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## U.S. NUCLEAR REGULATORY COMMISSION

In the Matter of System Energy Resources, Inc.Docket No. 52-009-EJP Official Exhibit No. 54944OFFERED by: Applicant Licensee Operations, Inc.NRC Staff Waterloo Road  
P.O. Box 768IDENTIFIED on 11/1/05 Witness/Panel  
Port Gibson, MS 39150  
tel: 601-437-6200Action Taken: ADMITTED REJECTED WITHDRAWN

Reporter/Clerk

Charles A. Bottemiller  
Manager  
Plant Licensing

GNRO-2006/00017.

April 26, 2006

U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Attention: Document Control Desk

Subject: Grand Gulf Nuclear Station (GGNS) 2005 Annual Radiological  
Environmental Operating Report (AREOR)Grand Gulf Nuclear Station  
Docket No. 50-416  
License No. NPF-29

Ladies &amp; Gentlemen:

In accordance with the Grand Gulf Nuclear Station Unit 1 Technical Specification 5.6.2, attached is the Annual Radiological Environmental Operating Report for the period January 1, 2005 through December 31, 2005.

**This letter does not contain any commitments.** If you have questions or require additional information concerning these reports, please contact Mr. Richard Scarbrough (601) 437-6316, or this office at (601) 437-6685.

Yours truly,

CAB/MJL  
attachment:  
cc:2005 Annual Radiological Environmental Operating Report  
(See Next Page)

OFFICE OF THE SECRETARY  
MAKINGS AND  
ADJUDICATIONS STAFF

Table 1.1

## Radiological Environmental Sampling Program

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Airborne	<b><u>Radioiodine and Particulates</u></b> 1 sample close to the SITE BOUNDARY having the highest calculated annual average groundlevel D/Q.	<b>AS-7 UH (Sector H, Radius 0.5 Miles)</b> – South-southeast of GGNS at the IBEW Union Hall.	Continuous sampler operation with sample collection per 7 days or as required by dust loading, whichever is more frequent	Radioiodine Canister – I-131; 7 days  Particulate Sampler – Gross beta radioactivity following filter change, composite (by location) for gamma isotopic; 92 days
	<b><u>Radioiodine and Particulates</u></b> 1 sample from the vicinity of a community having the highest calculated annual average groundlevel D/Q.	<b>AS-1 PG (Sector G, Radius 5.5 Miles)</b> – Southeast of GGNS at the Port Gibson City Barn.		
	<b><u>Radioiodine and Particulates</u></b> 1 sample from a control location 15 - 30 km (10 - 20 miles) distance.	<b>AS-3 61VA (Sector B, Radius 18 Miles)</b> – North-northeast of GGNS on Hwy 61, North of the Vicksburg Airport.		
Direct Radiation	<b><u>TLDs</u></b> An inner ring of stations in the general areas of the SITE BOUNDARY.	<b>M-16 (Sector A, Radius 0.9 Miles)</b> – Meteorological Tower.  <b>M-17 (Sector C, Radius 0.5 Miles)</b> – South Side, Grand Gulf Road.  <b>M-19 (Sector E, Radius 0.5 Miles)</b> – Eastern SITE BOUNDARY Property line, North-northeast of HWSA.	92 days	Gamma dose; 92 days

Table 1.1

Radiological Environmental Sampling Program

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Direct Radiation	<p><b><u>TLDs</u></b> An inner ring of stations in the general areas of the SITE BOUNDARY.</p>	<p><b>M-21 (Sector J, Radius 0.4 Miles)</b> – Near Former Training Center Building on Bald Hill Road.</p> <p><b>M-22 (Sector G, Radius 0.5 Miles)</b> – Former RR Entrance Crossing On Bald Hill Road.</p> <p><b>M-23 (Sector Q, Radius 0.5 Miles)</b> – Gin Lake Road 50 Yards North of Heavy Haul Road on Power Pole.</p> <p><b>M-25 (Sector N, Radius 1.6 Miles)</b> – Radial Well Number 1.</p> <p><b>M-28 (Sector L, Radius 0.9 Miles)</b> – Former Glodjo Residence.</p> <p><b>M-94 (Sector R, Radius 0.8 Miles)</b> – Sector R Near Meteorological Tower.</p>	92 days	Gamma dose; 92 days
	<p><b><u>TLDs</u></b> An outer ring approximately 3 to 5 miles from the site.</p>	<p><b>M-36 (Sector P, Radius 5.0 Miles)</b> – Curve on HW 608, Point Nearest GGNS at Power Pole.</p> <p><b>M-40 (Sector M, Radius 2.3 Miles)</b> – Headly Drive, Near River Port Entrance.</p>		

