



# **Radiation Branch Environmental Monitoring Summary for 2007**

**May 2008**

**NOTE: Items within these environmental summaries have been removed due to confidential homeland security information under The Texas Public Information Act and House Bill 9, Gov. § code 418.**

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# Introduction

This is the eleventh annual reporting of environmental monitoring results to be produced as an internal document. The document consists of the data collected for each monitoring point at each facility. The data are presented in the same manner as in the past. Limits of detection were not included with data in an effort to reduce the space required for data entry. A listing of expected limits of detection for various media, geometries, and radionuclides is found in the appendices. Maps of the facilities are included, but details have been omitted. Specific information about individual facilities can be found in the license files. Copies of this and the previous documents for 1993-1997 and individual reports for 1998-2006 can be made available through an open records request.

All analyses of environmental media, i.e., soil, air, water, vegetation, are performed by the Texas Department of State Health Services (DSHS), Laboratory Services Section. The Laboratory Services Section operates a highly capable radio-chemistry program. Currently, the Environmental Sciences Branch participates in a program sponsored by the United States Department of Energy (USDOE), referred to as Department of Energy Laboratory Accreditation Program. It was developed by the USDOE in order to provide quality assurance and control for USDOE contractors. The most recent results of the Laboratory Services Section's performance in these "cross checks" can be found in the appendices to this document or on the internet at the following location (<http://www.eml.doe.gov/qap/reports/>).

Thermoluminescent dosimeter (TLD) readings are performed by the staff of the Radiation Branch. The Radiation Branch maintains a Harshaw/Bicron Model 6600 TLD reader. Staff of Landauer, Inc. also perform TLD readings for the facilities that have neutron sources. Approximately 200 TLDs are exchanged and read each calendar quarter. Background is subtracted from all station readings except for Comanche Peak Nuclear Power Plant, South Texas Project, and Pantex. Background is not subtracted from these three locations because the readings should be ambient doses.

Analysis of sample data from the monitored facilities indicated no release of radioactive material to the environment that exceeded the regulatory or license limits of the DSHS or any other agency such as the United States Nuclear Regulatory Commission or the USDOE. Some of the TLD readings at a few of the monitored facilities exceeded 100 mrem for the year. All licensed facilities are required by rule to document that exposures from conducting operations do not cause doses in excess of the regulatory limits to employees or individual members of the general public. The documentation is maintained for inspection by the Radiation Branch. Licensees are allowed to use mitigating factors, such as occupancy and distance to nearest occupied areas, in demonstrating compliance with those limits.

Any questions should be directed to Robert E. Free at 512-834-6770, ext. 2022 or [robert.free@dshs.state.tx.us](mailto:robert.free@dshs.state.tx.us).

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Robert Free

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# **Fixed Nuclear Facilities**

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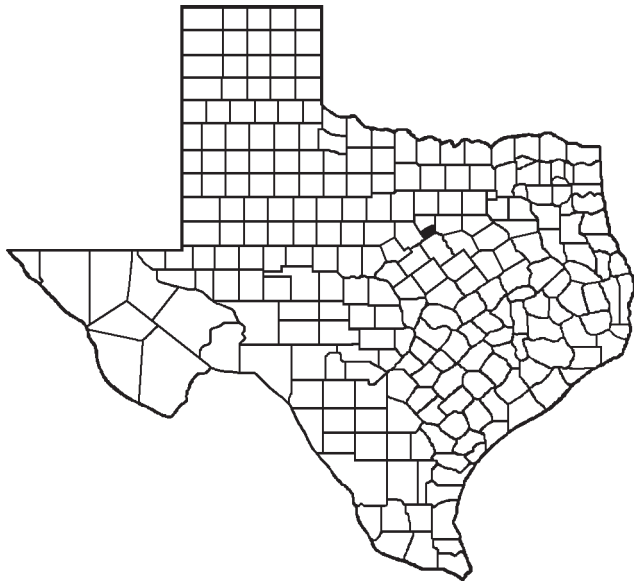
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## Comanche Peak Nuclear Power Plant

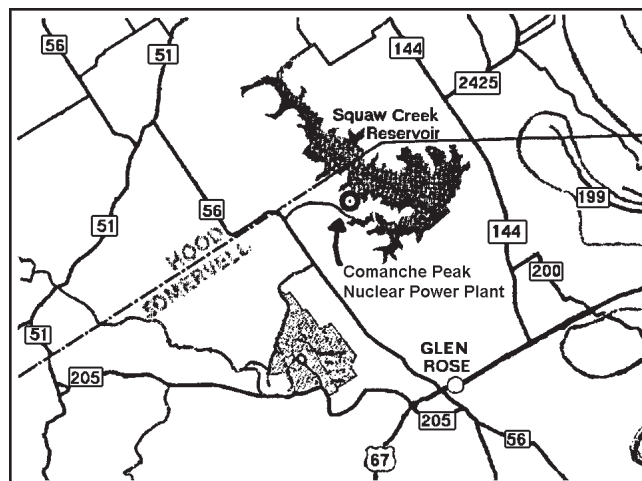
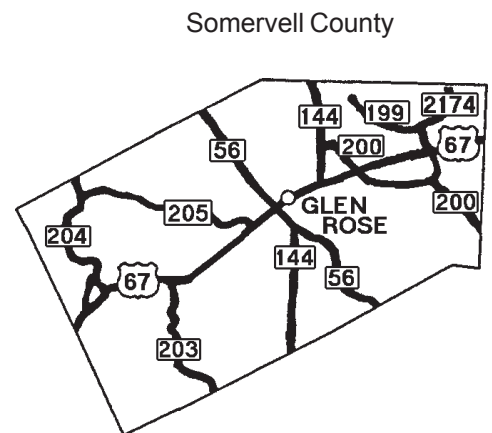
Radiation Branch Site No. 031

Comanche Peak Nuclear Power Plant (CPNPP) is a two-unit nuclear-fueled power plant owned and operated by Luminant Power. The plant is located in Somervell County four and one-half miles northwest of Glen Rose and approximately 80 miles southwest of downtown Dallas.

CPNPP, Luminant Power's sole nuclear power plant, with an operating capacity of 2,300 megawatts annually [two Westinghouse 1,150 megawatt (electric) pressurized water reactor units], began operation in 1990, although fuel had been received on-site in 1982-1983. The plant has approximately 1,300 employees. The Radiation Branch surveillance program consists of sampling air, fish, food products, sediment, vegetation, and water and TLD monitoring.



Shaded area indicates location of Somervell County

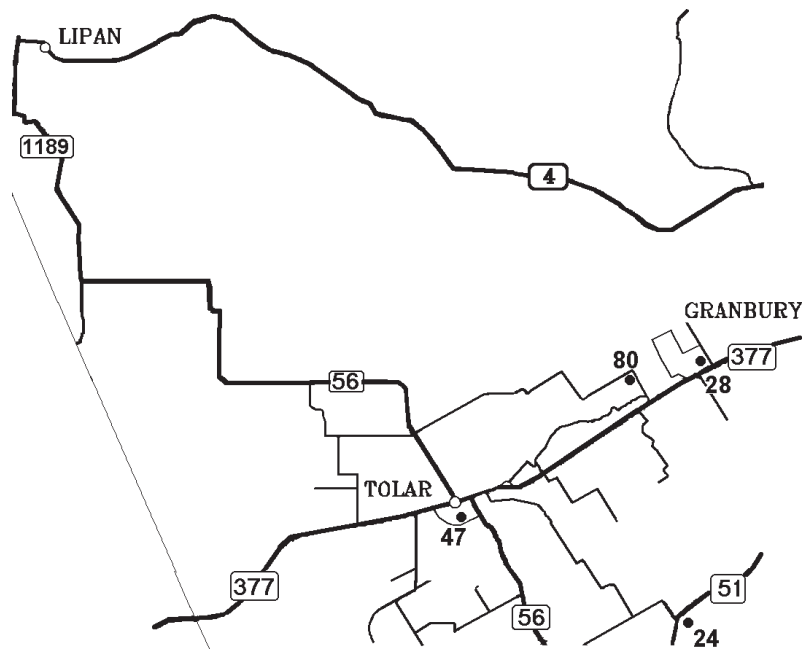
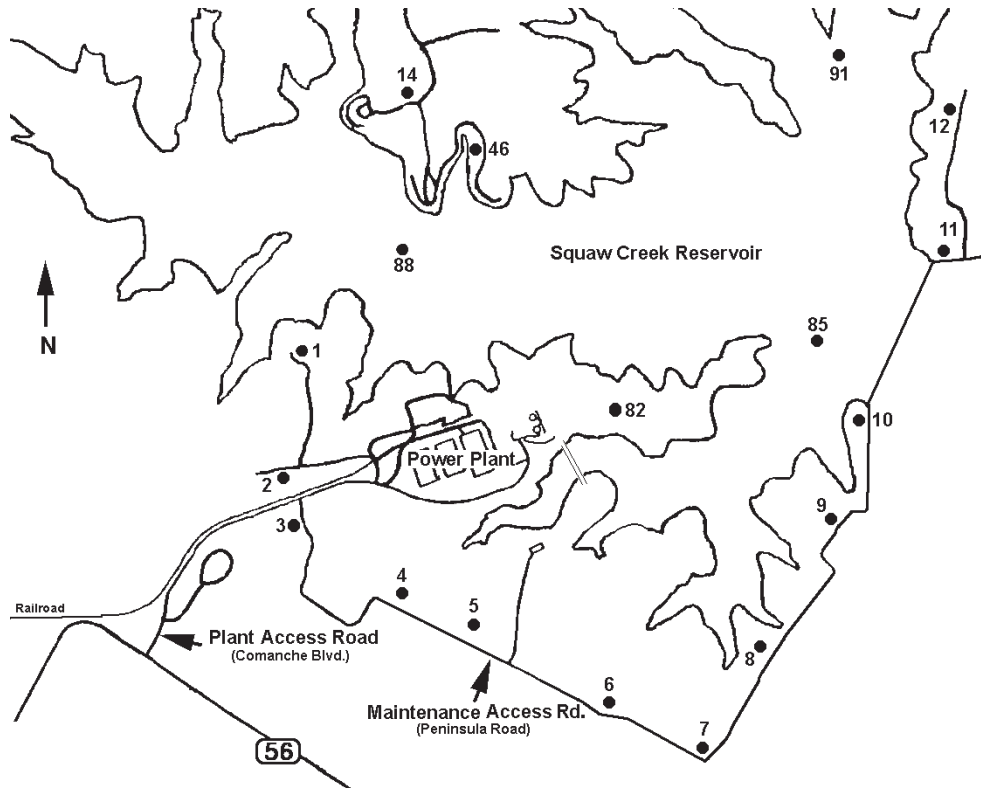


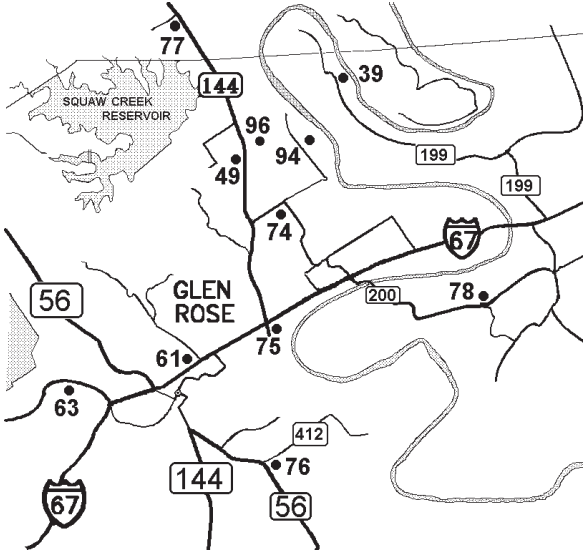
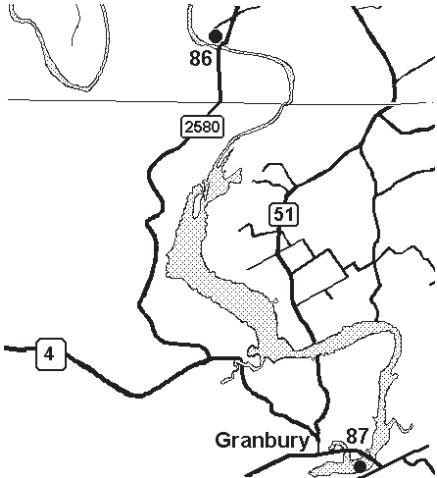
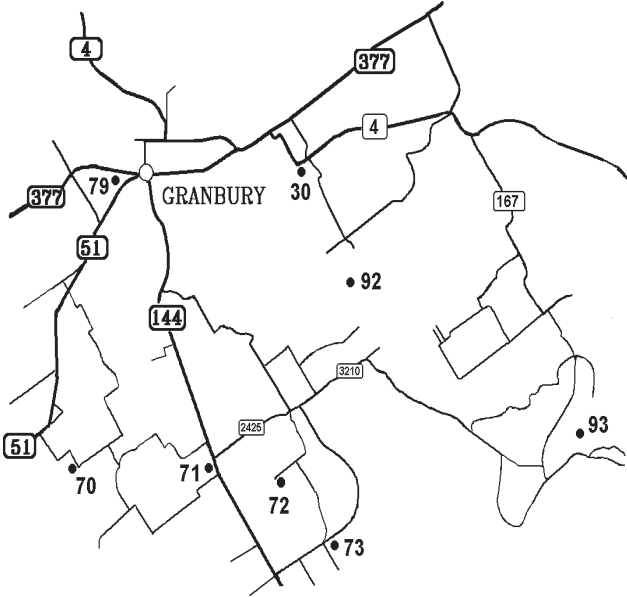
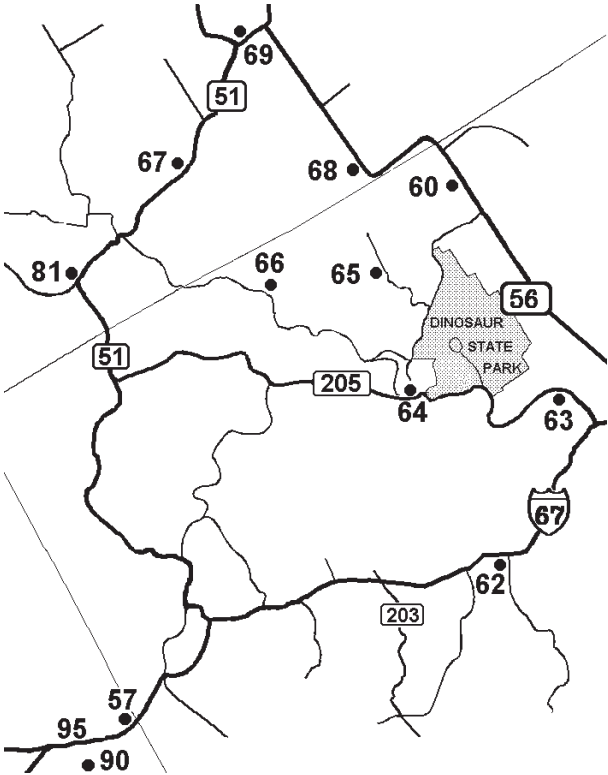


# Comanche Peak Nuclear Power Plant

## Monitoring Station Locations

Note: Sample type not indicated on maps.





**Comanche Peak Nuclear Power Plant**

**Thermoluminescent Dosimeter (TLD) Monitoring Results<sup>1</sup>**  
**(quarterly and annual readings are in mrem)**

<b>Station</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Annual Dose</b>	<b>Notes</b>
01	13.0	12.4	15.2	7.3	47.9	
02	14.9	14.1	16.4	7.3	52.7	
03	12.1	10.6	12.6	4.9	40.2	
04	15.8	12.4	15.2	7.3	50.7	
05	13.0	12.4	15.2	9.8	50.4	
06	13.9	11.5	13.9	6.5	45.8	
07	13.9	10.6	16.4	5.7	46.6	
08	16.7	12.4	15.2	7.3	51.6	
09	14.9	13.3	16.4	8.9	53.5	
10	15.8	12.4	15.2	6.5	49.9	
11	13.0	11.5	13.9	6.5	44.9	
12	15.8	14.1	16.4	8.9	55.2	
14	13.8	12.4	14.3	7.3	47.8	
24	14.9	12.4	16.7	8.1	52.1	
28	14.9	13.3	15.4	8.1	51.7	
30	14.1	12.4	15.2	--	41.7	<sup>2</sup> Q4 - TLD missing
39	13.0	12.5	15.4	7.3	48.2	
46	11.9	11.5	14.3	6.5	44.2	
47	13.9	12.4	--	7.3	33.6	<sup>2</sup> Q3-TLD missing
49	13.9	12.4	16.9	8.1	51.3	
60	13.9	12.4	15.2	8.2	49.7	
61	14.1	12.4	15.4	8.1	50.0	
62	13.0	12.4	13.9	7.4	46.7	
63	14.9	13.3	17.7	9.0	54.9	
64	13.9	12.4	15.2	7.4	48.9	
65	12.1	10.6	13.9	5.7	42.3	
66	13.9	12.4	15.2	7.4	48.9	
67	13.0	11.5	14.1	7.3	45.9	
68	13.0	11.5	15.2	6.6	46.3	
69	12.1	11.5	14.1	6.5	44.2	
70	13.0	11.4	15.6	6.5	46.5	
71	13.8	12.4	15.6	7.3	49.1	
72	13.1	11.4	15.6	7.3	47.4	
73	14.1	11.4	15.6	7.3	48.4	
74	13.0	12.5	15.4	6.5	47.4	
75	12.1	11.6	14.1	6.5	44.3	
76	14.9	10.6	14.1	6.5	46.1	
77	11.1	10.6	14.3	5.7	41.7	
78	12.9	12.5	15.4	7.3	48.1	
79	13.0	11.5	15.4	12.2	52.1	
80	13.9	13.3	15.4	7.3	49.9	
81	14.9	13.3	16.7	8.1	53.0	
82	15.8	14.1	16.4	8.1	54.4	

NOTE: <sup>1</sup> Background is not subtracted from the data.

<sup>2</sup> If data are missing during a quarter, an average of known quarter readings for that year and location is used to fill in for the missing data.

