's and containers affected:							
10	Date & time on COC match date & time on bottles?				Sample ID's affected:							
11	Number of containers received match number indicated on COC?				Sample ID's affected:							
12	COC form is properly signed in relinquished/received sections?											
14	Air Bill, Tracking #'s, & Additional Comments	(0	<u>_</u> #	- 2	2006-00155,00156							
	Suspected Hazard Information	Non- Regulated	Regulated	gh Lev	RSO RAD Receipt #							
A	Radiological Classification?	\mathcal{V}			Maximum Counts Observed*: 70 CPM							
B		\mathcal{V}_{j}			Comments:							
С	Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.				Hazard Class Shipped: UN#:							
	PM (or PMA) review of Hazard class	sificati	ion:		Initials CAL Date: 11 14 06							

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Connecticut Y 362 Injun H	у	Chain of Custody Form No. 2006-006													
Project Name: Haddam Ne	860-267 eck Decomn					[An	alyses	Reques	ted		Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-	3924											Comments:			
General Engineering Labor 2040 Savage Road. Charles	Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones Priority: 30 D. 14 D. 7 D. 3 D.		oratories eston SC. 29407					FSSGAM	FSSALL					. :	
Priority: 🗌 30 D. 🗌 14 D					Container								1768901		
Sample Designation	Date	Time	Media Code	Sample Type Code	Size- &Type Code							Comment, Preservation	Lab Sample ID		
9522-0004-001F	11722106	0726	TS	G	BP	×									
9522 -0004 -001FS	11/22/01.	6726	75	G	BF	X									
9522 -0004 - 60 2F	11/12/06	0728	15	Ģ	BP	X									
95,1)-0004-0037	11/22/00	0730	Ti	G	BF	X	ļ			_		······································			
9832-0014-004E	11/02/06	6732	īí	6	BR		LX_	<u> </u>	ļ						
9522.0607-005E	11/22/06	0740	TT	G	BC	X	ļ		L						
9522-0004-006F	11/22/01	0742	<u></u>	1-6	BI	$\downarrow X$	1	_			\downarrow				
9512-0014-007E	11/12/1	0748	<u> </u>	G	US		×_	ļ	ļ		┨───┥				
952) -0004-009E	11/22/26	0750	75	6	BP_	X			ļ		↓				
95))-0004-009F	11/32/06	0940	<u> </u>	<u> </u>	BP	$\downarrow \times$		ļ			┥↓				
951)-0004-010F	1/22/06	0942	Īr	6	<u>pr</u>	14	L	<u> </u>	<u> </u>						
NOTES: PO #: 002332	🛛 LTP ()A {	_] Rac	waste (QA	Nor	i QA	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: Deg. C Custody Sealed? Y D N D						
1) Relinquished By		Date/Tim		2) Rec	ived By		se		1/30	/Time	10/1	Other	Custody Seal Intact?		
3) Relinquished By	Date/Time 4) Received By								Date	Time	1	Bill of Lading #	Y C NO		

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GPP-GGGR-R5104-003-Attachment B-CY-001 Major

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Connecticut Yankee Atomic Power Company 362 Injun Hollow Road, East Hampton, CT 06424 860-267-2556								Chain of Custody Form							
Project Name: Haddam No	eck Decomm	nissioning					An	alyses l	Request	ed		Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-	3924											Comments:			
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones					FSSGAM	FSSALL									
Priority: 30 D. 14 D. 7 D. 3 D.			Sample	Container Size-	Г <u>ц</u>	н					· · · · · · · · · · · · · · · · · · ·	176890%			
Sample Designation	Date	Time	Media Còde:	Type Code	&Type Code					•.		Comment, Preservation	Lab Sample ID		
9522-0004- Olif	11/22/06	0944	TS	G	BP	\mathbf{X}									
9572:0004-012F	11/22/10	0946	Ťr	Ġ	BP	X							\$		
95)2 00:4.013F	11/22/06	1012	îs.	5	BP	X									
9532- 0027-074F	11/22/01	1014	71	6	DP	Х									
9537-0314-01512	11/22/18	10/6	Ţſ.	6	BP	X			-			· .			
9557- 0004- 016 F	1/122/06	1021	îs	G	DP	X									
· · · · · · · · · · · · · · · · · · ·															
		:													
NOTES: PO #: 002332	MSR #:	06-1381 1506	SSW	SSWP# NA 🖄 LTP QA 📋 Radwaste QA 📋 Non QA Samples Shipped Via: 🖾 Fed Ex 1 UPS							Internal Container Temp.: Deg. C Custody Sealed? Y □ N □				
1) Relinquished By	Date/Time 2) Bereived By							bolog		Time		Other	Custody Seal Intact?		
3) Relinquished By		Date/Tim	e	4) Rece	ived By		-1		Date	Time		Bill of Lading #	ΥΩΝΟ		