Table 1.1

Radiological Environmental Sampling Program

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Direct Radiation	<u>TLDs</u> An outer ring approximately 3 to 5 miles from the site.	<b>M-48 (Sector K, Radius 4.8 Miles)</b> – 0.4 Miles South on Mont Gomer Road on West Side.  <b>M-49 (Sector H, Radius 4.5 Miles)</b> – Fork in Bessie Weathers Road/Shafter Road.  <b>M-50 (Sector B, Radius 5.3 Miles)</b> – Panola Hunting Club Entrance.  <b>M-55 (Sector D, Radius 5.0 Miles)</b> – Near Ingelside Karnac Ferry Road/Ashland Road Intersection.  <b>M-57 (Sector F, Radius 4.5 Miles)</b> – Hwy 61, Behind the Welcome to Port Gibson Sign at Glensdale Subdivision.	92 days	Gamma dose; 92 days
	<u>TLDs</u> 8 stations in special interest areas such as population centers, nearby residences, schools, and in 1 or 2 areas to serve as control stations.	<b>M-01 (Sector E, Radius 3.5 Miles)</b> – Across the road from Lake Claiborne Entry Gate. (Special Interest)  <b>M-07 (Sector G, Radius 5.5 Miles)</b> – AS-1 PG, Port Gibson City Barn. (Special Interest)  <b>M-09 (Sector D, Radius 3.5 Miles)</b> – Warner Tully Y-Camp. (Special Interest)  <b>M-10 (Sector A, Radius 1.5 Miles)</b> – Grand Gulf Military Park. (Special Interest)		

Table 1.1

**Radiological Environmental Sampling Program**

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Direct Radiation	<p><b>TLDs</b></p> <p>8 stations in special interest areas such as population centers, nearby residences, schools, and in 1 or 2 areas to serve as control stations</p>	<p><b>M-14 (Sector B, Radius 18.0 Miles)</b> – AS-3-61VA, Hwy 61, North of Vicksburg Airport. (Control)</p> <p><b>M-33 (Sector P, Radius 12.5 Miles)</b> – Newellton, Louisiana Water Tower. (Special Interest)</p> <p><b>M-38 (Sector M, Radius 9.5 Miles)</b> – Lake Bruin State Park, Entrance Road. (Special Interest)</p> <p><b>M-39 (Sector M, Radius 13.0 Miles)</b> – St. Joseph, Louisiana, Auxiliary Water Tank. (Special Interest)</p>	92 days	Gamma dose; 92 days

Table 1.1

Radiological Environmental Sampling Program

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Waterborne	<b>Surface Water</b> 1 sample upstream.	<b>MRUP (Sector R, Radius 1.8 Miles)</b> - At least 4500 ft upstream of the GGNS discharge point into the Mississippi River to allow adequate mixing of the Mississippi and Big Black Rivers.	92 days	Gamma isotopic and tritium analyses; 92 days
	1 sample downstream.	<b>MRDOWN (Sector N, Radius 1.6 Miles)</b> - At least 5000 ft downstream of the GGNS discharge point into the Mississippi River near Radial Well No. 1.		
	1 sample downstream during a Liquid Radwaste Discharge.	<b>MRDOWN (Sector P, Radius 1.3 Miles)</b> - Downstream of the GGNS discharge point into the Mississippi River near Radial Well No. 5.	366 days	Gamma isotopic and tritium analyses; 366 days
	1 sample from Outfall 007	<b>OUTFALL 007 (Sector N, Radius 0.2 Miles)</b> - Storm Drain System	31 days	Tritium; 31 days