Environmental Sample Results

Comanche Peak Nuclear Power Plant

Date	Lab No.	Station	Beta	Ba-140	Co-58	Co-60	Cs-134	Cs-137	Fe-59	H-3	I-131	La-140	Mn-54	Nb-95	Zn-65	Zr-95
	Air Iodine pCi/m <sup>3</sup>															
2007-01-02	ER070001	01									<7E-3					
2007-01-02	ER070003	57									<5E-3					
2007-01-09	ER070017	57									<7E-3					
2007-01-09	ER070019	01									<5E-3					
2007-01-16	ER070045	57									<9E-3					
2007-01-16	ER070047	01									<7E-3					
2007-01-23	ER070054	57									<6E-3					
2007-01-23	ER070056	01									<5E-3					
2007-01-30	ER070073	01									<7E-3					
2007-01-30	ER070075	57									<7E-3					
2007-02-06	ER070085	01									<7E-3					
2007-02-06	ER070087	57									<4E-3					
2007-02-13	ER070111	01									<7E-3					
2007-02-13	ER070113	57									<7E-3					
2007-02-20	ER070115	01									<3E-3					
2007-02-20	ER070117	57									<5E-3					
2007-02-27	ER070131	01									<7E-3					
2007-02-27	ER070133	57									<5E-3					
2007-03-06	ER070142	01									<7E-3					
2007-03-06	ER070144	57									<7E-3					
2007-03-13	ER070151	01									<7E-3					
2007-03-13	ER070153	57									<8E-3					
2007-03-20	ER070161	57									<7E-3					
2007-03-20	ER070163	01									<6E-3					
2007-03-27	ER070175	01									<7E-3					
2007-03-27	ER070177	57									<5E-3					
2007-04-03	ER070190	01									<8E-3					
2007-04-03	ER070192	57									<7E-3					
2007-04-10	ER070208	01									<7E-3					
2007-04-10	ER070210	57									<6E-3					
2007-04-17	ER070247	57									<6E-3					
2007-04-17	ER070249	01									<5E-3					
2007-04-24	ER070256	01									<5E-3					
2007-04-24	ER070258	57									<5E-3					
2007-05-01	ER070272	01									<5E-3					
2007-05-01	ER070274	57									<4E-3					
2007-05-08	ER070280	01									<5E-3					
2007-05-08	ER070282	57									<5E-3					
2007-05-15	ER070289	01									<4E-3					
2007-05-15	ER070291	57									<4E-3					
2007-05-22	ER070307	57									<4E-3					
2007-05-22	ER070309	01									<5E-3					
2007-05-29	ER070315	01									<5E-3					
2007-05-29	ER070317	57									<5E-3					
2007-06-05	ER070329	01									<4E-3					

Environmental Sample Results

Date	Lab. No.	Station	Beta	Ba-140	Co-58	Co-60	Cs-134	Cs-137	Fe-59	H-3	I-131	La-140	Mn-54	Nb-95	Zn-65	Zr-95
2007-06-05	ER070331	57									<4E-3					
2007-06-12	ER070339	01									<7E-3					
2007-06-12	ER070341	57									<6E-3					
2007-06-19	ER070350	01									<4E-3					
2007-06-19	ER070352	57									<5E-3					
2007-06-26	ER070361	01									<4E-3					
2007-06-26	ER070367	57									<7E-3					
2007-07-03	ER070369	57									<7E-3					
2007-07-03	ER070371	01									<5E-3					
2007-07-10	ER070387	57									<4E-3					
2007-07-10	ER070389	01									<4E-3					
2007-07-17	ER070403	01									<4E-3					
2007-07-17	ER070405	57									<4E-3					
2007-07-24	ER070432	01									<4E-3					
2007-07-24	ER070434	57									<4E-3					
2007-07-31	ER070455	57									<4E-3					
2007-07-31	ER070457	01									<9E-3					
2007-08-07	ER070459	57									<4E-3					
2007-08-07	ER070461	01									<4E-3					
2007-08-14	ER070475	01									<5E-3					
2007-08-14	ER070477	57									<5E-3					
2007-08-21	ER070483	57									<4E-3					
2007-08-21	ER070485	01									<4E-3					
2007-08-28	ER070492	01									<6E-3					
2007-08-28	ER070494	57									<7E-3					
2007-09-04	ER070504	01									<4E-3					
2007-09-04	ER070506	57									<4E-3					
2007-09-11	ER070513	01									<4E-3					
2007-09-11	ER070515	57									<5E-3					
2007-09-18	ER070520	57									<6E-3					
2007-09-18	ER070522	01									<7E-3					
2007-09-25	ER070534	01									<5E-3					
2007-09-25	ER070536	57									<5E-3					
2007-10-02	ER070545	01									<6E-3					
2007-10-02	ER070547	57									<7E-3					
2007-10-09	ER070554	01									<4E-3					
2007-10-09	ER070556	57									<4E-3					
2007-10-16	ER070575	01									<4E-3					
2007-10-16	ER070577	57									<3E-3					
2007-10-23	ER070584	01									<4E-3					
2007-10-23	ER070586	57									<4E-3					
2007-10-30	ER070609	01									<7E-3					
2007-10-30	ER070611	57									<5E-3					
2007-11-06	ER070624	01									<4E-3					
2007-11-06	ER070626	57									<4E-3					
2007-11-13	ER070633	01									<4E-3					
2007-11-13	ER070635	57									<4E-3					
2007-11-20	ER070646	01									<4E-3					
2007-11-27	ER070648	57									<6E-3					

Environmental Sample Results

Date	Lab. No.	Station	Beta	Ba-140	Co-58	Co-60	Cs-134	Cs-137	Fe-59	H-3	I-131	La-140	Mn-54	Nb-95	Zn-65	Zr-95	
2007-11-27	ER070650	01									<6E-3						
2007-12-04	ER070662	57									<4E-3						
2007-12-04	ER070664	01									<4E-3						
2007-12-11	ER070671	01									<8E-3						
2007-12-11	ER070673	57									<6E-3						
2007-12-18	ER070700	01									<8E-3						
2007-12-18	ER070702	57									<6E-3						
2007-12-25	ER070712	01									<9E-3						
2007-12-25	ER070714	57									<7E-3						
<b>Air Particulate pCi/m<sup>3</sup></b>																	
2007-01-02	ER070002	01	2.8E-2														
2007-01-02	ER070004	57	4.2E-2														
2007-01-09	ER070018	57	3.9E-2														
2007-01-09	ER070020	01	2.6E-2														
2007-01-16	ER070046	57	3.7E-2														
2007-01-16	ER070048	01	2.8E-2														
2007-01-23	ER070053	57	5.4E-2														
2007-01-23	ER070055	01	3.7E-2														
2007-01-30	ER070072	01	3.3E-2														
2007-01-30	ER070074	57	4.7E-2														
2007-02-06	ER070084	01	3.7E-2														
2007-02-06	ER070086	57	5.4E-2														
2007-02-13	ER070112	01	3.6E-2														
2007-02-13	ER070114	57	4.6E-2														
2007-02-20	ER070116	01	2.2E-2														
2007-02-20	ER070118	57	3.0E-2														
2007-02-27	ER070130	01	2.0E-2														
2007-02-27	ER070132	57	2.1E-2														
2007-03-06	ER070143	01	2.4E-2														
2007-03-06	ER070145	57	2.6E-2														
2007-03-13	ER070152	01	2.8E-2														
2007-03-13	ER070154	57	2.8E-2														
2007-03-20	ER070160	57	2.3E-2														
2007-03-20	ER070162	01	2.3E-2														
2007-03-27	ER070176	01	2.1E-2														
2007-03-27	ER070178	57	1.8E-2														
2007-04-03	ER070189	01	1.8E-2														
2007-04-03	ER070191	57	1.7E-2														
2007-04-10	ER070207	01	2.8E-2														
2007-04-10	ER070209	57	2.6E-2														
2007-04-17	ER070246	57	2.0E-2														
2007-04-17	ER070248	01	1.9E-2														
2007-04-24	ER070255	01	2.8E-2														
2007-04-24	ER070257	57	2.4E-2														
2007-05-01	ER070273	01	1.8E-2														
2007-05-01	ER070275	57	1.7E-2														
2007-05-08	ER070281	01	1.8E-2														
2007-05-08	ER070283	57	1.6E-2														

Environmental Sample Results

Date	Lab. No.	Station	Beta	Ba-140	Co-58	Co-60	Cs-134	Cs-137	Fe-59	H-3	I-131	La-140	Mn-54	Nb-95	Zn-65	Zr-95
2007-05-15	ER070290	01	2.3E-2													
2007-05-15	ER070292	57	2.2E-2													
2007-05-22	ER070306	57	2.5E-2													
2007-05-22	ER070308	01	2.8E-2													
2007-05-29	ER070314	01	1.9E-2													
2007-05-29	ER070316	57	1.7E-2													
2007-06-05	ER070330	01	1.6E-2													
2007-06-05	ER070332	57	1.7E-2													
2007-06-12	ER070338	01	3.1E-2													
2007-06-12	ER070340	57	2.9E-2													
2007-06-19	ER070349	01	2.2E-2													
2007-06-19	ER070351	57	2.1E-2													
2007-06-26	ER070360	01	2.6E-2													
2007-06-26	ER070366	57	2.2E-2													
2007-07-03	ER070368	57	1.6E-2													
2007-07-03	ER070370	01	1.7E-2													
2007-07-10	ER070388	57	1.5E-2													
2007-07-10	ER070390	01	1.6E-2													
2007-07-17	ER070402	01	2.2E-2													
2007-07-17	ER070404	57	2.0E-2													
2007-07-24	ER070433	01	1.7E-2													
2007-07-24	ER070435	57	1.8E-2													
2007-07-31	ER070454	57	2.0E-2													
2007-07-31	ER070456	01	1.8E-2													
2007-08-07	ER070458	57	2.5E-2													
2007-08-07	ER070460	01	2.3E-2													
2007-08-14	ER070474	01	3.7E-2													
2007-08-14	ER070476	57	4.5E-2													
2007-08-21	ER070482	57	3.3E-2													
2007-08-21	ER070484	01	3.2E-2													
2007-08-28	ER070493	57	1.8E-2													
2007-08-28	ER070503	01	3.3E-2													
2007-09-04	ER070505	57	3.7E-2													
2007-09-11	ER070512	01	1.8E-2													
2007-09-11	ER070514	57	1.7E-2													
2007-09-18	ER070521	57	4.0E-2													
2007-09-18	ER070523	01	3.5E-2													
2007-09-25	ER070533	01	4.0E-2													
2007-09-25	ER070535	57	4.6E-2													
2007-10-02	ER070544	01	2.5E-2													
2007-10-02	ER070546	57	2.7E-2													
2007-10-09	ER070553	01	2.3E-2													
2007-10-09	ER070555	57	2.6E-2													
2007-10-16	ER070574	01	3.7E-2													
2007-10-16	ER070576	57	4.1E-2													
2007-10-23	ER070585	01	2.6E-2													
2007-10-23	ER070587	57	2.9E-2													
2007-10-30	ER070608	01	2.6E-2													

Environmental Sample Results

Date	Lab. No.	Station	Beta	Ba-140	Co-58	Co-60	Cs-134	Cs-137	Fe-59	H-3	I-131	La-140	Mn-54	Nb-95	Zn-65	Zr-95
2007-10-30	ER070610	57	2.8E-2													
2007-11-06	ER070623	01	5.2E-2													
2007-11-06	ER070625	57	5.7E-2													
2007-11-13	ER070632	01	4.3E-2													
2007-11-13	ER070634	57	4.6E-2													
2007-11-20	ER070643	57	2.9E-2													
2007-11-20	ER070645	01	2.8E-2													
2007-11-27	ER070647	57	3.6E-2													
2007-11-27	ER070649	01	3.4E-2													
2007-12-04	ER070661	57	4.7E-2													
2007-12-04	ER070663	01	4.4E-2													
2007-12-11	ER070670	01	3.5E-2													
2007-12-11	ER070672	57	3.8E-2													
2007-12-18	ER070699	01	2.9E-2													
2007-12-18	ER070701	57	3.3E-2													
2007-12-25	ER070711	01	3.7E-2													
2007-12-25	ER070713	57	3.9E-2													
<b>Air Particulate Composite pCi/Sample</b>																
2007-04-17	ER070238	01	<4.8	<1.5	<1.8	<1.5	<1.7	<1.7	<2.8		<1.6	<2.1	<1.5	<1.5	<3.2	<2.5
2007-04-17	ER070239	57	<1.1E+1	<3.1	<4.8	<3.4	<4.0	<4.0	<6.6		<3.3	<3.9	<3.3	<3.2	<8.1	<5.6
2007-07-25	ER070379	01	<6.0	<2.0	<2.8	<1.9	<2.3	<2.3	<4.1		<1.9	<2.6	<2.1	<2.1	<4.9	<3.5
2007-07-25	ER070380	57	<6.8	<2.2	<2.4	<2.2	<2.3	<4.3	<4.3		<2.1	<2.5	<2.2	<2.2	<4.7	<3.8
2007-10-15	ER070565	01	<1.1E+1	<3.1	<4.1	<2.8	<3.4	<6.1	<6.1		<2.9	<4.0	<3.2	<3.2	<7.1	<5.4
2007-10-15	ER070566	57	<1.1E+1	<3.0	<3.6	<3.0	<3.4	<6.6	<6.6		<3.1	<3.9	<3.4	<3.2	<7.5	<5.4
2008-01-23	ER080049	01	<4.6	<1.5	<1.8	<1.5	<1.6	<2.9	<2.9		<1.4	<1.9	<1.5	<1.5	<3.3	<2.6
2008-01-23	ER080050	57	<9.9	<3.1	<4.3	<2.9	<3.6	<6.7	<6.7		<3.0	<3.9	<3.3	<3.1	<7.3	<5.0
<b>Fish pCi/kg</b>																
2007-11-13	ER070637	92	<4.6E+1	<1.2E+1	<1.3E+1	<1.2E+1	<1.4E+1	<2.4E+1	<2.4E+1		<1.5E+1	<1.5E+1	<1.3E+1	<2.2E+1	<2.7E+1	<2.2E+1
<b>Food Product pCi/kg</b>																
2007-11-13	ER070636	93	<1.8E+1	<5.0	<6.0	<4.9	<5.7	<1.2E+1	<1.2E+1		<5.4	<4.7	<4.8	<5.1	<1.4E+1	<8.5
<b>Sediment pCi/kg</b>																
2007-01-09	ER070021	88	<1.82E+2	<5.0E+1	<6.9E+1	<6.5E+1	<6.3E+1	<1.20E+2	<1.20E+2		<6.1E+1	<7.0E+1	<6.0E+1	<6.4E+1	<1.59E+2	<9.4E+1
2007-07-03	ER070372	88	<2.37E+2	<6.5E+1	<5.2E+1	<7.1E+1	<6.6E+1	<1.08+2	<1.08+2		<9.5E+1	<9.4E+1	<5.9E+1	<7.0E+1	<1.52E+2	<9.9E+1
<b>Vegetation for Milk pCi/kg</b>																
2007-01-30	ER070076	14	<6.4E+1	<1.4E+1	<1.4E+1	<1.3E+1	<1.4E+1	<2.8E+1	<2.8E+1		<2.6E+1	<2.0E+1	<1.3E+1	<1.6E+1	<2.9E+1	<2.5E+1
2007-02-27	ER070134	14	<5.2E+1	<9.9	<1.1E+1	<9.3	<1.1E+1	<2.2E+1	<2.2E+1		<2.2E+1	<1.6E+1	<9.4	<1.1E+1	<2.3E+1	<1.7E+1
2007-03-27	ER070181	14	<3.7E+1	<8.7	<9.4	<8.4	<9.3	<1.9E+1	<1.9E+1		<1.7E+1	<1.2E+1	<8.4	<9.0	<2.1E+1	<1.6E+1
2007-03-27	ER070182	90	<3.0E+1	<6.7	<7.1	<5.9	<7.0	<1.7E+1	<1.7E+1		<1.3E+1	<8.0	<6.6	<7.1	<1.8E+1	<1.2E+1
2007-04-24	ER070261	14	<4.0E+1	<8.8	<9.9	<8.3	<9.2	<1.9E+1	<1.9E+1		<1.6E+1	<1.3E+1	<8.5	<9.3	<2.1E+1	<1.6E+1
2007-05-29	ER070320	14	<3.8E+1	<7.6	<8.6	<7.7	<8.6	<1.8E+1	<1.8E+1		<1.5E+1	<1.2E+1	<7.8	<8.5	<1.9E+1	<1.4E+1
2007-06-26	ER070362	90	<3.5E+1	<8.8	<9.3	<8.8	<9.4	<1.9E+1	<1.9E+1		<1.2E+1	<1.1E+1	<9.5	<9.5	<2.2E+1	<1.6E+1
2007-06-26	ER070363	14	<4.4E+1	<1.1E+1	<1.3E+1	<1.1E+1	<1.2E+1	<2.7E+1	<2.7E+1		<1.6E+1	<1.4E+1	<1.2E+1	<1.2E+1	<2.8E+1	<2.0E+1
2007-07-31	ER070451	14	<7.9E+1	<1.7E+1	<1.8E+1	<1.7E+1	<1.7E+1	<3.8E+1	<3.8E+1		<3.1E+1	<2.5E+1	<1.7E+1	<2.0E+1	<3.8E+1	<3.0E+1
2007-08-28	ER070497	14	<6.7E+1	<1.8E+1	<1.9E+1	<1.7E+1	<2.0E+1	<3.8E+1	<3.8E+1		<2.3E+1	<2.1E+1	<1.9E+1	<1.9E+1	<4.3E+1	<3.3E+1



Environmental Sample Results

Date	Lab. No.	Station	Beta	Ba-140	Co-58	Co-60	Cs-134	Cs-137	Fe-59	H-3	I-131	La-140	Mn-54	Nb-95	Zn-65	Zr-95
2007-09-25	ER070529	14		<4.3E+1	<8.9	<1.0E+1	<8.4	<9.5	<2.1E+1		<1.7E+1	<1.3E+1	<8.7	<9.8	<2.2E+1	<1.7E+1
2007-09-25	ER070530	90		<6.3E+1	<1.4E+1	<1.4E+1	<1.2E+1	<1.4E+1	<3.1E+1		<2.4E+1	<1.9E+1	<1.4E+1	<1.6E+1	<3.4E+1	<2.4E+1
2007-10-30	ER070614	14		<3.3E+1	<8.8	<9.7	<8.6	<9.3	<2.0E+1		<1.2E+1	<1.1E+1	<8.6	<9.2	<2.3E+1	<1.5E+1
2007-11-27	ER070651	14		<3.6E+1	<8.9	<1.0E+1	<8.7	<9.9	<2.0E+1		<1.3E+1	<1.1E+1	<8.7	<9.8	<2.4E+1	<1.7E+1
2007-12-25	ER070715	14		<5.2E+1	<1.1E+1	<1.1E+1	<9.1	<1.2E+1	<2.4E+1		<2.0E+1	<1.6E+1	<1.1E+1	<1.2E+1	<2.4E+1	<1.9E+1
2007-12-25	ER070716	90		<4.9E+1	<9.8	<1.1E+1	<8.5	<1.0E+1	<2.6E+1		<1.9E+1	<1.3E+1	<9.6	<1.2E+1	<2.8E+1	<1.8E+1
<b>Water-Surface pCi/l</b>																
2007-01-30	ER070077	85	1.4E+1	<7.5	<1.8	<2.0	<1.8	<2.0	<3.9		<2.6	<3.0	<1.9	<2.0	<3.7	<3.2
2007-01-30	ER070078	86	1.0E+1	<9.3	<2.0	<1.9	<1.8	<2.2	<4.0		<3.6	<3.4	<1.9	<2.1	<4.1	<3.4
2007-02-27	ER070135	85	1.2E+1	<8.8	<1.9	<1.8	<1.8	<2.0	<3.9		<3.3	<2.9	<1.9	<2.1	<4.0	<3.4
2007-02-27	ER070136	86	7.1	<9.0	<1.8	<2.0	<1.8	<2.1	<3.9		<3.4	<3.5	<1.8	<2.1	<4.0	<3.5
2007-03-27	ER070179	85	1.6E+1	<7.8	<2.2	<2.1	<2.1	<2.3	<4.1		<2.6	<2.4	<2.2	<2.3	<4.4	<3.8
2007-03-27	ER070180	86	6.7	<7.2	<1.8	<2.0	<1.9	<2.0	<3.6		<2.5	<2.4	<2.0	<1.9	<4.1	<3.3
2007-04-24	ER070259	86	1.1E+1	<6.7	<1.8	<2.0	<1.9	<2.1	<3.6		<2.4	<2.6	<1.9	<1.9	<4.2	<3.3
2007-04-24	ER070260	85	1.7E+1	<6.9	<1.8	<2.1	<1.8	<2.1	<3.8		<2.6	<2.6	<1.8	<1.9	<3.9	<3.0
2007-05-29	ER070318	85	1.0E+1	<7.3	<1.8	<2.1	<2.0	<2.0	<3.9		<2.5	<2.6	<1.9	<2.0	<4.1	<3.1
2007-05-29	ER070319	86	8.0	<8.0	<1.9	<2.0	<2.1	<2.1	<4.2		<2.7	<2.6	<1.9	<2.0	<4.0	<3.3
2007-06-26	ER070364	86	8.3	<7.7	<2.2	<2.0	<2.1	<2.2	<4.0		<2.5	<2.6	<2.1	<2.3	<4.6	<3.7
2007-06-26	ER070365	85	1.4E+1	<7.2	<1.8	<2.0	<1.8	<2.0	<3.8		<2.3	<2.6	<1.9	<1.9	<3.8	<3.3
2007-07-31	ER070452	85	1.2E+1	<9.5	<2.2	<2.2	<2.1	<2.4	<4.4		<3.6	<3.3	<2.2	<2.4	<4.7	<4.0
2007-07-31	ER070453	86	4.8	<8.5	<1.8	<2.0	<1.9	<2.1	<3.8		<3.6	<3.1	<2.0	<2.2	<3.9	<3.4
2007-08-28	ER070495	85	8.9	<8.1	<2.1	<2.2	<1.9	<2.4	<4.2		<2.6	<2.6	<2.1	<2.2	<4.3	<3.7
2007-08-28	ER070496	86	7.6	<8.1	<2.1	<2.0	<1.8	<2.1	<3.7		<2.3	<2.2	<1.8	<1.9	<4.1	<3.3
2007-09-25	ER070531	85	1.0E+1	<7.5	<1.9	<2.1	<1.8	<2.0	<3.7		<2.5	<2.6	<1.8	<2.0	<3.9	<3.5
2007-09-25	ER070532	86	6.2	<8.4	<2.0	<1.9	<2.0	<2.0	<3.9		<3.3	<3.2	<1.9	<2.0	<4.2	<3.3
2007-10-30	ER070612	85	1.3E+1	<7.9	<2.1	<2.1	<2.0	<2.3	<4.2		<2.6	<2.6	<2.2	<2.3	<4.6	<3.8
2007-10-30	ER070613	86	5.0	<7.2	<1.9	<2.1	<2.0	<2.1	<3.8		<2.4	<2.6	<1.9	<1.9	<4.4	<3.2
2007-11-27	ER070652	85	1.1E+1	<7.8	<2.0	<2.2	<2.1	<2.2	<4.2		<2.5	<2.6	<2.1	<2.2	<4.6	<3.8
2007-11-27	ER070653	86	5.8	<7.0	<1.9	<2.0	<1.9	<2.1	<3.7		<2.2	<2.6	<1.9	<1.9	<3.9	<3.0
2007-12-25	ER070717	85	9.8	<6.0	<1.6	<1.5	<1.4	<1.6	<3.0		<2.0	<2.0	<1.5	<1.6	<3.3	<2.6
2007-12-25	ER070718	86	5.9	<4.7	<1.1	<1.1	<1.1	<1.2	<2.3		<1.7	<1.6	<1.1	<1.2	<2.5	<1.9
<b>Water-Surface Composite pCi/l</b>																
2007-05-15	ER070242	85								1.4E+4						
2007-05-15	ER070243	86								<1.0E+3						
2007-08-07	ER070385	85								1.22E+4						
2007-08-07	ER070386	86								<1.0E+3						
2007-11-16	ER070571	85								8.17E+3						
2007-11-16	ER070572	86								<1.0E+3						
2008-02-26	ER080055	85								7.7E+3						
2008-02-26	ER080056	86								<1.0E+3						