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Connecticut Yankee Statement of Work for Analytical Lab Services	CY-ISC-SOW-001
Figure 1. Sample Check-in Lis	st .
Date/Time Received: 1.30.00 10%1	0
SDG#MSR#06-1505, MSR#06-1506	· · · · · · · · · · · · · · · · · · ·
Work Order Number: 176896, 176890	
Shipping Container ID: See Continuation Sheet	ody # <u>See</u> Continuation shee
1. Custody Seals on shipping container intact?	Yes X No []
2. Custody Seals dated and signed?	Yes No []
3. Chain-of-Custody record present?	Yes [XNo []
4. Cooler temperature <u>See Contin</u>	ustion sheet
5. Venniculite/packing materials is:	Wet [] Dry
6. Number of samples in shipping container:	
7. Sample holding times exceeded?	Yes [] No [X
tapehazard labels custody sealsappropriate sample la	bels
9. Samples are:	
brokenhave air bubbles	
10. Were any anomalies identified in sample receipt?	Yes No []
11. Description of anomalies (include sample numbers): <u><u>n</u>c</u>	
	······································
Sample Custodian/Laboratory:	Date: 11' 30.06
Telephoned to:On	By
· · · ·	Page 45 of 56

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SAMPLE RECEIPT & REVIEW FORM

#ATORIES'		PM use only							
Client: YANERA	timic	SDG/ARCOC/Work Order: 176890, 176896							
Date Received: 11 3-2		PM(A) Review (ensure non-conforming items are resolved prior to signing):							
Received By:	92	Curth							
		<i>↓</i>							
Sample Receipt Criteria	Yes NA No	Comments/Qualifiers (Required for Non-Conforming Items)							
1 Shipping containers received int and sealed?	act	Circle Applicable: seals broken damaged container leaking container other (describe)							
Samples requiring cold preservation within (4 +/- 2 C) Record preservation method.	,	Circle Coolant // ice bags blue ice dry ice none other describe)							
3 Chain of custody documents included with shipment?									
4 Sample containers intact and sealed?	1	Circle Applicable: seals broken damaged container leaking container other (describe)							
5 Samples requiring chemical preservation at proper pH?		Sample ID's, containers affected and observed pH:							
6 VOA vials free of headspace (defined as < 6mm bubble)?		Sample ID's and containers affected:							
Are Encore containers present? 7 (If yes, immediately deliver to VOA laboratory)									
8 Samples received within holding time?	\checkmark	id's and lesis affected:							
9 Sample ID's on COC match ID's on bottles?	\sim	Sample ID's and containers affected:							
10 Date & time on COC match date & time on bottles?	V	Sample ID's affected:							
Number of containers received match number indicated on COC?		sample ID's affected:							
2 COC form is properly signed in relinquished/received sections?		not signed							
4 Air Bill , Tracking #'s, & Additional Comments	7928 9 7928 9 7980 5	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$							
Suspected Hazard Information	Non- Regulate Regulate High Lev	SO RAD Receipt # If > x2 area background is observed on samples identified as "non- egulated/non-radioactive", contact the Radiation Safety group for further investigation.							
Radiological Classification?		faximum Counts Observed*: 150 CPM							
Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.		azard Class Shipped: N#:							
Regulated as a Foreign Soil?									
PM (or PMA) review of Hazard clas	sification:	Initials Date: 1130 06							



SAMPLE RECEIPT & REVIEW FORM CONTINUATION FORM

-200 Fed 7928 9092 2742 Fx 200 2110 Ο a 1n Ô a 7 52 5266 Д 7980 8796 -18 $\overline{\mathbf{0}}$ 8785 16 hain of Custody #'s 2006-00687 - 06667 0067 0061 60684 00689 0069 00 686 00685 00666 00688 ~4

Subject: Re: Additional analyses (Sr-90)