Table 1.1

## Radiological Environmental Sampling Program

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Waterborne	<b>Groundwater</b> Samples from 2 sources.	<b>PGWELL (Sector G, Radius 5.0 Miles)</b> - Port Gibson Wells - Take from distribution system or one of the five wells.  <b>CONSTWELL (Sector Q, Radius 0.4 Miles)</b> - GGNS Construction Water Well - Taken from distribution system or the well.	366 days	Gamma isotopic and tritium analyses; 366 days
	<b>Sediment From Shoreline</b> 1 sample from downstream area.  1 sample from upstream area.	<b>SEDHAM (Sector N, Radius 1.6 Miles)</b> - Downstream of the GGNS discharge point in the Mississippi River near Hamilton Lake outlet.  <b>SEDCONT (Minimum of 100 yds)</b> - Upstream of the GGNS discharge point in the Mississippi River.	366 days	Gamma isotopic; 366 days
Ingestion	<b>Milk</b> 1 sample from milking animals within 8 km if milk is available commercially.  1 control sample (only if indicator exists) >8 km if milk is available.	Currently, no available milking animals within 8 km of GGNS.  <b>ALCONT (Sector K, Radius 10.5 Miles)</b> - Located South-southwest of GGNS at Alcorn State University.	92 days when required	Gamma isotopic and I-131; 92 days



Table 1.1

Radiological Environmental Sampling Program

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Ingestion	<p><b>Fish</b> 1 sample in vicinity of GGNS discharge point.</p> <p>1 sample uninfluenced by GGNS discharge.</p>	<p><b>FISHDOWN</b> – Downstream of the GGNS discharge point into the Mississippi River</p> <p><b>FISHUP</b> – Upstream of the GGNS discharge point in the Mississippi River uninfluenced by plant operations.</p>	366 days	Gamma isotopic on edible portion; 366 days
	<p><b>Food Products</b> 1 sample of broadleaf vegetation grown in one of two different offsite locations with highest anticipated annual average ground level D/Q if milk sampling is not performed.</p> <p>1 sample of similar vegetation grown 15 – 30 km distant if milk sampling is not performed.</p>	<p><b>VEG-J (Sector J, Radius 0.4 Miles)</b> – South of GGNS near former Training Center on Bald Hill Road.</p> <p><b>VEG-CONT (Sector K, Radius 10.5 Miles)</b> – Alcorn State University south-southwest of GGNS when available, otherwise a location 15-30 km distant.</p>	92 days when available	Gamma isotopic and I-131; 92 days

## **2.9 Interlaboratory Comparison Results**

River Bend Station (RBS) Environmental Laboratory analyzed interlaboratory comparison samples to fulfill the requirements of the ODCM Specifications 6.12.1. Attachment 1, Radiological Environmental Monitoring Report, contains these results in Table 9.1. GGNS' review of RBS' interlaboratory comparison indicated that 97.5% [40 of 41] of results were within control limits for accuracy, 100% [41 of 41] of results were within control limits for precision.

TABLE 3.1

Radiological Environmental Monitoring Program SummaryName of Facility: Grand Gulf Nuclear Station      Docket No: 50-416Location of Facility: Claiborne County, MississippiReporting Period: January - December 2005