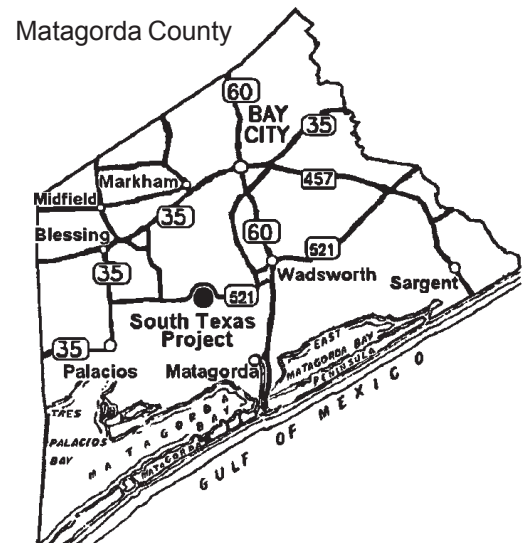
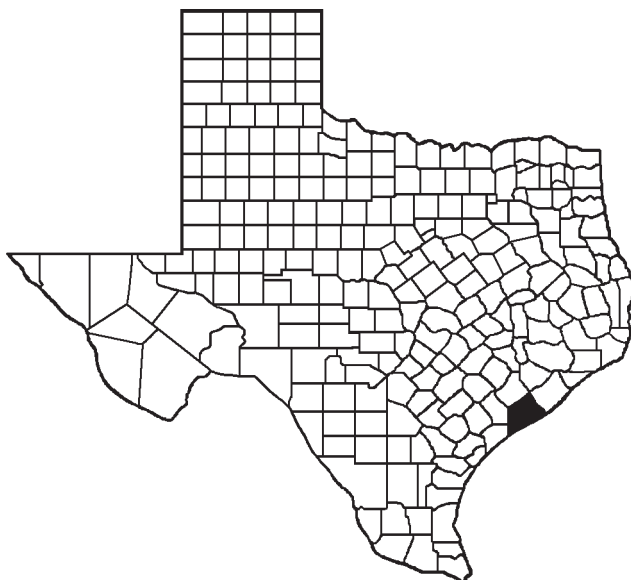
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 8.17E+3  
 <1.0E+3  
 7.7E+3  
 <1.0E+3

## South Texas Project

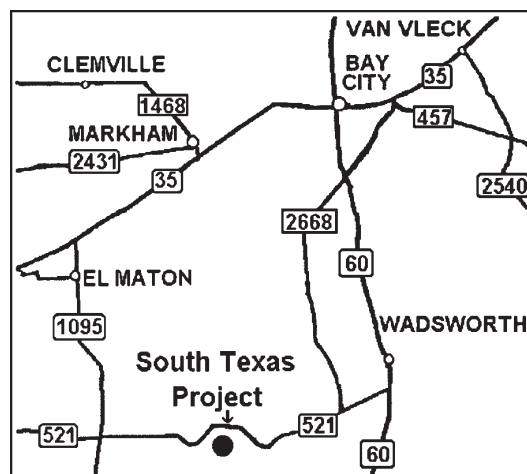
### Radiation Branch Site No. 012

The South Texas Project (STP) is a commercial nuclear power plant operated by STP Nuclear Operating Company and is located 89 miles southwest of Houston and 14 miles south-southwest of Bay City. Two 1250 megawatt (electric) Westinghouse pressurized water reactor nuclear steam supply electrical generating units are in operation at the site. Unit 1 became operational in August of 1988 and Unit 2 in June of 1989.

STP Nuclear Operating Company is owned by AEP Central Power and Light Company, Austin Energy, City Public Service of San Antonio, and Reliant Energy HL&P. STP Nuclear Operating Company manages and operates the plant for its owners, who share its energy in proportion to their ownership interest. STP produces 2,500 megawatts of electricity annually, enough to serve more than one million homes in south central Texas. The Radiation Branch surveillance program consists of sampling air, fish, food products, sediment, vegetation, and water and TLD monitoring.

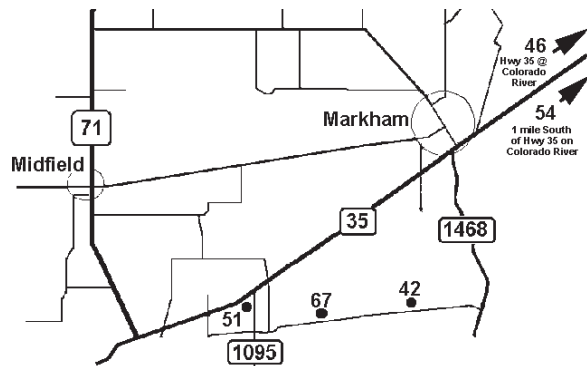
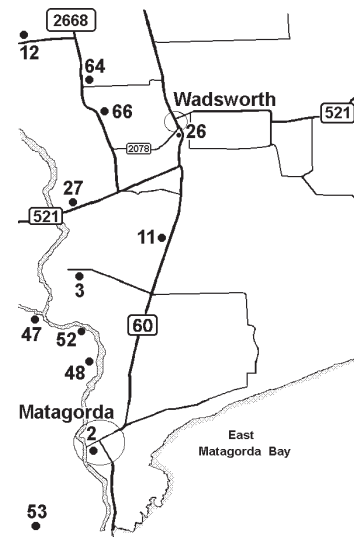
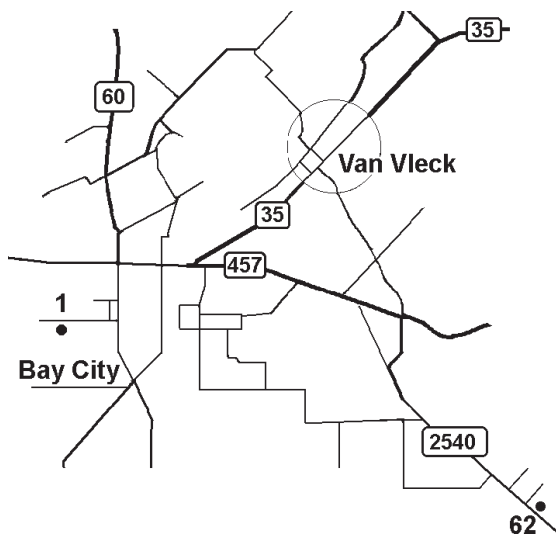
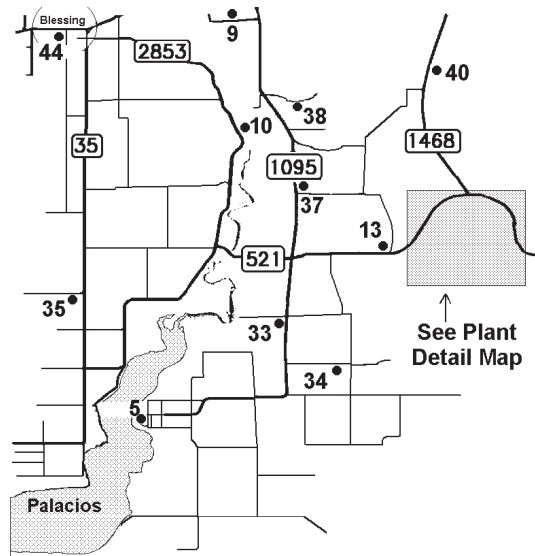
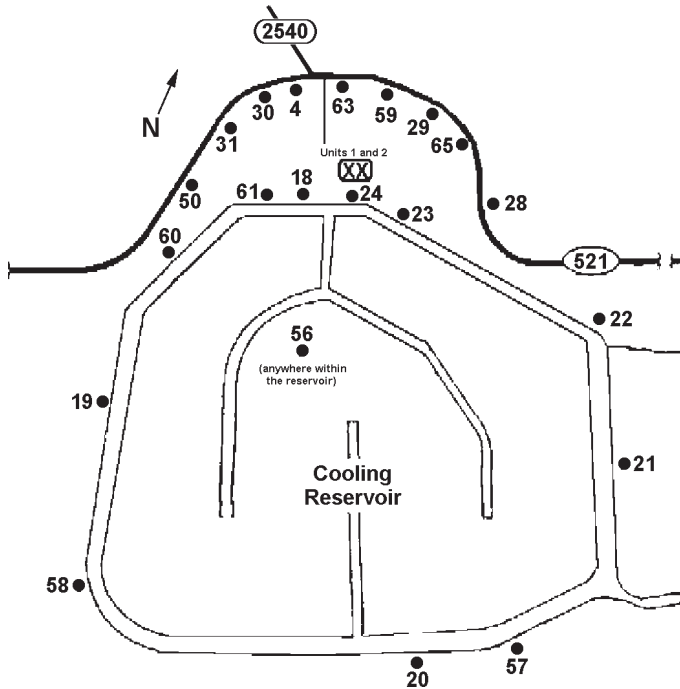


Shaded area indicates location of Matagorda County



Monitoring Station Locations

Note: Sample type not indicated on maps.



**Thermoluminescent Dosimeter (TLD) Monitoring Results<sup>1</sup>**  
**(quarterly and annual readings are in mrem)**

<b>Station</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Annual Dose</b>	<b>Notes</b>
01	15.0	13.9	11.9	15.0	55.8	
02	15.0	13.0	13.0	14.0	55.0	
03	11.0	11.1	10.8	13.0	45.9	
04	16.0	14.9	13.0	16.0	59.9	
05	13.0	12.1	11.9	13.0	50.0	
09	16.0	13.9	13.0	14.0	56.9	
10	15.0	15.8	13.0	14.0	57.8	
11	15.0	14.9	11.9	15.0	56.8	
12	15.0	13.9	13.0	15.0	56.9	
13	16.0	13.9	13.0	15.0	57.9	
18	13.0	13.0	11.9	14.0	51.9	
19	14.0	13.0	11.9	15.0	53.9	
20	14.0	13.0	11.9	14.0	52.9	
21	13.0	13.0	11.9	13.0	50.9	
22	14.0	13.0	11.9	14.0	52.9	
23	15.0	13.0	11.9	14.0	53.9	
24	14.0	13.9	13.0	13.0	53.9	
26	14.0	12.1	11.9	13.0	51.0	
27	14.0	12.1	11.9	12.0	50.0	
28	15.0	13.9	14.1	15.0	58.0	
29	16.0	14.9	14.1	15.0	60.0	
30	15.0	13.9	13.0	15.0	56.9	
31	17.0	15.8	14.1	16.0	62.9	
33	15.0	14.9	13.0	15.0	57.9	
34	15.0	14.9	13.0	14.0	56.9	
35	15.0	13.9	13.0	14.0	55.9	
37	17.0	14.9	13.0	16.0	60.9	
38	15.0	13.0	13.0	14.0	55.0	
40	15.0	13.0	10.8	13.0	51.8	
42	22.0	18.6	16.3	19.0	75.9	
44	14.0	12.1	11.9	13.0	51.0	
50	18.0	15.8	14.1	17.0	64.9	
51	16.0	14.9	14.1	15.0	60.0	
57	14.0	13.0	11.9	13.0	51.9	
58	14.0	13.0	11.9	12.0	50.9	
59	15.0	13.0	11.9	14.0	53.9	
60	16.0	13.9	13.0	15.0	57.9	
61	15.0	13.9	11.9	14.0	54.8	
62	17.0	15.8	14.1	16.0	62.9	
63	15.0	13.9	13.0	15.0	56.9	
64	15.0	13.9	13.0	16.0	57.9	
65	15.0	13.9	13.0	15.0	56.9	
66	15.0	13.0	13.0	15.0	56.0	
67	16.0	14.9	14.1	17.0	62.0	

NOTE: <sup>1</sup> Background is not subtracted from the data.

<sup>2</sup> If data are missing during a quarter, an average of known quarter readings for that year and location is used to fill in for the missing data.

Environmental Sample Results

South Texas Project

Date	Lab No.	Station	Beta	Ba-140	Co-58	Co-60	Cs-134	Cs-137	Fe-59	H-3	I-131	La-140	Mn-54	Nb-95	Zn-65	Zr-95
	Air Iodine pCi/m <sup>3</sup>															
2007-01-04	ER070007	35									<7E-3					
2007-01-04	ER070009	30									<6E-3					
2007-01-10	ER070026	35									<8E-3					
2007-01-10	ER070028	30									<8E-3					
2007-01-17	ER070050	35									<9E-3					
2007-01-17	ER070052	30									<7E-3					
2007-01-23	ER070058	35									<8E-3					
2007-01-23	ER070060	30									<6E-3					
2007-01-31	ER070080	35									<6E-3					
2007-01-31	ER070082	30									<6E-3					
2007-02-06	ER070100	35									<9E-3					
2007-02-06	ER070102	30									<9E-3					
2007-02-14	ER070120	35									<4E-3					
2007-02-14	ER070122	30									<6E-3					
2007-02-20	ER070124	35									<8E-3					
2007-02-20	ER070126	30									<8E-3					
2007-02-27	ER070138	35									<9E-3					
2007-02-27	ER070140	30									<1.0E-2					
2007-03-07	ER070147	35									<6E-3					
2007-03-07	ER070149	30									<4E-3					
2007-03-14	ER070156	35									<7E-3					
2007-03-14	ER070158	30									<5E-3					
2007-03-20	ER070165	35									<8E-3					
2007-03-20	ER070167	30									<8E-3					
2007-03-27	ER070171	35									<7E-3					
2007-03-27	ER070173	30									<7E-3					
2007-04-03	ER070184	35									<7E-3					
2007-04-03	ER070186	30									<7E-3					
2007-04-10	ER070230	35									<7E-3					
2007-04-10	ER070232	30									<5E-3					
2007-04-17	ER070252	35									<8E-3					
2007-04-17	ER070254	30									<9E-3					
2007-04-25	ER070263	35									<4E-3					
2007-04-25	ER070265	30									<4E-3					
2007-05-01	ER070277	35									<1.0E-2					
2007-05-01	ER070279	30									<1.0E-2					
2007-05-08	ER070285	35									<9E-3					
2007-05-08	ER070287	30									<9E-3					
2007-05-15	ER070295	35									<5E-3					
2007-05-15	ER070297	30									<5E-3					
2007-05-23	ER070311	35									<4E-3					
2007-05-23	ER070313	30									<4E-3					
2007-05-29	ER070322	35									<8E-3					
2007-05-29	ER070324	30									<8E-3					
2007-06-04	ER070334	35									<4E-3					
2007-06-04	ER070336	30									<8E-3					

Environmental Sample Results

Date	Lab. No.	Station	Beta	Ba-140	Co-58	Co-60	Cs-134	Cs-137	Fe-59	H-3	I-131	La-140	Mn-54	Nb-95	Zn-65	Zr-95
2007-06-12	ER070345	30									<4E-3					
2007-06-12	ER070343	35									<4E-3					
2007-06-19	ER070354	35									<5E-3					
2007-06-19	ER070356	30									<5E-3					
2007-06-26	ER070374	30									<1.1E-2					
2007-06-26	ER070377	35									<1.2E-2					
2007-07-03	ER070375	30									<5E-2					
2007-07-03	ER070378	35									<7E-3					
2007-07-11	ER070397	35									<4E-3					
2007-07-11	ER070399	30									<4E-3					
2007-07-17	ER070408	35									<8E-3					
2007-07-17	ER070410	30									<1.3E-2					
2007-07-24	ER070441	35									<1.1E-2					
2007-07-24	ER070443	30									<1.3E-1					
2007-07-31	ER070448	35									<5E-3					
2007-07-31	ER070450	30									<1.9E-1					
2007-08-07	ER070469	35									<4E-3					
2007-08-07	ER070471	30									<5E-3					
2007-08-14	ER070479	35									<4E-3					
2007-08-14	ER070481	30									<5E-3					
2007-08-21	ER070487	35									<4E-3					
2007-08-21	ER070489	30									<5E-3					
2007-08-28	ER070499	35									<5E-3					
2007-08-28	ER070501	30									<4E-3					
2007-09-05	ER070508	35									<5E-3					
2007-09-05	ER070510	30									<5E-3					
2007-09-11	ER070517	35									<6E-3					
2007-09-11	ER070519	30									<6E-3					
2007-09-21	ER070525	35									<5E-3					
2007-09-21	ER070527	30									<5E-3					
2007-09-25	ER070538	35									<9E-3					
2007-09-25	ER070540	30									<9E-3					
2007-10-02	ER070550	35									<9E-3					
2007-10-02	ER070552	30									<9E-3					
2007-10-09	ER070558	35									<4E-3					
2007-10-09	ER070560	30									<5E-3					
2007-10-16	ER070580	35									<5E-3					
2007-10-16	ER070582	30									<3E-3					
2007-10-23	ER070605	35									<6E-3					
2007-10-23	ER070607	30									<7E-3					
2007-10-30	ER070616	35									<5E-3					
2007-10-30	ER070618	30									<5E-3					
2007-11-06	ER070628	35									<4E-3					
2007-11-06	ER070630	30									<5E-3					
2007-11-13	ER070639	35									<4E-3					
2007-11-13	ER070641	30									<5E-3					
2007-11-28	ER070655	35									<4E-3					
2007-11-28	ER070657	30									<4E-3					
2007-12-04	ER070666	35									<5E-3					

Environmental Sample Results

Date	Lab. No.	Station	Beta	Ba-140	Co-58	Co-60	Cs-134	Cs-137	Fe-59	H-3	I-131	La-140	Mn-54	Nb-95	Zn-65	Zr-95
2007-12-04	ER070668	30									<5E-3					
2007-12-12	ER070696	35									<7E-3					
2007-12-12	ER070698	30									<5E-3					
2007-12-18	ER070704	35									<6E-3					
2007-12-18	ER070706	30									<5E-3					
2007-12-26	ER080006	35									<8E-3					
2007-12-26	ER080008	30									<6E-3					
<b>Air Particulate pCi/m<sup>3</sup></b>																
2007-01-04	ER070006	35	2.2E-2													
2007-01-04	ER070008	30	2.3E-2													
2007-01-10	ER070025	35	2.4E-2													
2007-01-10	ER070027	30	2.3E-2													
2007-01-17	ER070049	35	2.1E-2													
2007-01-17	ER070051	30	2.1E-2													
2007-01-23	ER070057	35	2.9E-2													
2007-01-23	ER070059	30	2.6E-2													
2007-01-31	ER070079	35	2.7E-2													
2007-01-31	ER070081	30	2.7E-2													
2007-02-06	ER070099	35	3.4E-2													
2007-02-06	ER070101	30	3.7E-2													
2007-02-14	ER070119	35	2.8E-2													
2007-02-14	ER070121	30	2.8E-2													
2007-02-20	ER070123	35	2.7E-2													
2007-02-20	ER070125	30	2.6E-2													
2007-02-27	ER070137	35	2.1E-2													
2007-02-27	ER070139	30	2.0E-2													
2007-03-07	ER070146	35	2.5E-2													
2007-03-07	ER070148	30	2.6E-2													
2007-03-14	ER070155	35	2.0E-2													
2007-03-14	ER070157	30	2.1E-2													
2007-03-20	ER070164	35	2.3E-2													
2007-03-20	ER070166	30	23.E-2													
2007-03-27	ER070170	35	1.8E-2													
2007-03-27	ER070172	30	1.6E-2													
2007-04-03	ER070183	35	1.8E-2													
2007-04-03	ER070185	30	1.7E-2													
2007-04-10	ER070229	35	2.5E-2													
2007-04-10	ER070231	30	2.3E-2													
2007-04-17	ER070251	35	2.5E-2													
2007-04-17	ER070253	30	2.3E-2													
2007-04-25	ER070262	35	2.3E-2													
2007-04-25	ER070264	30	2.1E-2													
2007-05-01	ER070276	35	2.2E-2													
2007-05-01	ER070278	30	2.1E-2													
2007-05-08	ER070284	35	2.1E-2													
2007-05-08	ER070286	30	2.0E-2													
2007-05-15	ER070294	35	2.6E-2													
2007-05-15	ER070296	30	2.5E-2													