From: Cheryl Jones <ci@gel.com>

Date: Tue, 12 Dec 2006 07:55:22 -0500 To: "Arthur L. Hammond" <Hammond@CYAPCO.com> CC: David Wojtkowiak <wojtkowiak@cyapco.com>, Jack McCarthy <mccarthy@cyapco.com> Arthur, The sample listed for recount below (9522-0004-004F) is already being processed as a reanalysis for Sr-90 based on Jack's email last Friday (new workorder 177405). It will be completed this Friday and I will reference the new MSR# below. The remaining samples have been relogged per your request yesterday and will be processed on a 7d TAT. Please let me know if you have any questions. Thanks, Cheryl Arthur L. Hammond wrote: Cheryl, I put a 7 day TAT on the MSR however, if you have the results sooner we will take them. Thank you, Arthur ----Original Message-----From: Cheryl Jones [mailto:cj@gel.com] Sent: Monday, December 11, 2006 4:33 PM To: Arthur L. Hammond Cc: Clyde Newson; John McCarthy; Jeffrey D. Wagner; David Wojtkowiak; Amanda Rásco Subject: Re: Additional analyses (Sr-90) Arthur, Thank you for the list of IDs, we will have the samples pulled from their storage location and rescheduled by tomorrow morning. When do you need this data returned to you (TAT)? Cheryl Arthur L. Hammond wrote: Chery1, We are requesting additional analyses on the attached list of samples. One sample, 9522-0004-004F, is a recount. The GEL sample ID for that sample is 176890005. We are requesting Sr-90 analyses counts on these samples. The MSR NO 06-1549. Thank you,

1 of 2

Arthur) Cheryl A. Jones Project Manager/PM Team Leader General Engineering Laboratories, LLC 2040 Savage Road Charleston, SC (USA) 29407 Direct: 843.769.7388 Main: 843.556.8171 x 4243 Fax: 843.766.1178 E-mail: cj@gel.com Web: www.gel.com

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MEMORANDUM

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To: Art Hammond

From: Dave Wojtkowiak

In support of the FSS of Survey Area 9522, I would like to request additional analysis for Sr-90 in the following soil samples:

Connecticut Yankee FSS Survey Area 9522

Page 1 of 1

Subject: RE: Additional analyses (Sr-90) From: "Arthur L. Hammond" <Hammond@CYAPCO.com> Date: Wed, 13 Dec 2006 16:00:57 -0500 To: "Cheryl Jones" <cj@gel.com> CC: "Clyde Newson" <Newson@CYAPCO.com>, "David Wojtkowiak" <wojtkowiak@cyapco.com>, "John McCarthy" <McCarthy@CYAPCO.com>, "Jeffrey D. Wagner" <Wagner@CYAPCO.com> Cheryl, As per our conversation sample, 9522-0004-004F, will not need a third recount. It is my understanding that Jack McCarthy had previously requested a recount on this sample on 12/8/06. Thank you, Arthur ----Original Message-----From: Cheryl Jones [mailto:cj@gel.com] Sent: Monday, December 11, 2006 4:33 PM To: Arthur L. Hammond Cc: Clyde Newson; John McCarthy; Jeffrey D. Wagner; David Wojtkowiak; Amanda Rasco Subject: Re: Additional analyses (Sr-90) Arthur, Thank you for the list of IDs, we will have the samples pulled from their storage location and rescheduled by tomorrow morning. When do you need this data returned to you (TAT)? Cheryl Arthur L. Hammond wrote: Cheryl, We are requesting additional analyses on the attached list of samples. One sample, 9522-0004-004F, is a recount. The GEL sample ID for that sample is 176890005. We are requesting Sr-90 analyses counts on these samples. The MSR NO 06-1549. Thank you, Arthur Cheryl A. Jones Project Manager/PM Team Leader General Engineering Laboratories, LLC 204.0 Savage Road Charleston, SC (USA) 29407

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Direct: 843.769.7388 Main: 843.556.8171 x 4243 Fax: 843.766.1178 E-mail: cj@gel.com Web: www.gel.com

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Data Review Qualifier Definitions

Data Review Qualifier Definitions

Qualifier Explanation

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- B Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL</p>
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- d 5-day BOD-The 2:1 depletion requirement was not met for this sample
- E Organics-Concentration of the target analyte exceeds the instrument calibration range
- E Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- H Analytical holding time was exceeded
- h Preparation or preservation holding time was exceeded
- J Value is estimated
- N Metals-The Matrix spike sample recovery is not within specified control limits
- N Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- ND Analyte concentration is not detected above the reporting limit
- UI Gamma Spectroscopy-Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- Z Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

RADIOLOGICAL ANALYSIS

Radiochemistry Case Narrative Connecticut Yankee Atomic Power Co. (YANK) Work Order 177540

Method/Analysis Information

Product:	GFPC, Sr90, solid-ALL FSS
Analytical Method:	EPA 905.0 Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	595174
Prep Batch Number:	595088
Dry Soil Prep GL-RAD-A-021 Batch Number:	595084