Sample Type ( Units )	Type & Number of Analyses <sup>a</sup>	LLD <sup>b</sup>	Indicator Locations Mean ( F ) <sup>c</sup> [ Range ]	Location with Highest Annual Mean		Control Locations Mean ( F ) <sup>c</sup> [ Range ]	Number of Nonroutine Results <sup>e</sup>
				Location <sup>d</sup>	Mean ( F ) <sup>c</sup> [ Range ]		
Air Particulates ( pCi/m <sup>3</sup> )	GB    156	0.01	0.025 ( 104 / 104 ) [ 0.010 - 0.054 ]	AS-1 PG (Sector G, 5.5 mi )	0.026 ( 52 / 52 ) [ 0.010 - 0.054 ]	0.025 ( 52 / 52 ) [ 0.011 - 0.066 ]	0
	GS    12						
	Cs-134	0.05	<LLD	N/A	N/A	<LLD	0
	Cs-137	0.06	<LLD	N/A	N/A	<LLD	0
Airborne Iodine ( pCi/m <sup>3</sup> )	I-131    156	0.07	<LLD	N/A	N/A	<LLD	0
Inner Ring TLDs ( mR/Qtr )	Gamma    36	(f)	9.2 ( 36 / 36 ) [ 5.9 - 15.3 ]	M-21 ( Sector J, 0.4 mi. )	13.7 ( 4 / 4 ) [ 12.2 - 15.3 ]	N/A	0
Outer Ring TLDs ( mR/Qtr )	Gamma    28	(f)	8.8 ( 28 / 28 ) [ 5.7 - 11.4 ]	M-57 (Sector F, 4.5 mi.)	10.2 ( 4 / 4 ) [ 9.2 - 11.4 ]	N/A	0
Special Interest TLDs ( mR/Qtr )	Gamma    28	(f)	8.5 ( 28 / 28 ) [ 6.3 - 11.5 ]	M-01 ( Sector E, 3.5 mi. )	10.6 ( 4 / 4 ) [ 9.7 - 11.5 ]	N/A	0
Control TLDs ( mR/Qtr )	Gamma    4	(f)	N/A	N/A	N/A	9.3 ( 4 / 4 ) [ 7.9 - 10.8 ]	0

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				Location <sup>d</sup>	Mean ( F ) <sup>c</sup> [ Range ]		
Surface Water ( pCi/l )	H-3      10	3000	<LLD	N/A	N/A	<LLD	0
	GS      12						
	I-131      15	15	<LLD	N/A	N/A	<LLD	0
	Mn-54      15	15	<LLD	N/A	N/A	<LLD	0
	Fe-59      30	30	<LLD	N/A	N/A	<LLD	0
	Co-58      15	15	<LLD	N/A	N/A	<LLD	0
	Co-60      15	15	<LLD	N/A	N/A	<LLD	0
	Zn-65      30	30	<LLD	N/A	N/A	<LLD	0
	Zr-95      30	30	<LLD	N/A	N/A	<LLD	0
	Nb-95      15	15	<LLD	N/A	N/A	<LLD	0
	Cs-134      15	15	<LLD	N/A	N/A	<LLD	0
	Cs-137      18	18	<LLD	N/A	N/A	<LLD	0
	Ba-140      60	60	<LLD	N/A	N/A	<LLD	0
	La-140      15	15	<LLD	N/A	N/A	<LLD	0

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Sample Type ( Units )	Type & Number of Analyses <sup>a</sup>	LLD <sup>b</sup>	Indicator Locations Mean ( F ) <sup>c</sup> [ Range ]	Location with Highest Annual Mean		Control Locations Mean ( F ) <sup>c</sup> [ Range ]	Number of Nonroutine Results <sup>e</sup>
				Location <sup>d</sup>	Mean ( F ) <sup>c</sup> [ Range ]		
Groundwater ( pCi/l )	H-3 4	2000	<LLD	N/A	N/A	<LLD	0
	I-131 2	1	<LLD	N/A	N/A	<LLD	0
	GS 4						
	Mn-54	15	<LLD	N/A	N/A	<LLD	0
	Fe-59	30	<LLD	N/A	N/A	<LLD	0
	Co-58	15	<LLD	N/A	N/A	<LLD	0
	Co-60	15	<LLD	N/A	N/A	<LLD	0
	Zn-65	30	<LLD	N/A	N/A	<LLD	0
	Zr-95	30	<LLD	N/A	N/A	<LLD	0
	Nb-95	15	<LLD	N/A	N/A	<LLD	0
	Cs-134	15	<LLD	N/A	N/A	<LLD	0
	Cs-137	18	<LLD	N/A	N/A	<LLD	0
	Ba-140	60	<LLD	N/A	N/A	<LLD	0
	La-140	15	<LLD	N/A	N/A	<LLD	0
Sediment ( pCi/kg )	GS 4						
	Cs-134	150	<LLD	N/A	N/A	<LLD	0
	Cs-137	180	<LLD	N/A	N/A	<LLD	0