Environmental Sample Results

Date	Lab. No.	Station	Beta	Ba-140	Co-58	Co-60	Cs-134	Cs-137	Fe-59	H-3	I-131	La-140	Mn-54	Nb-95	Zn-65	Zr-95
2007-05-23	ER070310	35	2.8E-2													
2007-05-23	ER070312	30	2.6E-2													
2007-05-29	ER070321	35	1.9E-2													
2007-05-29	ER070323	30	2.1E-2													
2007-06-04	ER070333	35	1.8E-2													
2007-06-04	ER070335	30	1.7E-2													
2007-06-12	ER070342	35	3.1E-2													
2007-06-12	ER070344	30	3.0E-2													
2007-06-19	ER070353	35	2.5E-2													
2007-06-19	ER070355	30	2.4E-2													
2007-06-26	ER070394	35	3.2E-2													
2007-06-26	ER070395	30	3.1E-2													
2007-07-03	ER070373	30	2.5E-2													
2007-07-03	ER070376	35	2.5E-2													
2007-07-11	ER070396	35	2.1E-2													
2007-07-11	ER070398	30	2.1E-2													
2007-07-17	ER070407	35	2.1E-2													
2007-07-17	ER070409	30	2.6E-2													
2007-07-24	ER070440	35	1.4E-2													
2007-07-24	ER070442	30	6.5E-2													
2007-07-31	ER070447	35	1.8E-2													
2007-07-31	ER070449	30	1.83E-1													
2007-08-07	ER070468	35	2.3E-2													
2007-08-07	ER070470	30	2.1E-2													
2007-08-14	ER070478	35	3.6E-2													
2007-08-14	ER070480	30	3.8E-2													
2007-08-21	ER070486	35	2.7E-2													
2007-08-21	ER070488	30	2.6E-2													
2007-08-28	ER070498	35	1.5E-2													
2007-08-28	ER070500	30	1.3E-2													
2007-08-28	ER070498	35	1.5E-2													
2007-09-05	ER070509	30	1.3E-2													
2007-09-11	ER070516	35	2.1E-2													
2007-09-11	ER070518	30	2.0E-2													
2007-09-18	ER070524	35	3.1E-2													
2007-09-18	ER070526	30	2.9E-2													
2007-09-25	ER070537	35	4.4E-2													
2007-09-25	ER070539	30	3.8E-2													
2007-10-02	ER070549	35	1.9E-2													
2007-10-02	ER070551	30	1.8E-2													
2007-10-09	ER070557	35	2.2E-2													
2007-10-09	ER070559	30	2.2E-2													
2007-10-16	ER070579	35	3.0E-2													
2007-10-16	ER070581	30	3.0E-2													
2007-10-23	ER070604	35	2.2E-2													
2007-10-23	ER070606	30	2.0E-2													
2007-10-30	ER070615	35	2.7E-2													
2007-10-30	ER070617	30	2.6E-2													
2007-11-06	ER070627	35	4.0E-2													



Environmental Sample Results

Date	Lab. No.	Station	Beta	Ba-140	Co-58	Co-60	Cs-134	Cs-137	Fe-59	H-3	I-131	La-140	Mn-54	Nb-95	Zn-65	Zr-95
2007-11-06	ER070629	30	3.7E-2													
2007-11-13	ER070638	35	3.5E-2													
2007-11-13	ER070640	30	3.6E-2													
2007-11-28	ER070654	35	2.0E-2													
2007-11-28	ER070656	30	2.1E-2													
2007-12-04	ER070665	35	3.4E-2													
2007-12-04	ER070667	30	3.0E-2													
2007-12-12	ER070695	35	2.1E-2													
2007-12-12	ER070697	30	1.9E-2													
2007-12-18	ER070703	35	2.2E-2													
2007-12-18	ER070705	30	2.1E-2													
2007-12-26	ER080005	35	2.7E-2													
2007-12-26	ER080007	30	2.5E-2													
<b>Air Particulate Composite pCi/Sample</b>																
2007-04-17	ER070236	30	<7.4	<2.0	<3.0	<2.2	<2.5	<4.4	<2.2	<2.7	<2.1	<2.1	<2.1	<2.1	<4.9	<3.7
2007-04-17	ER070237	35	<6.8	<2.1	<2.4	<2.1	<2.3	<4.4	<2.0	<2.5	<2.2	<2.2	<2.2	<2.2	<4.8	<3.6
2007-07-25	ER070381	30	<6.3	<1.9	<2.8	<1.8	<2.2	<3.9	<1.9	<2.5	<1.9	<1.9	<1.9	<1.9	<4.7	<3.3
2007-07-25	ER070382	35	<4.6	<1.5	<1.7	<1.5	<1.6	<3.0	<1.4	<2.0	<1.5	<1.5	<1.6	<1.6	<3.2	<2.5
2007-10-15	ER070567	30	<6.9	<2.3	<2.5	<2.3	<2.6	<4.5	<2.1	<2.9	<2.1	<2.1	<2.1	<2.1	<6.3	<3.8
2007-10-15	ER070568	35	<6.3	<2.0	<2.8	<1.8	<2.3	<3.9	<2.1	<2.5	<2.1	<2.1	<2.1	<2.0	<4.6	<3.4
2008-01-23	ER080051	30	<1.1E+1	<3.2	<3.3	<2.9	<3.3	<6.4	<2.9	<3.7	<3.4	<3.4	<3.0	<3.0	<7.8	<5.2
2008-01-23	ER080052	35	<6.7	<2.3	<2.5	<2.3	<2.6	<4.5	<2.1	<3.2	<2.3	<2.3	<2.4	<2.4	<4.9	<3.9
<b>Fish pCi/kg</b>																
2007-06-12	ER070359	47	<1.21E+2	<2.0E+1	<2.5E+1	<1.6E+1	<2.1E+1	<4.2E+1	<5.4E+1	<3.9E+1	<1.9E+1	<2.3E+1	<1.9E+1	<2.3E+1	<4.1E+1	<3.5E+1
2007-10-31	ER070622	48	<1.04E+2	<2.3E+1	<2.8E+1	<2.1E+1	<2.5E+1	<5.0E+1	<3.7E+1	<3.1E+1	<2.3E+1	<2.3E+1	<2.5E+1	<2.5E+1	<5.3E+1	<3.9E+1
<b>Food Product pCi/kg</b>																
2007-06-12	ER070347	35	<6.4E+1	<1.4E+1	<1.4E+1	<1.3E+1	<1.5E+1	<2.9E+1	<2.5E+1	<2.0E+1	<1.4E+1	<2.0E+1	<1.4E+1	<1.5E+1	<3.2E+1	<2.5E+1
2007-06-12	ER070348	63	<7.3E+1	<1.5E+1	<1.6E+1	<1.4E+1	<1.4E+1	<3.4E+1	<2.8E+1	<2.2E+1	<1.5E+1	<2.2E+1	<1.5E+1	<1.7E+1	<3.4E+1	<2.6E+1
2007-09-26	ER070542	35	<5.2E+1	<1.2E+1	<1.2E+1	<1.1E+1	<1.2E+1	<2.6E+1	<2.0E+1	<1.6E+1	<1.2E+1	<1.6E+1	<1.2E+1	<1.3E+1	<2.9E+1	<2.1E+1
2007-09-26	ER070543	30	<5.4E+1	<1.2E+1	<1.3E+2	<1.1E+1	<1.2E+1	<2.7E+1	<2.1E+1	<1.7E+1	<1.2E+1	<1.7E+1	<1.2E+1	<1.3E+1	<2.6E+1	<2.1E+1
2007-12-18	ER070707	35	<7.0E+1	<1.8E+1	<2.0E+1	<1.8E+1	<2.0E+1	<3.8E+1	<2.4E+1	<2.3E+1	<1.8E+1	<2.3E+1	<1.8E+1	<1.9E+1	<4.4E+1	<3.2E+1
2007-12-18	ER070708	30	<6.8E+1	<1.8E+1	<1.9E+1	<1.7E+1	<1.9E+1	<3.7E+1	<2.2E+1	<2.1E+1	<1.8E+1	<2.1E+1	<1.8E+1	<1.9E+1	<4.1E+1	<3.1E+1
<b>Sediment pCi/kg</b>																
2007-05-17	ER070300	52	<3.83E+2	<8.5E+1	<1.16E+2	<1.17E+2	<1.10E+2	<1.88E+2	<1.37E+2	<1.21E+2	<9.5E+1	<1.17E+2	<2.83E+2	<2.83E+2	<1.77E+2	<1.77E+2
<b>Vegetation for Milk pCi/kg</b>																
2007-02-20	ER070127	04	<2.7E+1	<7.3	<8.7	<7.1	<8.4	<1.7E+1	<9.0	<8.4	<7.1	<7.2	<2.0E+1	<2.0E+1	<1.3E+1	<1.3E+1
2007-03-27	ER070174	63	<4.3E+1	<9.9	<1.1E+1	<9.3	<1.0E+1	<2.1E+1	<1.6E+1	<1.4E+1	<9.7	<1.1E+1	<2.3E+1	<2.3E+1	<1.9E+1	<1.9E+1
2007-04-26	ER070271	04	<3.7E+1	<9.2	<9.9	<8.3	<9.7	<2.3E+1	<1.4E+1	<1.1E+1	<8.9	<1.0E+1	<2.5E+1	<2.5E+1	<1.6E+1	<1.6E+1
2007-05-15	ER070298	30	<3.5E+1	<9.3	<1.1E+1	<9.1	<1.0E+1	<2.2E+1	<1.2E+1	<9.5	<8.9	<2.6E+1	<1.7E+1	<1.7E+1	<1.7E+1	<1.7E+1
2007-06-19	ER070358	04	<5.1E+1	<1.3E+1	<1.4E+1	<1.1E+1	<1.2E+1	<2.8E+1	<1.9E+1	<1.5E+1	<1.3E+1	<1.3E+1	<3.0E+1	<3.0E+1	<2.2E+1	<2.2E+1
2007-07-19	ER070439	04	<6.2E+1	<1.2E+1	<1.2E+1	<9.2	<1.1E+1	<2.8E+1	<2.9E+1	<1.8E+1	<1.1E+1	<1.3E+1	<2.8E+1	<2.8E+1	<2.0E+1	<2.0E+1
2007-08-21	ER070490	04	<2.9E+1	<8.4	<9.9	<7.6	<8.7	<2.1E+1	<9.8	<8.3	<8.2	<8.4	<2.3E+1	<2.3E+1	<1.5E+1	<1.5E+1
2007-09-25	ER070541	04	<5.1E+1	<1.2E+1	<1.2E+1	<9.4	<1.2E+1	<2.7E+1	<2.0E+1	<1.5E+1	<1.2E+1	<1.3E+1	<2.8E+1	<2.8E+1	<2.0E+1	<2.0E+1
2007-10-30	ER070619	04	<4.9E+1	<1.1E+1	<1.2E+1	<1.0E+1	<1.2E+1	<2.6E+1	<1.8E+1	<1.4E+1	<1.1E+1	<1.2E+1	<2.9E+1	<2.9E+1	<2.0E+1	<2.0E+1

Environmental Sample Results

Date	Lab. No.	Station	Beta	Ba-140	Co-58	Co-60	Cs-134	Cs-137	Fe-59	H-3	I-131	La-140	Mn-54	Nb-95	Zn-65	Zr-95
2007-11-28	ER070658	04		<3.8E+1	<9.0	<1.1E+1	<8.4	<9.8	<2.2E+1		<1.4E+1	<1.2E+1	<9.7	<9.7	<2.6E+1	<1.6E+1
2007-12-18	ER070709	63		<4.1E+1	<9.9	<1.2E+1	<9.7	<1.1E+1	<2.3E+1		<1.4E+1	<1.1E+1	<1.0E+1	<1.1E+1	<2.7E+1	<1.9E+1
<b>Water-Surface pCi/l</b>																
2007-01-10	ER070029	46	1.1E+1	<6.7	<1.9	<2.0	<2.0	<2.1	<3.6		<2.4	<2.7	<2.0	<2.1	<4.2	<3.4
2007-01-31	ER070083	47	1.1E+1	<9.2	<2.2	<2.1	<2.1	<2.3	<4.5		<3.3	<3.1	<2.1	<2.3	<4.5	<3.7
2007-02-06	ER070110	46	7.5	<1.0E+1	<1.9	<2.1	<1.8	<2.1	<4.0		<4.4	<3.7	<1.9	<2.1	<3.7	<3.5
2007-02-22	ER070141	52	9.2	<1.4E+1	<2.0	<2.0	<1.8	<2.2	<4.5		<6.0	<5.1	<1.9	<2.4	<4.1	<3.6
2007-03-07	ER070150	46	6.8	<8.3	<1.9	<2.0	<1.9	<2.0	<3.8		<3.2	<3.0	<1.9	<2.2	<4.0	<3.4
2007-04-02	ER070187	47	2.3E+1	<7.4	<1.8	<2.0	<1.9	<2.2	<3.8		<2.7	<2.8	<1.9	<2.1	<3.9	<3.1
2007-04-03	ER070188	46	1.5E+1	<6.9	<1.9	<2.1	<1.9	<2.1	<3.8		<2.8	<2.6	<1.9	<2.0	<3.9	<3.3
2007-04-12	ER070244	52	7.2	<9.4	<2.2	<2.1	<2.1	<2.3	<4.5		<3.5	<3.3	<2.2	<2.5	<4.7	<4.0
2007-05-09	ER070288	46	1.3E+1	<8.7	<1.9	<2.0	<2.0	<2.1	<4.3		<3.2	<3.1	<1.9	<2.1	<4.4	<3.6
2007-05-17	ER070299	52	1.0E+1	<9.3	<2.2	<2.2	<2.2	<2.3	<4.4		<3.3	<3.0	<2.3	<2.4	<4.5	<3.9
2007-06-12	ER070346	54	9.1	<7.6	<1.9	<2.1	<1.9	<2.1	<3.7		<2.5	<2.8	<1.9	<2.1	<4.1	<3.3
2007-06-14	ER070357	52	3.1E+1	<1.0E+1	<2.0	<2.1	<1.9	<2.0	<4.3		<4.0	<3.8	<1.9	<2.3	<4.1	<3.5
2007-07-11	ER070400	54	1.1E+1	<8.4	<1.9	<2.0	<1.8	<2.1	<3.9		<3.1	<2.9	<1.9	<2.1	<4.0	<3.4
2007-07-18	ER070411	47	1.1E+1	<7.7	<2.1	<2.1	<1.9	<2.2	<4.2		<2.6	<2.7	<2.2	<2.2	<4.5	<3.8
2007-08-07	ER070472	46	1.6E+1	<8.6	<2.0	<2.0	<1.9	<2.1	<4.1		<3.3	<3.0	<1.9	<2.2	<4.2	<3.5
2007-08-08	ER070473	52	1.5E+1	<9.6	<2.0	<2.0	<1.9	<2.1	<4.2		<3.6	<3.3	<1.9	<2.1	<3.8	<3.3
2007-09-05	ER070511	46	1.0E+1	<8.8	<1.9	<2.0	<1.8	<2.2	<4.0		<3.0	<3.0	<1.8	<2.0	<3.8	<3.1
2007-09-13	ER070528	52	6.0	<9.7	<2.0	<2.1	<1.8	<2.1	<4.2		<3.8	<3.6	<1.9	<2.1	<3.9	<3.2
2007-10-09	ER070561	54	<4.0	<7.1	<1.9	<1.9	<1.8	<2.1	<3.7		<2.4	<2.6	<1.9	<1.9	<4.5	<3.1
2007-10-18	ER070583	52	6.3	<8.2	<2.0	<1.9	<1.9	<2.1	<4.0		<3.0	<2.9	<1.9	<2.1	<4.4	<3.1
2007-11-06	ER070631	46	1.0E+1	<7.3	<2.0	<1.9	<1.9	<2.1	<3.9		<2.3	<2.7	<1.9	<1.9	<4.2	<3.3
2007-11-15	ER070642	52	1.7E+1	<9.2	<2.2	<2.1	<2.0	<2.3	<4.3		<3.3	<3.0	<2.2	<2.4	<4.6	<4.0
2007-12-04	ER070669	46	7.9	<7.6	<1.9	<2.0	<1.8	<2.1	<3.9		<2.6	<2.7	<1.9	<2.1	<4.5	<3.2
2007-12-19	ER070710	52	1.9E+1	<1.1E+1	<2.3	<2.2	<1.9	<2.3	<4.7		<4.0	<3.7	<2.3	<2.5	<4.8	<4.0

<b>Water-Surface Composite pCi/l</b>																
2007-05-15	ER070240	46								<1.0E+3						
2007-05-15	ER070241	47								<1.0E+3						
2007-08-07	ER070383	46								<1.0E+3						
2007-08-07	ER070384	52								<1.0E+3						
2007-11-16	ER070569	46								<1.0E+3						
2007-11-16	ER070570	52								<1.0E+3						
2008-02-26	ER080053	46								<1.0E+3						
2008-02-26	ER080054	52								<1.0E+3						

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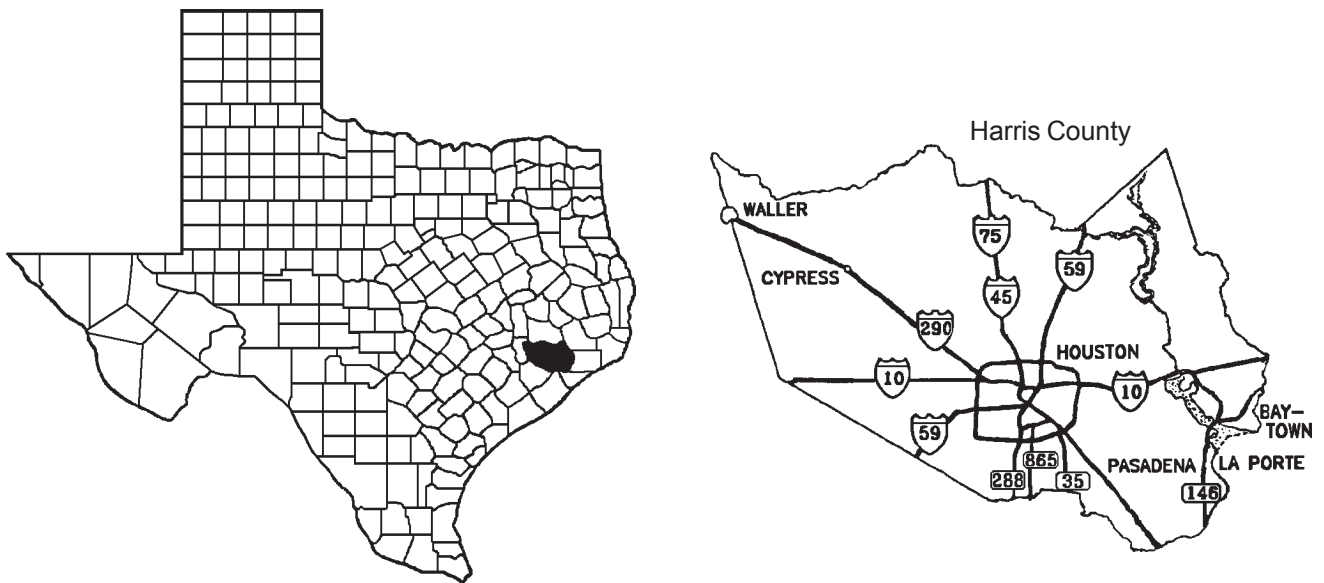
# **Radioactive Waste Processors**

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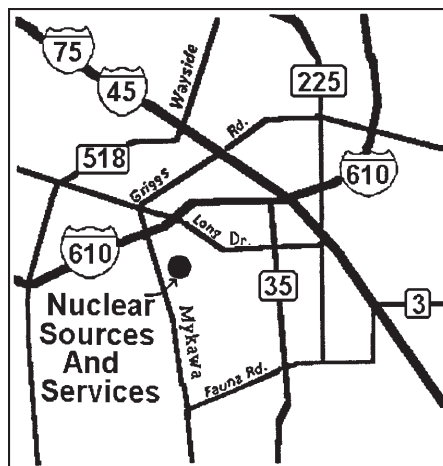
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## Nuclear Sources and Services, Inc. Radiation Branch Site No. 023

The Nuclear Sources and Services, Inc. (NSSI) facility occupies approximately five acres in a light industrial area of Southeast Houston approximately four miles northwest of William P. Hobby Airport. The primary activities of NSSI currently are waste treatment, storage, and disposal of radioactive and chemical hazardous materials. NSSI receives wastes from a variety of off-site generators both inside and outside of Texas. At the conclusion of treatment or storage, the residues are shipped to permitted off-site facilities for disposal. The Radiation Branch surveillance program consists of soil sampling and TLD monitoring.