Sample ID	Client ID
177540021	9522-0002-010F
177540022	9522-0002-011F
177540023	9522-0002-012F
177540024	9522-0002-013F
177540025	9522-0002-014F
177540026	9522-0002-016F
177540027	9522-0003-001F
177540028	9522-0003-002F
177540029	9522-0003-003F
177540030	9522-0003-004F
177540031	9522-0003-005F
177540032	9522-0003-007F
177540033	9522-0003-008F
177540034	9522-0003-009F
177540035	9522-0003-010F
177540036	9522-0003-011F
177540037	9522-0003-012F
177540038	9522-0003-013F
177540039	9522-0003-014F
177540040	9522-0003-015F
1201245012	Method Blank (MB)
1201245013	177540021(9522-0002-010F) Sample Duplicate (DUP)
1201245014	177540021(9522-0002-010F) Matrix Spike (MS)
1201245015	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 10.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 177540021 (9522-0002-010F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Chemical Recoveries

All chemical recoveries meet the required acceptance limits for this sample set.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	GFPC, Sr90, solid-ALL FSS
Analytical Method:	EPA 905.0 Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	595177
Prep Batch Number:	595089
Dry Soil Prep GL-RAD-A-021 Batch Number:	595086

Sample ID	Client ID
177540041	9522-0004-001F
177540042	9522-0004-002F
177540043	9522-0004-003F
177540045	9522-0004-005F
177540046	9522-0004-006F
177540047	. 9522-0004-008F
177540048	9522-0004-009F
177540049	9522-0004-010F
177540050	9522-0004-011F
177540051	9522-0004-012F
177540052	9522-0004-013F
177540053	9522-0004-014F
177540054	9522-0004-015F
177540055	9522-0004-016F
1201245020	Method Blank (MB)
1201245021	177540041(9522-0004-001F) Sample Duplicate (DUP)
1201245022	177540041(9522-0004-001F) Matrix Spike (MS)
1201245023	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 10.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volumes in this batch.

Designated QC

The following sample was used for QC: 177540041 (9522-0004-001F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples 1201245020 (MB), 177540041 (9522-0004-001F), 177540042 (9522-0004-002F), 177540043 (9522-0004-003F), 177540047 (9522-0004-008F), 177540050 (9522-0004-011F), 177540052 (9522-0004-013F) and 177540054 (9522-0004-015F) were recounted due to a suspected blank false positive. Samples 1201245020 (MB) and 1201245021 (9522-0004-001F) were recounted due to high MDAs.

Chemical Recoveries

All chemical recoveries meet the required acceptance limits for this sample set.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	GFPC, Sr90, solid-ALL FSS
Analytical Method:	EPA 905.0 Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	597316
Prep Batch Number:	595087
Dry Soil Prep GL-RAD-A-021 Batch Number:	595082

Sample ID	Client ID
177540001	9522-0001-001F
177540002	9522-0001-002F
177540003	9522-0001-003F
177540004	9522-0001-004F
177540005	9522-0001-005F
177540006	9522-0001-006F
177540007	9522-0001-009F
177540008	9522-0001-010F
177540009	9522-0001-011F
177540010	9522-0001-012F
177540011	9522-0001-013F
177540012	9522-0001-015F
177540013	9522-0001-016F
177540014	9522-0001-021-I
177540015	9522-0001-024-I
177540016	9522-0002-002F
177540017	9522-0002-003F
177540018	9522-0002-005F
177540019	9522-0002-007F
177540020	9522-0002-008F
1201250079	Method Blank (MB)
1201250080	177540001(9522-0001-001F) Sample Duplicate (DUP)
1201250081	177540001(9522-0001-001F) Matrix Spike (MS)
1201250082	Laboratory Control Sample (LCS)

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SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 10.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 177540001 (9522-0001-001F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples 1201250080 (9522-0001-001F), 177540003 (9522-0001-003F), 177540004 (9522-0001-004F), 177540005 (9522-0001-005F), 177540006 (9522-0001-006F), 177540009 (9522-0001-011F), 177540010 (9522-0001-012F) and 177540015 (9522-0001-024-I) were recounted due to a suspected false positive. Samples were repreped due to high relative percent difference/relative error ratio.

Chemical Recoveries

All chemical recoveries meet the required acceptance limits for this sample set.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

The MDA for sample 177540001 (9522-0001-001F) was used to calculcate the relative percent difference.

Qualifier information

Manual qualifiers were not required.

<u>Certification Statement</u>

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

<u>Review Validation:</u>

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

2/20/0 Reviewer/Date:_