TABLE 3.1

Radiological Environmental Monitoring Program SummaryName of Facility: Grand Gulf Nuclear Station Docket No: 50-416Location of Facility: Claiborne County, MississippiReporting Period: January - December 2005

Sample Type ( Units )	Type & Number of Analyses <sup>a</sup>	LLD <sup>b</sup>	Indicator Location Mean ( F ) <sup>c</sup> [ Range ]	Location with Highest Annual Mean		Control Locations Mean ( F ) <sup>c</sup> [ Range ]	Number of Nonroutine Results <sup>e</sup>
				Location <sup>d</sup>	Mean ( F ) <sup>c</sup> [ Range ]		
Fish ( pCi/kg )	GS 4						
	Mn-54	130	<LLD	N/A	N/A	<LLD	0
	Fe-59	260	<LLD	N/A	N/A	<LLD	0
	Co-58	130	<LLD	N/A	N/A	<LLD	0
	Co-60	130	<LLD	N/A	N/A	<LLD	0
	Zn-65	260	<LLD	N/A	N/A	<LLD	0
	Cs-134	130	<LLD	N/A	N/A	<LLD	0
	Cs-137	150	<LLD	N/A	N/A	<LLD	0
Food Products ( pCi/kg )	I-131 10	60	<LLD	N/A	N/A	<LLD	0
	GS 10						
	Cs-134	60	<LLD	N/A	N/A	<LLD	0
	Cs-137	80	<LLD	N/A	N/A	<LLD	0

TABLE 3.1

Radiological Environmental Monitoring Program Summary

Name of Facility: Grand Gulf Nuclear Station      Docket No: 50-416  
 Location of Facility: Claiborne County, Mississippi      Reporting Period: January - December 2005

Sample Type ( Units )	Type & Number of Analyses <sup>a</sup>	LLD <sup>b</sup>	Indicator Location Mean ( F ) <sup>c</sup> [ Range ]	Location with Highest Annual Mean		Control Locations Mean ( F ) <sup>c</sup> [ Range ]	Number of Nonroutine Results <sup>e</sup>
				Location <sup>d</sup>	Mean ( F ) <sup>c</sup> [ Range ]		
Venison (Special) ( pCi/kg )	GS      1						
	Mn-54	130	<LLD	N/A	N/A	N/A	0
	Fe-59	260	<LLD	N/A	N/A	N/A	0
	Co-58	130	<LLD	N/A	N/A	N/A	0
	Co-60	130	<LLD	N/A	N/A	N/A	0
	Zn-65	260	<LLD	N/A	N/A	N/A	0
	Cs-134	130	<LLD	N/A	N/A	N/A	0
	Cs-137	150	<LLD	N/A	N/A	N/A	0
Food Products (Special) pCi/Kg	I-131      5	60	<LLD	N/A	N/A	<LLD	0
	GS      5						
	Cs-134	60	<LLD	N/A	N/A	<LLD	0
	Cs-137	80	<LLD	N/A	N/A	<LLD	0

<sup>a</sup> GB = Gross beta; I-131 = Iodine-131; H-3 = Tritium; GS = Gamma scan.

<sup>b</sup> LLD = Required lower limit of detection based on GGNS ODCM Table 6.12.1-3.

<sup>c</sup> Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis (F).

<sup>d</sup> Where applicable, locations are specified by name, distance from reactor site and meteorological sector.

<sup>e</sup> Non-routine results are those which exceed ten times the control station value. If no control station value is available, the result is considered non-routine if it exceeds ten times the preoperational value for the location.

<sup>f</sup> LLD is not defined in GGNS ODCM Table 6.12.1-3.