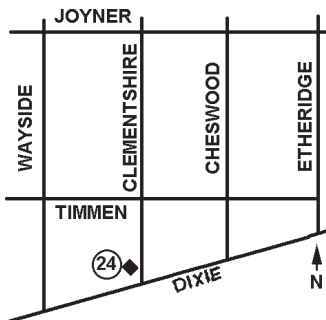
Shaded area indicates location of Harris County



Monitoring Station Locations

◆ TLD Station    ♥ Sample Station    ♣ TLD & Sample Station

Homeland Security --  
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**Thermoluminescent Dosimeter (TLD) Monitoring Results<sup>1</sup>**  
 (quarterly and annual readings are in mrem)

<i>Station</i>	<i>Q1</i>	<i>Q2</i>	<i>Q3</i>	<i>Q4</i>	<i>Annual<sup>2</sup> Dose</i>	<i>Notes</i>
03	153.0	112.4	148.4	265.9	679.7	
04	86.0	33.4	13.0	11.1	143.5	
06	13.0	0.0	9.8	7.1	29.9	
07	89.0	11.1	11.9	6.1	118.1	
11	1.0	0.9	1.1	2.0	5.0	
12	9.0	9.3	11.9	22.2	52.4	
16	28.0	23.2	36.8	46.5	134.5	
18	1.0	2.8	8.7	7.1	19.6	
19	24.0	17.6	35.8	46.5	123.9	
20	19.0	16.7	30.3	34.4	100.4	
21	172.0	114.2	144.1	400.4	830.7	
22	3.0	1.9	14.1	16.2	35.2	
23	5.0	4.6	18.4	18.2	46.2	
24	1.0	0.9	1.1	1.0	4.0	Background TLD provided by Landauer, Inc.
24	13.0	13.0	11.9	13.1	51.0	Background
25	75.0	55.7	82.3	88.0	301.0	
41	75.0	53.9	88.8	117.3	335.0	

NOTE: <sup>1</sup>Combined neutron/gamma dosimeters are deployed at this facility. Exposure reported includes neutron and gamma doses.  
<sup>2</sup>Occupancy factors not provided. Occupancy factors have been requested from licensee.

**Environmental Sample Results**

<i>Date</i>	<i>Lab No.</i>	<i>Station</i>	<i>Alpha</i>	<i>Ra-226*</i>	<i>Am-241</i>	<i>Co-60</i>	<i>Cs-137</i>	<i>I-125</i>	<i>Ra-226</i>
<b>Soil µCi/g</b>									
2007-01-11	ER070022	26	1.6E-5	8E-7	<3E-7	<2E-7	1.5E-6	<3E-7	<3.4E-6
2007-01-11	ER070023	28	1.7E-5	1.1E-6	<3E-7	<2E-7	<2E-7	<2E-7	<2.9E-6
2007-04-12	ER070234	28	1.8E-5	7E-7	<3E-7	<2E-7	<2E-7	<3E-7	<3.0E-6
2007-04-12	ER070235	26	2.4E-5	8E-7	<3E-7	<2E-7	2.5E-6	<3E-7	<3.0E-6
2007-07-19	ER070412	26	1.7E-5	9E-7	<3E-7	3E-7	<2E-7	<2E-7	<2.5E-6
2007-07-19	ER070413	28	1.9E-5	9E-7	<2E-7	<2E-7	5E-7	<2E-7	<2.2E-6
2007-10-11	ER070563	26	2.1E-5	1.1E-6	<3E-7	7E-7	<2E-7	<2E-7	<2.5E-6
2007-10-11	ER070564	28	1.8E-5	1.1E-6	<3E-7	<2E-7	1.8E-6	<2E-7	<2.9E-6

NOTE: \*Indicates the analysis was by alpha spectrometry, or if Ra-226, analysis by radon emanation.



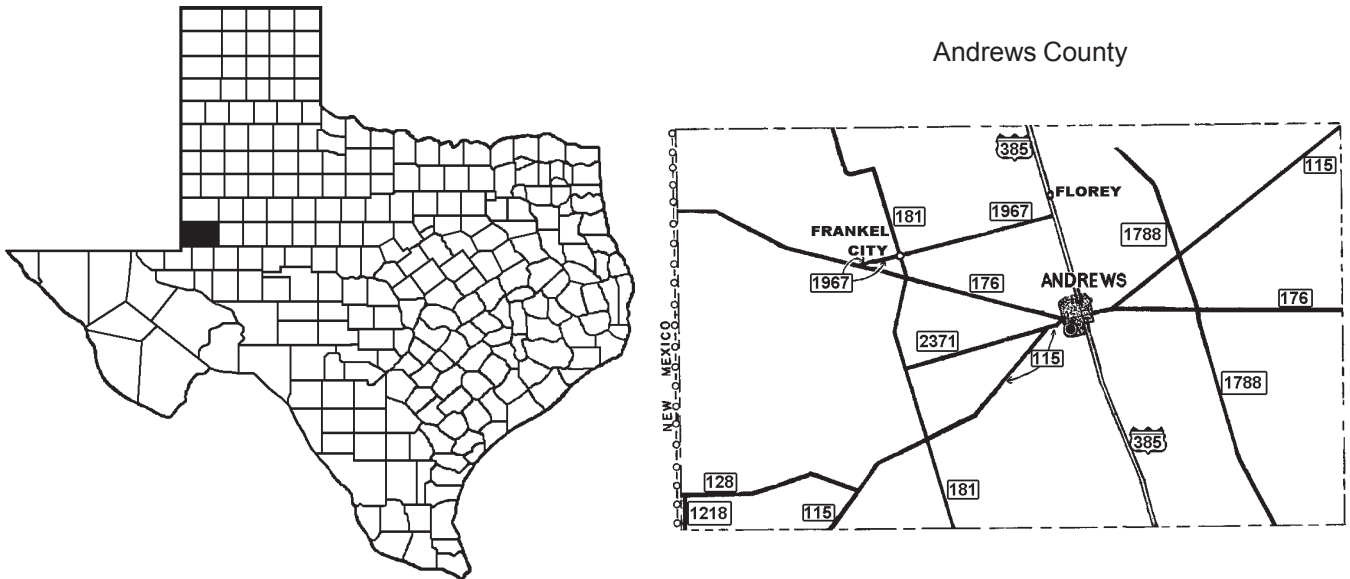
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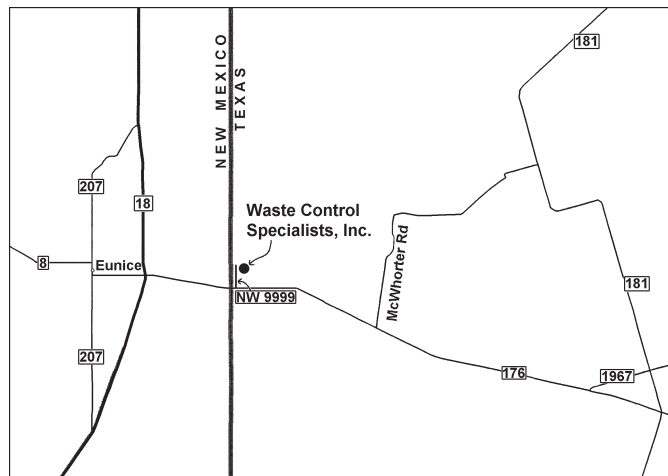
## Waste Control Specialists

### Radiation Branch Site No. 048

Waste Control Specialists (WCS) facility occupies 14,400 acres, in Andrews County approximately 30 miles west of Andrews on the Texas-New Mexico border. Approximately 1,300 acres are devoted to low-level radioactive waste storage. The primary activities of WCS currently are treatment, storage, and disposal of radioactive and hazardous wastes. The Radiation Branch surveillance program consists of sampling sewage, soil, and water and TLD monitoring. The regulatory authority of waste processing facilities was transferred to Texas Commission on Environmental Quality by Senate Bill 1604 on July 1, 2007.



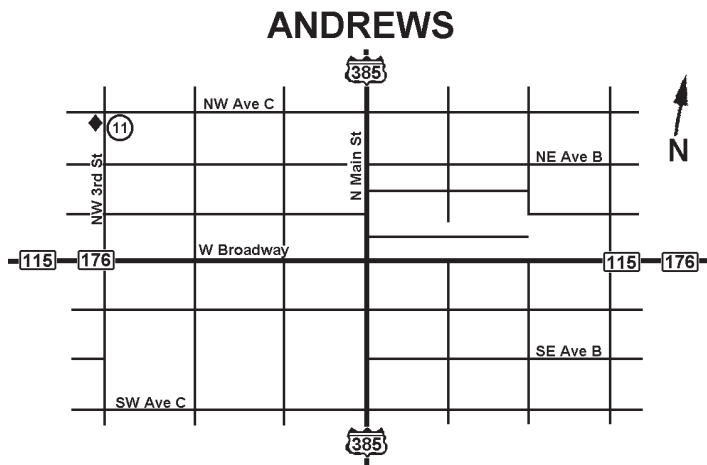
Shaded area indicates location of Andrews County



Monitoring Station Locations



Homeland Security --  
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Thermoluminescent Dosimeter (TLD) Monitoring Results  
(quarterly and annual readings are in mrem)

Station	Q1	Q2	Q3	Q4	Annual* Dose	Note
01	0.0	0.0	0.0	0.0	0.0	TLD removed due to future site expansion
02	0.0	0.0	0.0	0.0	0.0	
03	0.0	0.0	0.0	0.0	0.0	
04	0.0	0.0	0.0	0.0	0.0	
05	0.0	0.0	0.0	0.0	0.0	
11	24.3	18.7	16.1	16.1	75.2	Background; DSHS no longer monitors this facility

NOTE: \*Value does not include 1/48 occupancy factor for TLD stations 2, 4, and 5 or 1/20 occupancy factor for TLD station 3.

## Environmental Sample Results

Date	Lab No.	Station	Alpha	Beta	Pu-239 <sup>1</sup>	Ra-226 <sup>1</sup>	Th-232 <sup>1</sup>	U-234 <sup>1</sup>	U-238 <sup>1</sup>	Cs-137
<b>Sewage <math>\mu\text{Ci/ml}</math></b>										
2007-04-09	ER070206	12	--	--	<1E-10	6E-10	<1.0E-9	2.6E-9	1.6E-9	<8.1E-9
<b>Soil <math>\mu\text{Ci/g}</math></b>										
2007-01-09	ER070010	01 <sup>2</sup>	--	--	--	1.1E-6	--	<1.0E-6	<1.0E-6	--
2007-01-09	ER070012	02	--	--	--	6E-7	--	<1.0E-6	<1.0E-6	--
2007-01-09	ER070013	04	--	--	--	8E-7	--	<1.0E-6	<1.0E-6	--
2007-01-09	ER070014	05	--	--	--	5E-7	--	<1.0E-6	<1.0E-6	--
2007-01-09	ER070015	09	--	--	--	7E-7	--	<1.0E-6	<1.0E-6	--
2007-04-09	ER070199	01 <sup>2</sup>	--	--	--	1.0E-6	--	<1.0E-6	<1.0E-6	--
2007-04-09	ER070201	02	--	--	--	6E-7	--	<1.0E-6	<1.0E-6	--
2007-04-09	ER070202	04	--	--	--	1.1E-6	--	<1.0E-6	<1.0E-6	--
2007-04-09	ER070203	05	--	--	--	4E-7	--	<1.0E-6	<1.0E-6	--
2007-04-09	ER070204	09	--	--	--	7E-7	--	<1.0E-6	<1.0E-6	6E-7
<b>Water-Monitor Well <math>\mu\text{Ci/ml}</math></b>										
2007-01-09	ER070011	01 <sup>2</sup>	3.5E-8	4.0E-8	--	1.0E-9	--	2.5E-8	9.7E-9	--
2007-01-09	ER070016	09	4.0E-9	<4.0E-9	--	7E-10	--	1.1E-9	<1.0E-9	--
2007-04-09	ER070200	01 <sup>2</sup>	3.5E-8	3.8E-8	--	1.2E-9	--	2.3E-8	9.9E-9	--
2007-04-09	ER070205	09	3.7E-9	5.4E-9	--	1.1E-9	--	<1.0E-9	<1.0E-9	--

NOTE: <sup>1</sup>Indicates the analysis was by alpha spectrometry, or if Ra-226, analysis by radon emanation.

<sup>2</sup>Alternate for Station 1 at/near WCS Well DW-35A while Licensing Branch evaluates site for permanent monitoring station.

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# Research Reactors

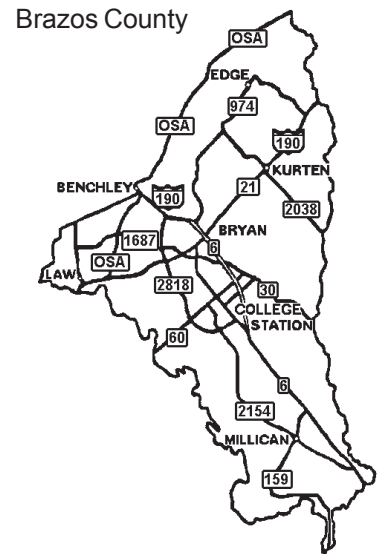
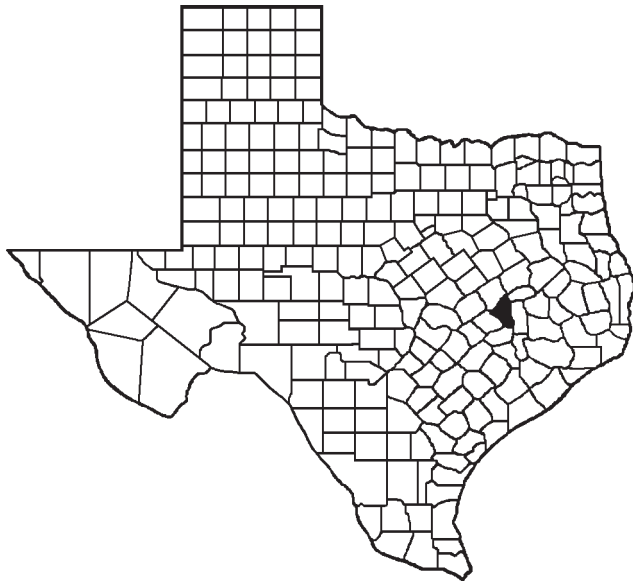
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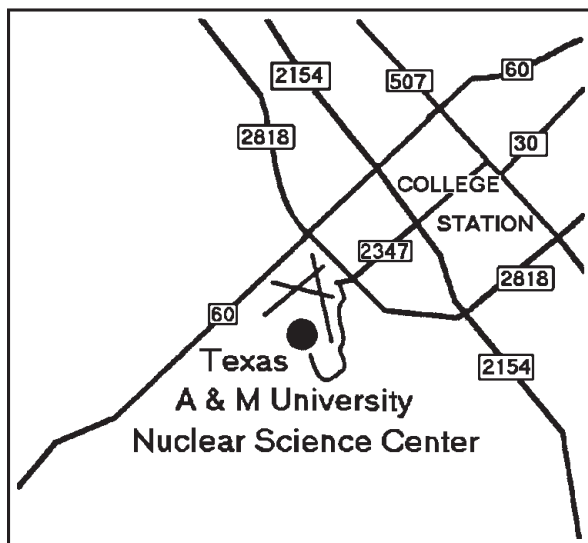
## Texas A & M University Nuclear Science Center

Radiation Branch Site No. 001

Texas A&M Nuclear Science Center (NSC) is located seven miles south of downtown Bryan just south of Easterwood Airport. NSC houses a one-megawatt TRIGA (Testing, Research, Isotope Production, General Atomics) research reactor that came online in 1961. The Radiation Branch surveillance program consists of sediment sampling and TLD monitoring.



Shaded area indicates location of Brazos County

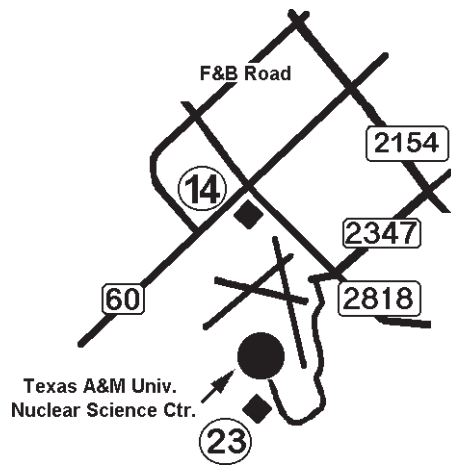




Monitoring Station Locations

◆ TLD Station	♥ Sample Station	♣ TLD & Sample Station
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Homeland Security --  
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**Thermoluminescent Dosimeter (TLD) Monitoring Results**  
**(quarterly and annual readings are in mrem)**

<i>Station</i>	<i>Q1</i>	<i>Q2</i>	<i>Q3</i>	<i>Q4</i>	<i>Annual<sup>2</sup> Dose</i>	<i>Notes</i>
02	2.5	5.5	4.0	3.0	15.0	
03	0.0	1.8	2.0	0.0	3.8	
04	3.8	5.5	5.0	2.0	16.3	
05	0.0	1.8	2.0	1.0	4.8	
10	0.0	1.8	1.0	0.0	2.8	
11	0.0	1.8	1.0	0.0	2.8	
14	--	12.7	10.0	8.0	30.7	Background; <sup>1</sup> Q1-TLD missing
18	1.3	2.7	5.0	1.0	10.0	
19	0.0	0.0	0.0	0.0	0.0	
20	0.0	1.8	0.0	0.0	1.8	
21	0.0	0.0	0.0	0.0	0.0	
22	0.0	0.0	0.0	0.0	0.0	
23	20.0	13.7	12.0	10.0	55.7	Background

NOTE: <sup>1</sup>If data are missing during a quarter, an average of known quarter readings for that year and location is used to fill in for the missing data.

<sup>2</sup>Value does not include 1/16 occupancy factor.

Environmental Sample Results

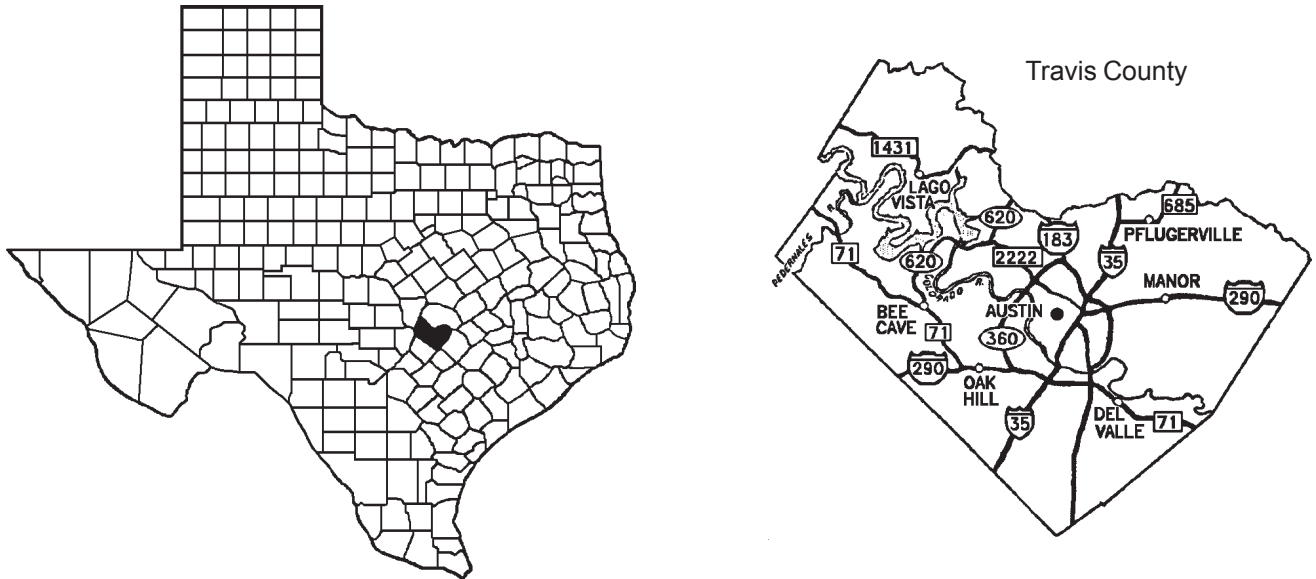
Texas A & M University Nuclear Science Center

Date	Lab No.	Station	Ba-140	Co-58	Co-60	Cs-134	Cs-137	Fe-59	I-131	La-140	Mn-54	Nb-95	Zn-65	Zr-95	
<b>Sediment µCi/g</b>															
2007-01-22	ER07006	16	<5E-7	<1E-7	<2E-7	<1E-7	<2E-7	<3E-7	<2E-7	<2E-7	1E-7	<2E-7	<4E-7	<2E-7	
2007-04-05	ER07025	16	<7E-7	<1E-7	<2E-7	<2E-7	<1E-7	<3E-7	<3E-7	<2E-7	<2E-7	<2E-7	<3E-7	<2E-7	
2007-07-13	ER07043	16	<5E-7	<2E-7	4E-7	<2E-7	<1E-7	<3E-7	<2E-7	<2E-7	6E-7	<2E-7	8E-7	<2E-7	
2007-10-12	ER07057	16	<4E-7	<1E-7	2E-7	<1E-7	<2E-7	<2E-7	<2E-7	<2E-7	<2E-7	<2E-7	<3E-7	<2E-7	

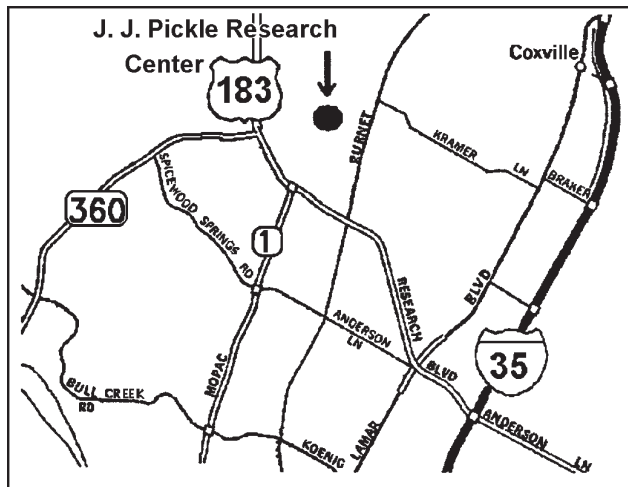
## University of Texas Nuclear Engineering Teaching Laboratory

Radiation Branch Site No. 003

University of Texas Nuclear Engineering Teaching Laboratory (NETL) is located at the J. J. Pickle Research Center, approximately five miles north of the Texas Department of State Health Services main campus. NETL houses an above-ground, fixed-core 1.1 megawatt TRIGA (Testing, Research, Isotope Production, General Atomics) research reactor that came online in 1992. The Radiation Branch surveillance program consists of sampling sewage and water and TLD monitoring.



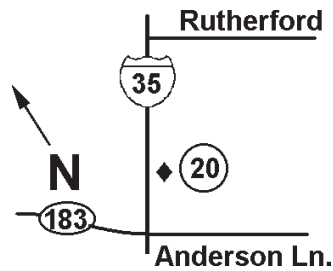
Shaded area indicates location of Travis County



Monitoring Station Locations

◆ TLD Station    ♥ Sample Station    ♣ TLD & Sample Station

Homeland Security --  
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Thermoluminescent Dosimeter (TLD) Monitoring Results  
(quarterly and annual readings are in mrem)

Station	Q1	Q2	Q3	Q4	Annual* Dose	Note
01	0.0	0.0	0.0	0.0	0.0	
02	1.1	0.0	0.0	0.0	1.1	
03	2.2	0.0	0.0	0.0	2.2	
04	2.2	2.0	1.0	2.0	7.2	
05	1.1	0.0	0.0	1.0	2.1	
20	15.3	14.8	12.1	15.2	57.4	Background

NOTE: \*Occupancy factors not provided.

## Environmental Sample Results

## University of Texas Nuclear Engineering Teaching Laboratory

Date	Lab No.	Station	Ba-140	Co-58	Co-60	Cs-134	Cs-137	Fe-59	H-3	I-131	La-140	Mn-54	Nb-95	Zn-65	Zr-95	
<b>Sewage <math>\mu\text{Ci/ml}</math></b>																
2007-01-25	ER070062	08	<2.5E-8	<6.8E-9	<9.3E-9	<7.2E-9	<8.2E-9	<1.3E-8	<1.0E-6	<7.2E-9	<7.6E-9	<7.1E-9	<6.9E-9	<1.6E-8	<1.2E-8	
2007-04-18	ER070245	09	<2.6E-8	<6.9E-9	<9.2E-9	<7.5E-9	<8.1E-9	<1.4E-8	<1.0E-6	<7.1E-9	<8.0E-9	<6.8E-9	<7.0E-9	<1.7E-8	<1.2E-8	
2007-07-19	ER070406	08	<2.4E-8	<6.3E-9	<8.6E-9	<5.8E-9	<7.6E-9	<1.4E-8	<1.0E-6	<7.1E-9	<7.7E-9	<6.4E-9	<7.0E-9	<1.5E-8	<1.2E-8	
2007-10-17	ER070573	09	<2.2E-8	<6.3E-9	<8.6E-9	<6.0E-9	<7.6E-9	<1.3E-8	<1.0E-6	<6.5E-9	<7.3E-9	<6.4E-9	<6.3E-9	<1.5E-8	<1.2E-8	
<b>Water-Surface pCi/ml</b>																
2007-01-25	ER070061	07	<7.9E-9	<2.3E-9	<2.3E-9	<2.6E-9	<2.6E-9	<4.2E-9	<1.0E-6	<2.6E-9	<2.6E-9	<2.3E-9	<2.5E-9	<5.3E-9	<4.0E-9	

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# Other Facilities



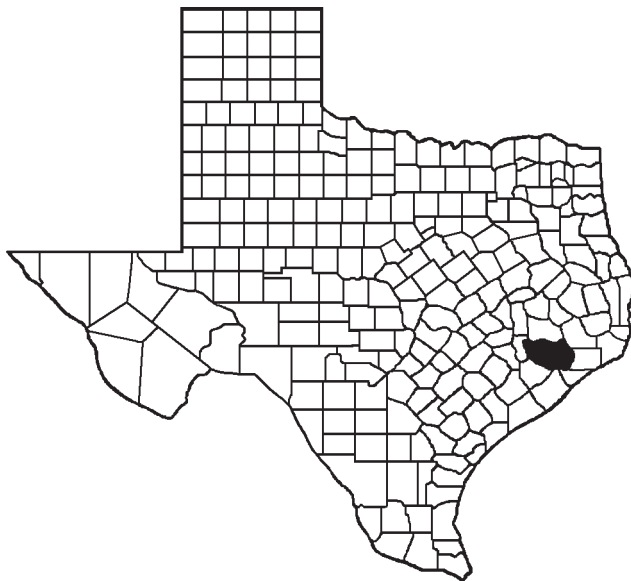
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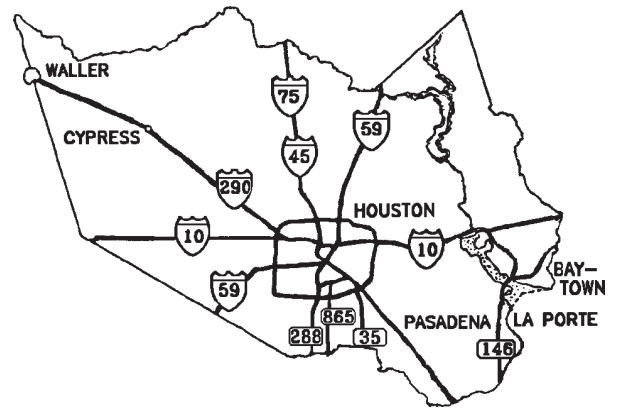
## Gammatron, Inc.

Radiation Branch Site No. 018

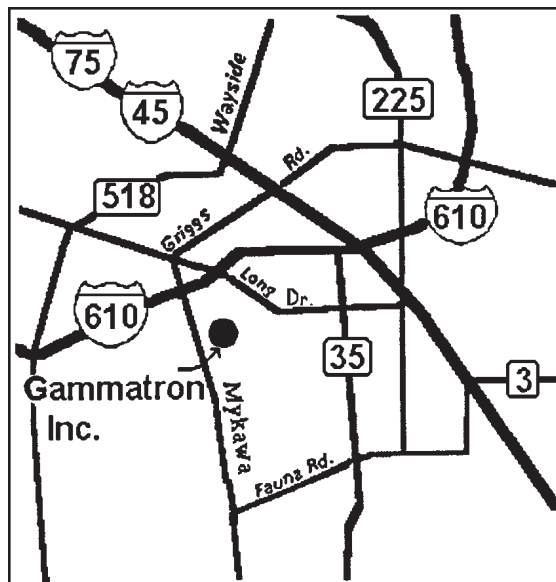
Gammatron, Inc. is a manufacturer of sealed radioactive sources, specializing in Am<sup>241</sup>Be and Am<sup>241</sup>Li neutron sources and Cs<sup>137</sup> gamma sources. The facility is located in an industrial area of Houston approximately four miles northwest of William P. Hobby Airport. The Radiation Branch surveillance program consists of soil sampling and TLD monitoring.



Harris County



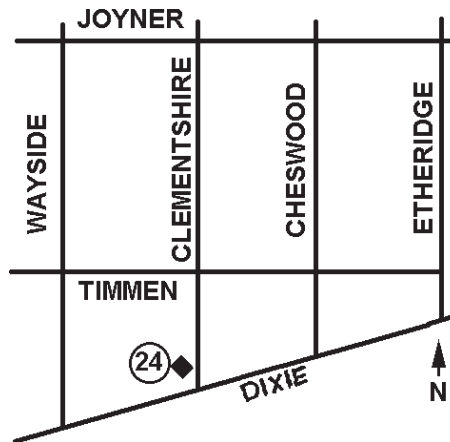
Shaded area indicates location of Harris County



Monitoring Station Locations



Homeland Security --  
Diagram Removed



Thermoluminescent Dosimeter (TLD) Monitoring Results<sup>1</sup>  
(quarterly and annual readings are in mrem)

Station	Q1	Q2	Q3	Q4	Annual <sup>2</sup> Dose	Notes
03	121.0	117.0	115.9	108.2	462.1	
05	295.0	218.2	167.9	278.1	959.2	
08	223.0	129.1	84.5	227.5	664.1	
24	1.0	0.9	0.9	1.0	3.8	Background TLD provided by Landauer, Inc.
24	13.0	13.0	15.2	13.1	54.3	Background
30	61.0	61.3	60.7	62.7	245.7	
31	11.0	0.0	8.7	6.1	25.8	
34	237.0	151.4	159.3	240.6	788.3	
40	78.0	14.9	21.7	18.2	132.8	

NOTE: <sup>1</sup>Combined neutron/gamma dosimeters are deployed at this facility. Exposure reported includes neutron and gamma doses.  
<sup>2</sup>Occupancy factors not provided. Occupancy factors have been requested from licensee.

Environmental Sample Results

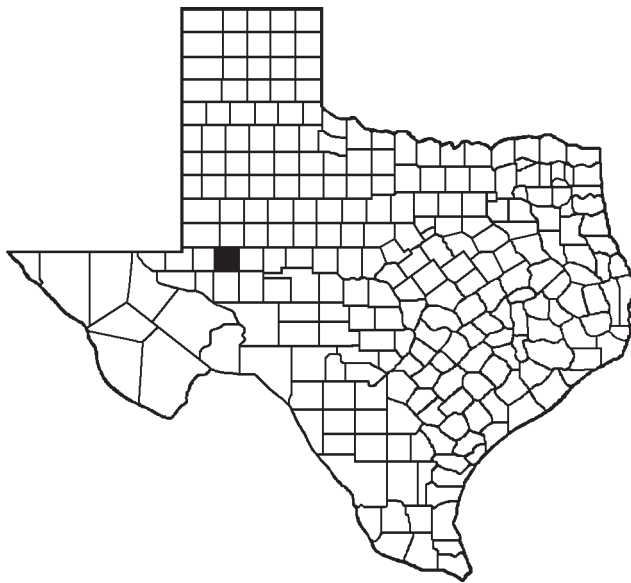
Date	Lab No.	Station	Alpha	Ra-226*	Am-241	Co-60	Cs-137	Ra-226
Soil $\mu\text{Ci/g}$								
2007-01-11	ER070024	31	1.9E-5	1.0E-6	<3E-7	<2E-7	<2E-7	2.6E-6
2007-04-12	ER070233	31	1.9E-5	1.2E-6	<4E-7	<2E-7	<2E-7	<3.0E-6
2007-07-19	ER070414	31	1.7E-5	1.1E-6	<2E-7	<2E-7	3E-7	<2.2E-6
2007-10-11	ER070562	31	2.3E-5	1.0E-6	<3E-7	<2E-7	2E-7	<2.4E-6

NOTE: \*Indicates the analysis was by alpha spectrometry, or if Ra-226, analysis by radon emanation.

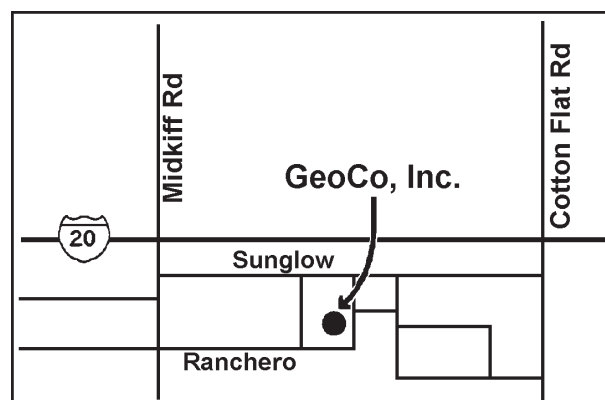
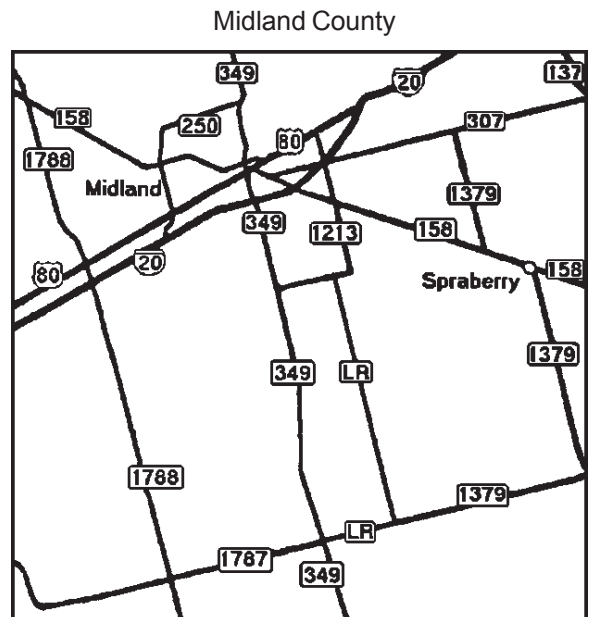
# GeoCo, Inc.

Radiation Branch Site No. 051

GeoCo, Inc. is a tracer studies company specializing in oil and gas wells. The facility is located in Midland approximately six miles east of Midland-Odessa International Airport. The Radiation Branch surveillance program consists of TLD monitoring.



Shaded area indicates location of Midland County



**Monitoring Station Locations**

◆ TLD Station    ♥ Sample Station    ♣ TLD & Sample Station

Homeland Security --  
Diagram Removed




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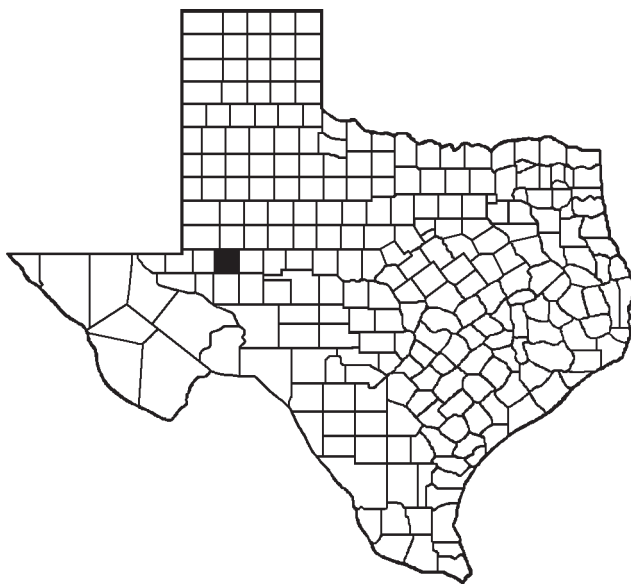
**Thermoluminescent Dosimeter (TLD) Monitoring Results**  
(quarterly and annual readings are in mrem)

<b>Station</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Annual* Dose</b>	<b>Notes</b>
01	209.3	126.8	78.2	48.2	462.5	
08	21.2	16.3	18.7	20.3	76.5	Background

Note: \*Value does not include 1/10 occupancy factor.

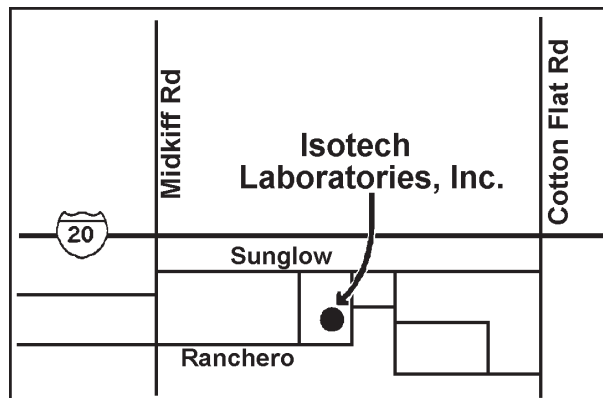
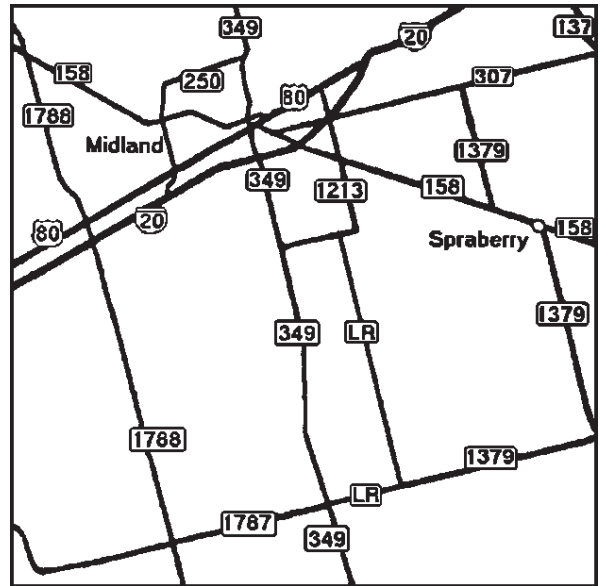
**Isotech Laboratories, Inc.**  
Radiation Branch Site No. 008

Isotech Laboratories, Inc. manufactures tracer material for the oil and gas industry, calibrates radiation detection instruments, and provides radiation safety training for well-logging and tracer services. The facility is located in Midland approximately six miles east of Midland-Odessa International Airport. The Radiation Branch surveillance program consists of TLD monitoring.