Table 3.4

Sample Type: Surface Water

Analysis: Gamma Isotopic

Units: pCi/l

**SURFACE WATER SAMPLES (GAMMA) - GGNS**

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20050025	MR DOWN	1/11/2005	< 10.75	< 8.98	< 13.34	< 10.31	< 19.53	< 11.43	< 17.45	< 12.06	< 9.79	< 11.69	< 28.12	< 11.35
20050025	MRUP	1/11/2005	< 9.95	< 13.60	< 17.90	< 5.82	< 26.62	< 11.51	< 19.71	< 9.85	< 13.04	< 13.81	< 42.11	< 14.74
20050027	MR DOWN GG	1/11/2005	< 9.98	< 8.08	< 23.30	< 8.86	< 23.10	< 11.35	< 10.08	< 12.81	< 11.52	< 11.13	< 34.25	< 3.65
20050028	MRUP GG	1/11/2005	< 12.56	< 12.44	< 22.09	< 12.36	< 28.77	< 12.78	< 15.63	< 12.44	< 12.53	< 12.82	< 46.85	< 12.87
20050330	MR DOWN	4/5/2005	< 9.50	< 10.61	< 13.84	< 9.58	< 19.52	< 8.56	< 12.44	< 9.69	< 8.85	< 9.07	< 28.94	< 10.38
20050332	MRUP	4/5/2005	< 9.95	< 5.10	< 12.79	< 10.36	< 21.88	< 11.43	< 14.36	< 8.78	< 8.90	< 8.46	< 28.98	< 10.82
20050718	MR DOWN	7/12/2005	< 7.32	< 10.70	< 14.26	< 9.52	< 20.13	< 9.03	< 13.93	< 7.36	< 9.82	< 7.82	< 26.60	< 10.13
20050720	MRUP	7/12/2005	< 11.66	< 9.07	< 19.92	< 9.09	< 17.20	< 11.44	< 15.95	< 10.82	< 10.35	< 15.31	< 22.85	< 12.95
20051122	MR DOWN	10/11/2005	< 11.02	< 13.80	< 19.41	< 5.02	< 27.57	< 14.30	< 17.04	< 12.71	< 6.39	< 9.51	< 37.52	< 7.53
20051124	MRUP	10/11/2005	< 8.57	< 10.40	< 20.46	< 7.36	< 19.35	< 8.73	< 15.15	< 13.29	< 11.15	< 9.49	< 34.29	< 6.81
20051166	MR DOWN*	10/19/2005	< 6.82	< 6.32	< 14.28	< 6.77	< 16.09	< 4.84	< 14.90	< 12.64	< 8.57	< 9.07	< 36.60	< 14.78
20051168	MR DOWN GG*	10/19/2005	< 10.16	< 7.22	< 20.89	< 8.45	< 10.43	< 5.80	< 15.12	< 9.86	< 8.39	< 5.50	< 34.29	< 12.96

\* Annual Sample collected during liquid discharge

"GG" – indicates duplicate sample.



Table 3.2

Sample Type: Surface Water

Analysis: Tritium

Units: pCi/l

**SURFACE WATER SAMPLES (TRITIUM) - GGNS**

LLD (pCi/l)			3000
LAB ID	LOCATION	DATE	TRITIUM
20050024	MR DOWN	1/11/2005	< 573
20050026	MRUP	1/11/2005	< 572
20050331	MR DOWN	4/5/2005	< 563
20050333	MRUP	4/5/2005	< 573
20050719	MR DOWN	7/12/2005	< 583
20050721	MRUP	7/12/2005	< 578
20051123	MR DOWN	10/11/2005	< 573
20051125	MRUP	10/11/2005	< 575
20051167*	MR DOWN	10/19/2005	< 587
20051169*	MR DOWN GG	10/19/2005	< 588

\* Annual Sample collected during liquid discharge

"GG" – indicates duplicate sample.

Table 4.1

Sample Type: Groundwater

Analysis: Gamma Isotopic

Units: pCi/l

**GROUND WATER SAMPLES (GAMMA) - GGNS**

LLD (pCi/l)			15	15	30	15	30	15	30	15	18	60	15
LAB ID	LOCATION	DAT	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	CS-134	CS-137	BA-140	LA-140
20051176	PGWELL	10/24/2005	< 10.18	< 14.07	< 13.31	< 9.60	< 22.28	< 12.84	< 19.42	< 10.99	< 12.09	< 43.14	< 7.51
20051179	CONSTWELL	10/24/2005	< 6.92	< 8.98	< 28.06	< 8.82	< 17.07	< 12.27	< 9.63	< 9.97	< 12.16	< 39.60	< 9.95
20051182	CONSTWELLGG	10/24/2005	< 10.96	< 10.03	< 21.18	< 13.60	< 11.93	< 11.02	< 17.30	< 13.52	< 10.82	< 44.24	< 10.51
20051183	PGWELL GG	10/24/2005	< 11.21	< 10.36	< 25.27	< 7.95	< 15.07	< 10.66	< 15.82	< 14.48	< 11.02	< 40.89	< 14.72

"GG" – indicates duplicate sample.