Shaded area indicates location of Midland County

Midland County



Monitoring Station Locations

◆ TLD Station    ♥ Sample Station    ♣ TLD & Sample Station

Homeland Security --  
Diagram Removed



Thermoluminescent Dosimeter (TLD) Monitoring Results  
(quarterly and annual readings are in mrem)

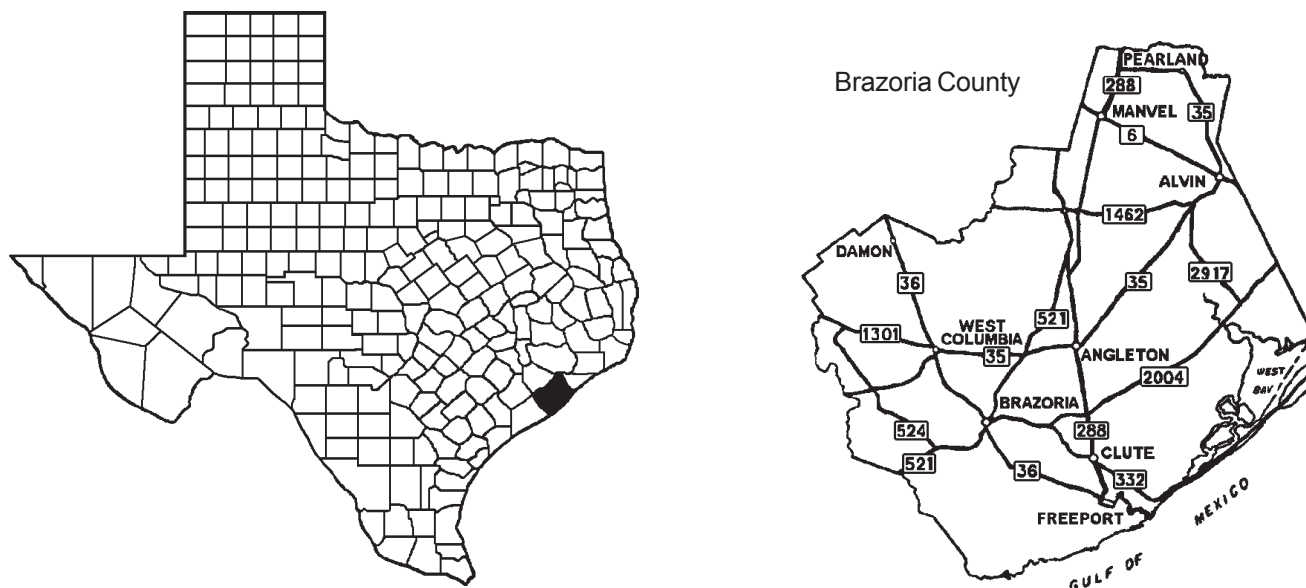
Station	Q1	Q2	Q3	Q4	Annual* Dose	Notes
01	10.1	5.7	2.3	4.3	22.4	
02	49.5	30.9	21.0	21.4	122.8	
03	83.9	27.6	19.8	16.1	147.4	
04	162.8	42.3	39.7	21.4	266.2	
06	45.5	29.3	18.7	13.9	107.4	
08	21.2	16.3	18.7	20.3	76.5	Background

Note: \*Value does not include 1/4 occupancy factor.

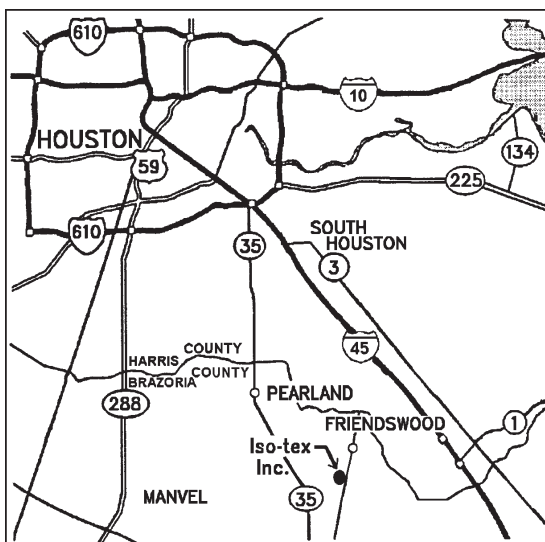
## Iso-Text, Inc.

### Radiation Branch Site No. 021

Iso-Text, Inc. is an FDA licensed facility for drug manufacturing of radio-pharmaceuticals and radio-isotope labeling. The facility is located 17 miles south southeast of downtown Houston and approximately five miles southeast of Pearland on County Road 129. The Radiation Branch surveillance program consists of TLD monitoring.



Shaded area indicates location of Brazoria County

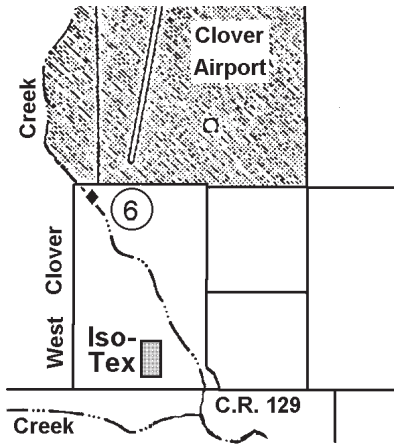




Monitoring Station Locations

◆ TLD Station    ♥ Sample Station    ♣ TLD & Sample Station

Homeland Security --  
Diagram Removed



Thermoluminescent Dosimeter (TLD) Monitoring Results  
(quarterly and annual readings are in mrem)

Station	Q1	Q2	Q3	Q4	Annual* Dose	Notes
01	8.0	7.4	4.3	14.0	33.7	
06	13.0	11.1	10.8	12.0	46.9	Background
07	12.0	16.7	13.0	17.0	58.7	
10	5.0	7.4	5.4	11.0	28.8	

NOTE: \*Occupancy factors not provided.

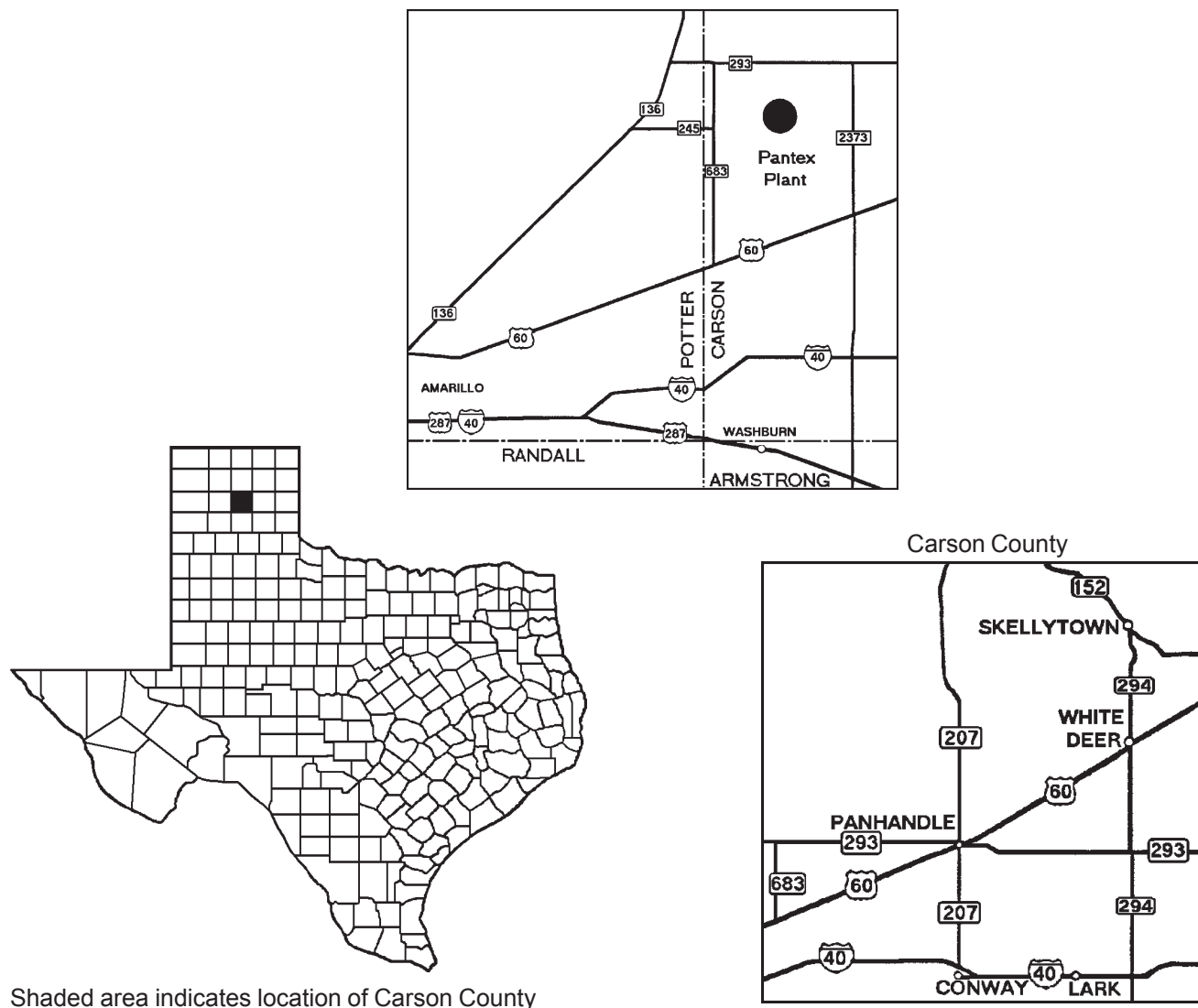
## Pantex

### Radiation Branch Site No. 005

The Pantex plant site is located in Carson County in the Texas Panhandle, north of U.S. Highway 60. The plant is located 17 miles (27 kilometers) northeast of downtown Amarillo. It is centered on a 16,000-acre site. The Pantex facility consists of 10,080 acres of United States Department of Energy (USDOE) owned land and 5,856 acres of land leased from Texas Tech University, used as a safety and security buffer zone.

The Pantex plant is located on the Llano Estacado (staked plains) portion of the Great Plains at an elevation of approximately 3,500 feet (1,067 meters). The topography at Pantex plant is relatively flat, characterized by rolling grassy plains and numerous natural playa basins. The region is a semi-arid farming and ranching area. Pantex plant is surrounded by agricultural land, but several significant industrial facilities are also located nearby.

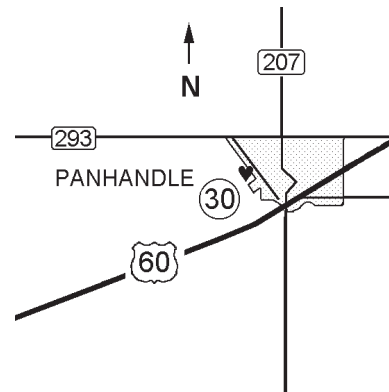
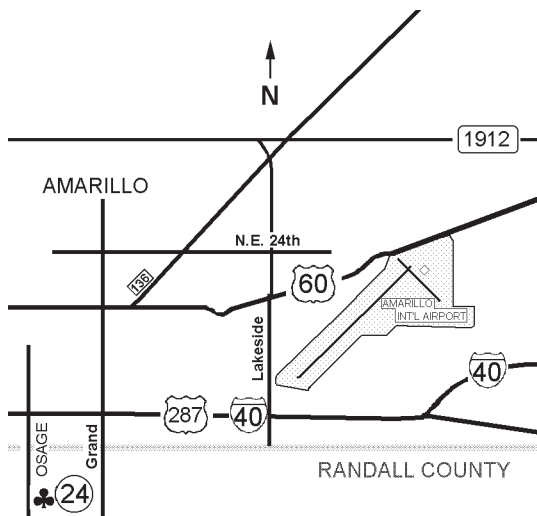
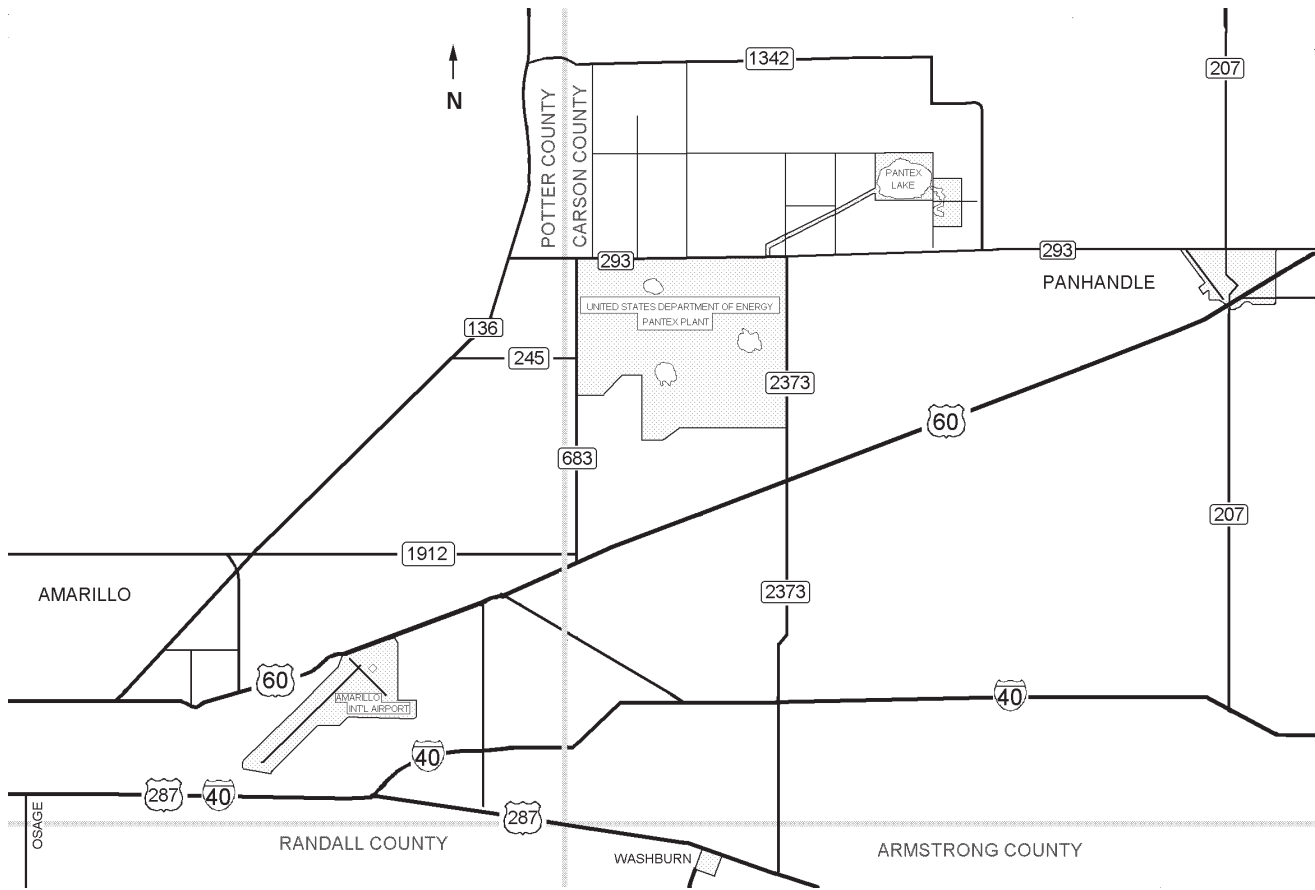
The Radiation Branch surveillance program consists of sampling air, food products, sediment, soil, vegetation, and water and TLD monitoring. Analysis of samples is concentrated on determining presence of any special nuclear material.



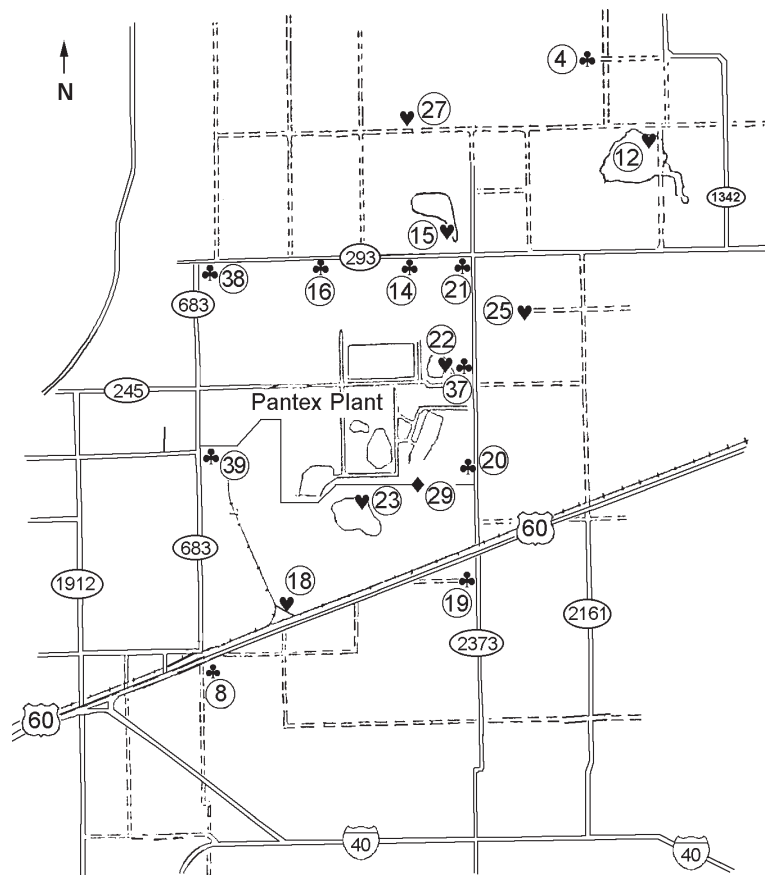
Shaded area indicates location of Carson County

### Monitoring Station Locations

- ◆ TLD Station
- ♥ Sample Station
- ♣ TLD & Sample Station



Homeland Security --  
Diagram Removed



**Thermoluminescent Dosimeter (TLD) Monitoring Results\***  
(quarterly and annual readings are in mrem)

<i>Station</i>	<i>Q1</i>	<i>Q2</i>	<i>Q3</i>	<i>Q4</i>	<i>Annual Dose</i>	<i>Notes</i>
04	23.5	21.8	22.8	29.2	97.3	
08	24.5	22.8	21.8	28.0	97.1	
14	23.5	22.8	22.8	26.8	95.9	
16	24.5	21.8	21.8	28.0	96.1	
19	23.5	21.8	22.8	29.2	97.3	
20	22.5	22.8	21.8	28.0	95.1	
21	24.5	20.9	19.9	26.8	92.1	
24	23.5	20.2	19.7	26.0	89.4	Background
29	24.5	20.9	21.8	29.2	96.4	
37	26.6	23.7	23.7	30.3	104.3	
38	22.5	20.0	20.9	26.8	90.2	
39	23.5	21.8	20.9	26.8	93.0	

NOTE: \*Background is not subtracted from the data.