Table 4.2

Sample Type: Groundwater

Analysis: Tritium

Units: pCi/l

## GROUND WATER SAMPLES ( TRITIUM) - GGNS

LLD (pCi/l)			2000
LAB ID	LOCATION	DATE	TRITIUM
20051178	PGWELL	10/24/2005	< 588.47
20051181	CONSTWELL	10/24/2005	< 590.39
20051184	PGWELL	10/24/2005	< 580.33
20051185	CONSTWELL GG	10/24/2005	< 604.33

Table 4.3  
 Sample Type: Groundwater  
 Analysis: Iodine  
 Units: pCi/l

**GROUND WATER SAMPLES (Iodine-131) - GGNS**

LLD(pCi/l)			1.0
LAB ID	LOCATION	DATE	I-131
20051177	PGWELL	10/24/2005	< 0.88
20051180	CONSTWELL	10/24/2005	< 0.85

Table 5.1

Sample Type: Sediment

Analysis: Gamma Isotopic

Units: pCi/kg

# **SEDIMENT SAMPLES (GAMMA) - GGNS**

LLD (pCi/kg)			150	180
LAB ID	LOCATION	DATE	CS-134	CS-137
20051170	SEDHAM	10/19/2005	< 29.64	< 28.12
20051171	SEDCONT	10/19/2005	< 26.42	< 26.00
20051172	SEDCONT GG	10/19/2005	< 22.44	< 22.53
20051173	SEDHAM GG	10/19/2005	< 29.37	< 29.00

“GG” – indicates duplicate sample.

Table 6.1

Sample Type: Fish

Analysis: Gamma Isotopic

Units: pCi/kg

**FISH SAMPLES (GAMMA) - GGNS**

LLD ( $\mu\text{Ci/kg}$ )			130	130	260	130	260	130	150
LAB	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	CS-134	CS-137
2005075	FISHUP	7/15/2005	< 12.87	< 18.12	< 53.35	< 22.81	< 52.61	< 19.55	< 22.13
2005075	FISHUP GG	7/15/2005	< 15.77	< 18.19	< 31.42	< 19.73	< 37.14	< 16.50	< 19.13
2005075	FISHDOWN	7/15/2005	< 13.38	< 20.32	< 51.46	< 26.76	< 40.43	< 24.28	< 19.39
2005075	FISHDOWN GG	7/15/2005	< 11.14	< 17.98	< 41.32	< 14.90	< 47.63	< 13.81	< 13.14

"GG" – indicates duplicate sample.

Table 7.1

Sample Type: **Food Products**

Analysis: Iodine-131 and Gamma Isotopic

Units: pCi/kg

**VEGETATION SAMPLES (GAMMA) - GGNS**

LLD (pCi/kg)			60	60	80
LAB ID	LOCATION	DATE	I-131	CS-134	CS-137
20050037	VEG-CONT	1/12/2005	< 43.75	< 51.28	< 52.48
20050038	VEG-J	1/12/2005	< 48.07	< 50.91	< 62.99
20050039	VEG-CONT GG	1/12/2005	< 34.90	< 48.12	< 40.75
20050040	VEG-J GG	1/12/2005	< 49.21	< 56.64	< 34.19
20050358	VEG-CONT	4/5/2005	< 59.67	< 57.01	< 31.81
20050359	VEG-J	4/5/2005	< 58.89	< 47.80	< 43.23
20050748	VEG-CONT	7/19/2005	< 55.06	< 22.95	< 48.18
20050749	VEG-J	7/19/2005	< 40.98	< 49.94	< 61.63
20051186	VEG-CONT	10/21/2005	< 57.97	< 53.72	< 36.30
20051187	VEG-J	10/21/2005	< 59.09	< 34.71	< 31.11

"GG" – indicates duplicate sample.