**Environmental Sample Results**

<i>Date</i>	<i>Lab No.</i>	<i>Station</i>	<i>Pu-239*</i>	<i>U-234*</i>	<i>U-235*</i>	<i>U-238*</i>	<i>Ra-226</i>
<b>Air Samples µCi/ml</b>							
2007-01-05	ER070105	104	<5E-17	<4.6E-16	<4.6E-16	<4.6E-16	<1.6E-14
2007-01-10	ER070104	104	<5E-17	<4.4E-16	<4.4E-16	<4.4E-16	<1.5E-14
2007-03-05	ER070159	104	<5E-17	<4.4E-16	<4.4E-16	4.6E-16	<8.7E-15
2007-03-14	ER070169	104	<5E-17	<4.7E-16	<4.7E-16	<4.7E-16	<1.4E-14
2007-03-16	ER070168	104	<5E-17	<4.6E-16	<4.6E-16	<4.6E-16	<1.4E-14
2007-03-30	ER070268	105	<5E-17	<4.7E-16	<4.7E-16	4.6E-16	<1.6E-14
2007-04-04	ER070267	104	<5E-17	<4.6E-16	<4.6E-16	<4.6E-16	<1.5E-14
2007-04-12	ER070266	104	<5E-17	<4.6E-16	<4.6E-16	<4.6E-16	<1.6E-14
2007-04-20	ER070269	105	<5E-17	<4.5E-16	<4.5E-16	<4.5E-16	<1.4E-14
2007-05-04	ER070337	104	<5E-17	<4.7E-16	<4.7E-16	<4.7E-16	<1.5E-14
2007-06-04	ER070392	105	<5E-17	<4.3E-16	<4.3E-16	<4.3E-16	<1.3E-14
2007-06-20	ER070391	105	<5E-17	<4.5E-16	<4.5E-16	<4.5E-16	<1.4E-14
2007-06-27	ER070393	105	<5E-17	<4.4E-16	<4.4E-16	<4.4E-16	<1.4E-14
2007-07-06	ER070436	104	<5E-17	<4.2E-16	<4.2E-16	<4.2E-16	<1.3E-14
2007-07-11	ER070438	105	<5E-17	<4.5E-16	<4.5E-16	<4.5E-16	<1.4E-14
2007-07-18	ER070437	105	<5E-17	<4.4E-16	<4.4E-16	<4.4E-16	<1.4E-14
2007-08-09	ER070502	105	<5E-17	<5.0E-16	<5.0E-16	<5.0E-16	<9.8E-15
2007-09-20	ER070548	105	<5E-17	<4.9E-16	<4.9E-16	<4.9E-16	<1.5E-14
2007-10-05	ER070620	104	<5E-17	4.7E-16	<4.7E-16	<6.4E-15	<1.4E-14
2007-10-12	ER070621	105	<5E-17	<4.9E-16	<4.9E-16	<4.9E-16	<9.4E-15
2007-11-09	ER070659	104	<6E-17	<5.2E-16	<5.2E-16	<5.2E-16	<1.6E-14
2007-11-16	ER070660	105	<5E-17	5.0E-16	<4.8E-16	<4.8E-16	<1.5E-14
2007-11-29	ER070675	104	<5E-17	4.8E-16	<4.8E-16	5.9E-16	<1.5E-14
2007-12-06	ER070674	104	<5E-17	<4.8E-16	<4.8E-16	<4.8E-16	<2.0E-14
2007-12-14	ER080014	104	<5E-17	<4.8E-16	<4.8E-16	<4.8E-16	<1.5E-14
2007-12-19	ER080013	104	<5E-17	<4.9E-16	<4.9E-16	<4.9E-16	<1.5E-14

Date	Lab No.	Station	Pu-239*	U-234*	U-235*	U-238*	H-3**	Ra-226	U-238
<b>Food Product <math>\mu\text{Ci/g}</math></b>									
2007-04-09	ER070223	25	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.1E-6	<7E-7
2007-07-18	ER070418	25	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<8E-7	<6E-7
<b>Sediment <math>\mu\text{Ci/g}</math></b>									
2007-01-10	ER070041	22	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.9E-6	<1.8E-6
2007-04-09	ER070217	12	<1E-7	1.1E-6	<1.0E-6	1.1E-6	--	1.0E-6	<1.7E-6
2007-07-18	ER070430	23	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	<2.5E-6	<2.4E-6
<b>Soil <math>\mu\text{Ci/g}</math></b>									
2007-01-10	ER070035	37	<1E-7	<1.0E-6	<1.0E-6	1.0E-6	--	<2.4E-6	<1.6E-6
2007-01-10	ER070036	18	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	<2.0E-6	<1.9E-6
2007-01-10	ER070037	39	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	1.2E-6	<1.3E-6
2007-01-10	ER070038	20	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	<2.1E-6	<2.0E-6
2007-01-10	ER070039	14	<1E-7	<1.0E-6	<1.0E-6	1.0E-6	--	<2.0E-6	<1.3E-6
2007-04-09	ER070211	04	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	<2.5E-6	<1.7E-6
2007-04-09	ER070212	08	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	<2.5E-6	<1.5E-6
2007-04-09	ER070213	16	<1E-7	<1.0E-6	<1.0E-6	1.0E-6	--	<2.3E-6	<2.2E-6
2007-04-09	ER070214	19	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	<2.5E-6	<1.6E-6
2007-04-09	ER070215	21	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	2.3E-6	<1.5E-6
2007-04-09	ER070216	38	<1E-7	1.0E-6	<1.0E-6	1.1E-6	--	<2.3E-6	<2.0E-6
2007-07-18	ER070421	14	<1E-7	<1.0E-6	<1.0E-6	1.0E-6	--	2.0E-6	<1.4E-6
2007-07-18	ER070422	18	<1E-7	1.0E-6	<1.0E-6	1.0E-6	--	<2.5E-6	<2.1E-6
2007-07-18	ER070423	20	<1E-7	1.0E-6	<1.0E-6	<1.0E-6	--	<2.2E-6	<1.4E-6
2007-07-18	ER070424	37	<1E-7	<1.0E-6	<1.0E-6	1.0E-6	--	<2.8E-6	<2.7E-6
2007-07-18	ER070425	39	<1E-7	1.0E-6	<1.0E-6	1.1E-6	--	<2.2E-6	<1.4E-6
2007-10-22	ER070594	04	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	<2.4E-6	<1.5E-6
2007-10-22	ER070595	08	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	1.2E-6	<1.4E-6
2007-10-22	ER070596	16	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	<2.3E-6	<2.0E-6
2007-10-22	ER070597	19	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	<1.8E-6	<1.2E-6
2007-10-22	ER070598	21	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	<2.1E-6	<1.3E-6
2007-10-22	ER070599	38	<1E-7	1.0E-6	<1.0E-6	1.1E-6	--	<2.0E-6	<1.7E-6
2007-10-22	ER070603	15	<1E-7	1.0E-6	<1.0E-6	<1.1E-6	--	<3.1E-6	<1.9E-6
<b>Vegetation <math>\mu\text{Ci/g}</math></b>									
2007-01-10	ER070030	14	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	<1.2E-6	<1.0E-6
2007-01-10	ER070031	18	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	<1.2E-6	<1.0E-6
2007-01-10	ER070032	20	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	<1.3E-6	<9E-7
2007-01-10	ER070033	37	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	<1.2E-6	<1.0E-6
2007-01-10	ER070034	39	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	--	<1.3E-6	<1.0E-6
2007-04-09	ER070218	04	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.2E-6	<9E-7
2007-04-09	ER070219	08	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.6E-6	<1.3E-6
2007-04-09	ER070220	16	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.4E-6	<1.2E-6
2007-04-09	ER070221	19	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.2E-6	<9E-7
2007-04-09	ER070222	21	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.2E-6	<8E-7
2007-04-09	ER070224	38	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.2E-6	<1.0E-6
2007-07-18	ER070415	14	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<8E-7	<6E-7
2007-07-18	ER070416	18	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<8E-7	<7E-7
2007-07-18	ER070417	20	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<8E-7	<5E-7
2007-07-18	ER070419	37	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<7E-7
2007-07-18	ER070420	39	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.1E-6	<9E-7
2007-10-22	ER070588	04	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<9E-7	<6E-7
2007-10-22	ER070589	08	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<7E-7	<5E-7
2007-10-22	ER070590	16	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<9E-7	<8E-7
2007-10-22	ER070592	21	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<7E-7
2007-10-22	ER070593	38	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.1E-6	<9E-7
2007-10-23	ER070591	19	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<8E-7
<b>Water-Drinking <math>\mu\text{Ci/ml}</math></b>									
2007-01-10	ER070044	30	<1E-10	4.6E-9	<1.0E-9	2.1E-9	<1.0E-6	<5.2E-8	<3.8E-8
2007-04-09	ER070228	30	<1E-10	5.1E-9	<1.0E-9	2.1E-9	<1.0E-6	<5.2E-8	<3.8E-8
2007-07-17	ER070428	30	<1E-10	4.4E-9	<1.0E-9	1.8E-9	<1.0E-6	<5.0E-8	<4.3E-8
2007-10-22	ER070602	30	<1E-10	2.3E-9	<1.0E-9	1.1E-9	<1.0E-6	<5.6E-8	<4.7E-8

## Pantex

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Date	Lab No.	Station	Pu-239*	U-234*	U-235*	U-238*	H-3**	Ra-226	U-238
<b>Water-Ground <math>\mu\text{Ci/ml}</math></b>									
2007-01-10	ER070043	27	<1E-10	3.9E-9	<1.0E-9	2.0E-9	<1.0E-6	<5.0E-8	<4.6E-8
2007-04-09	ER070227	27	<1E-10	4.2E-9	<1.0E-9	1.9E-9	<1.0E-6	<5.2E-8	<4.6E-8
2007-07-17	ER070427	27	<1E-10	4.6E-9	<1.0E-9	2.0E-9	<1.0E-6	<5.4E-8	<3.8E-8
2007-10-23	ER070601	27	<1E-10	2.2E-9	<1.0E-9	1.0E-9	<1.0E-6	<5.7E-8	<4.0E-8
<b>Water-Surface <math>\mu\text{Ci/ml}</math></b>									
2007-01-10	ER070040	22	<1E-10	<1.0E-9	<1.0E-9	<1.0E-9	<1.0E-6	<4.7E-8	<4.3E-8
2007-01-10	ER070042	24	<1E-10	3.9E-9	<1.0E-9	2.2E-9	<1.0E-6	<5.2E-8	<3.6E-8
2007-04-09	ER070225	12	<1E-10	<1.0E-9	<1.0E-9	<1.0E-9	<1.0E-6	<5.1E-8	<4.3E-8
2007-04-09	ER070226	24	<1E-10	3.9E-9	<1.0E-9	1.9E-9	<1.0E-6	4.2E-8	<3.8E-8
2007-07-17	ER070426	24	<1E-10	4.0E-9	<1.0E-9	2.1E-9	<1.0E-6	<4.9E-8	<4.2E-8
2007-07-18	ER070429	23	<1E-10	2.6E-9	<1.0E-9	2.3E-9	<1.0E-6	<5.3E-8	<3.8E-8
2007-10-23	ER070600	24	<1E-10	3.7E-9	<1.0E-9	2.2E-9	<1.0E-6	<4.9E-8	<4.3E-8

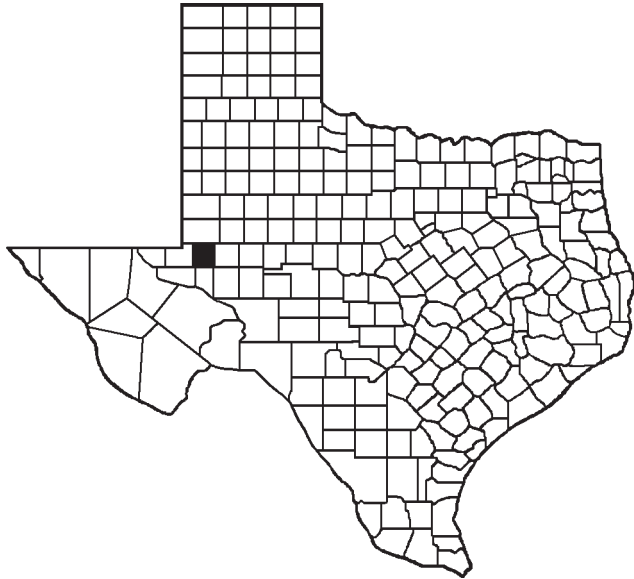
NOTE: \*Indicates the analysis was by alpha spectrometry, or if Ra-226, analysis by radon emanation.

\*\*Indicates the tritium (H-3) analysis for food product, sediment, and vegetation is reported in  $\mu\text{Ci/ml}$ .

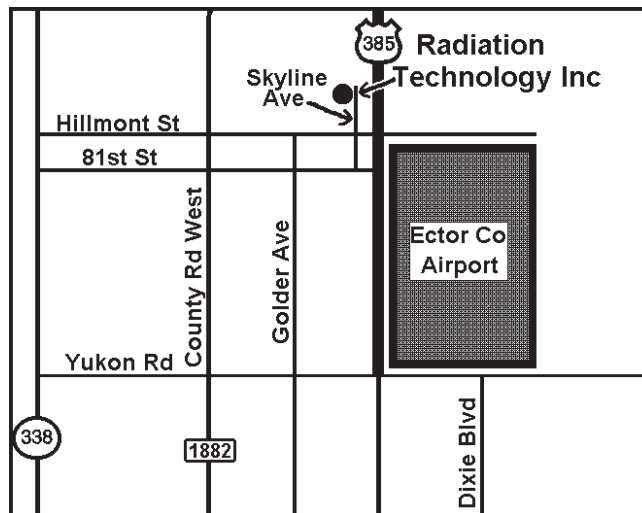
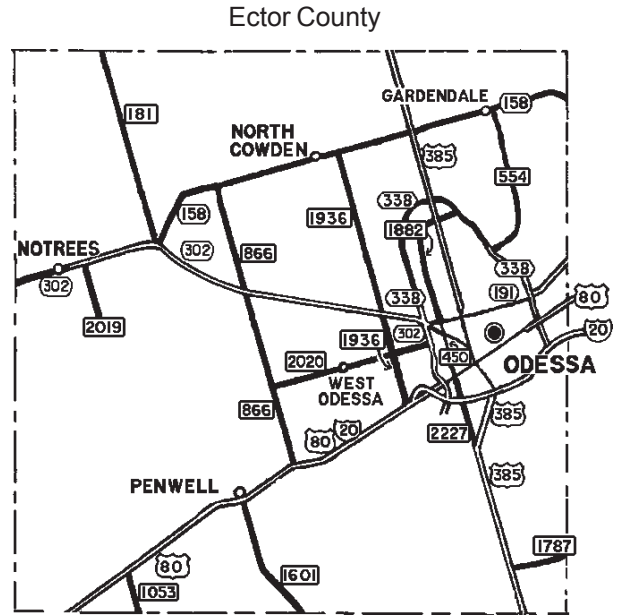
## Radiation Technology, Inc.

Radiation Branch Site No. 050

Radiation Technology, Inc. (RTI), located six miles north of downtown Odessa, provides installation, repair, and maintenance of nuclear gauging devices and services for loading and unloading radioactive sources in nuclear gauges. The Radiation Branch surveillance program consists of TLD monitoring.



Shaded area indicates location of Ector County

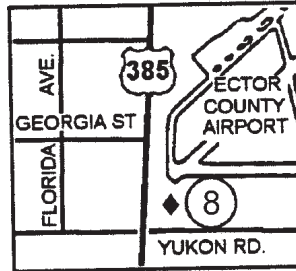




Monitoring Station Locations

◆ TLD Station    ♥ Sample Station    ♣ TLD & Sample Station

Homeland Security --  
Diagram Removed



Thermoluminescent Dosimeter (TLD) Monitoring Results<sup>1</sup>  
(quarterly and annual readings are in mrem)

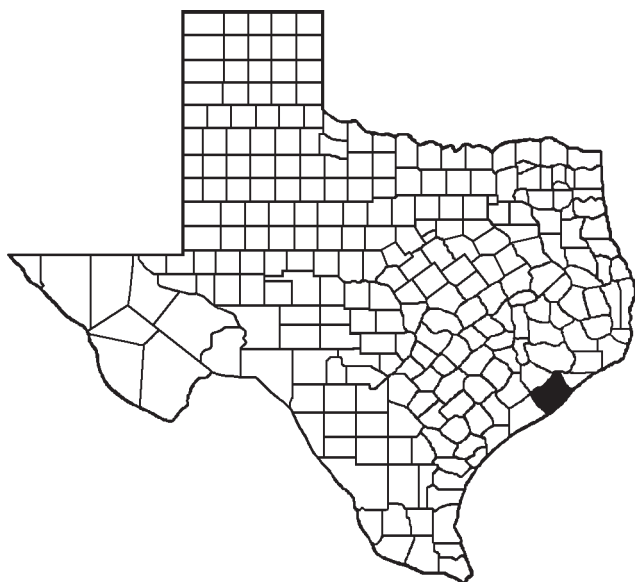
Station	Q1	Q2	Q3	Q4	Annual <sup>2</sup> Dose	Notes
01	136.5	43.1	63.0	62.1	304.7	
02	972.7	1075.8	1027.8	1319.0	4395.3	
03	568.2	541.1	460.8	730.1	2300.2	
04	114.3	114.6	148.2	168.1	545.2	
08	6.1	5.7	1.2	2.1	15.1	Background TLD provided by Landauer, Inc.

NOTE: <sup>1</sup>Combined neutron/gamma dosimeters are deployed at this facility. Exposure reported includes neutron and gamma doses.  
<sup>2</sup>Occupancy factors not provided. Occupancy factors have been requested from licensee.

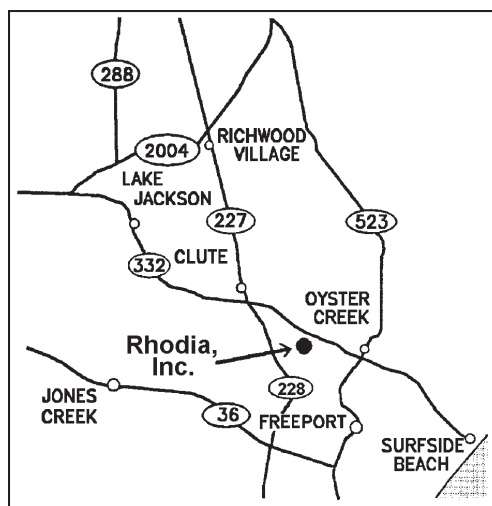
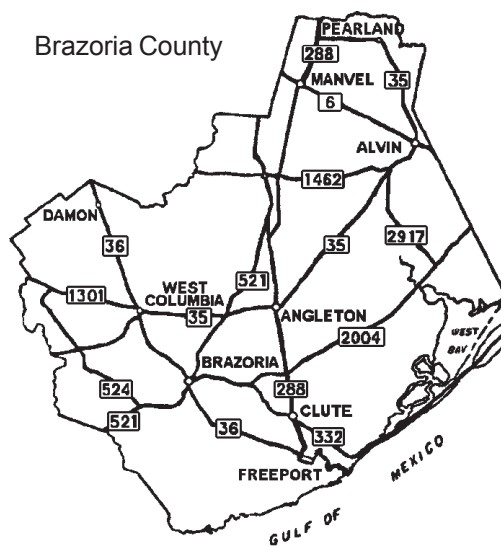
## Rhodia, Inc.

Radiation Branch Site No. 026

Rhodia, Inc. is an international specialty chemicals manufacturer. Rhodia's Freeport facility, located approximately 55 miles south of Houston, uses material containing uranium and thorium. The Radiation Branch surveillance program consists of TLD monitoring.



Shaded area indicates location of Brazoria County



Monitoring Station Locations

◆ TLD Station    ♥ Sample Station    ♣ TLD & Sample Station

Homeland Security --  
Diagram Removed

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Thermoluminescent Dosimeter (TLD) Monitoring Results  
(quarterly and annual readings are in mrem)

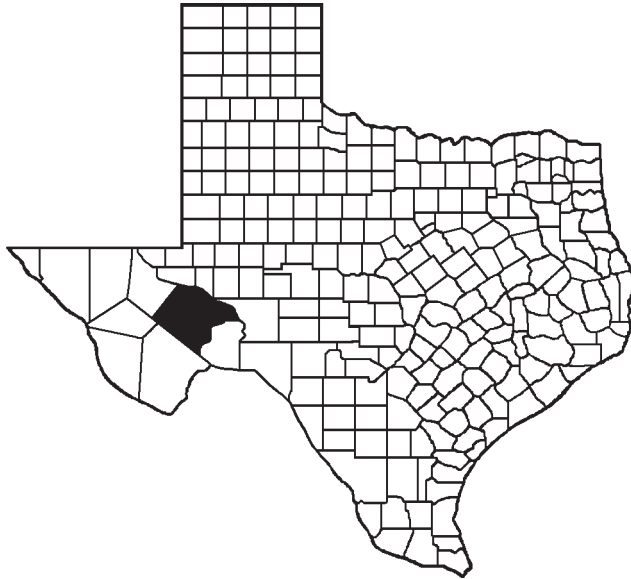
<i>Station</i>	<i>Q1</i>	<i>Q2</i>	<i>Q3</i>	<i>Q4</i>	<i>Annual* Dose</i>	<i>Notes</i>
01	1.0	0.0	0.0	0.0	1.0	
02	0.0	0.0	1.1	0.0	1.1	
04	6.0	5.6	5.4	6.0	23.0	
05	29.0	29.7	27.1	28.0	113.8	
06	24.0	21.4	22.8	23.0	91.2	
16	15.0	15.8	13.0	16.0	59.8	Background

Note: \*Value does not include 1/16 occupancy factor.

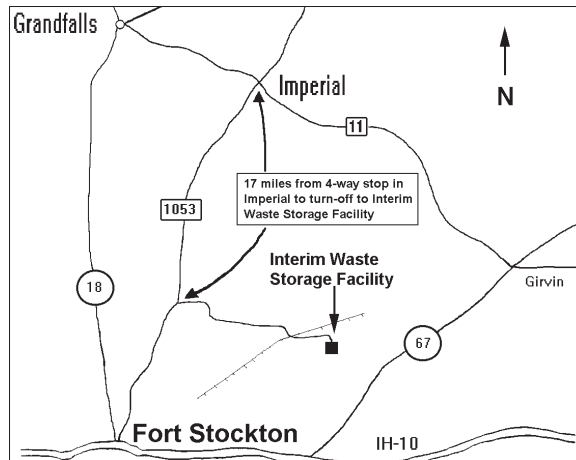
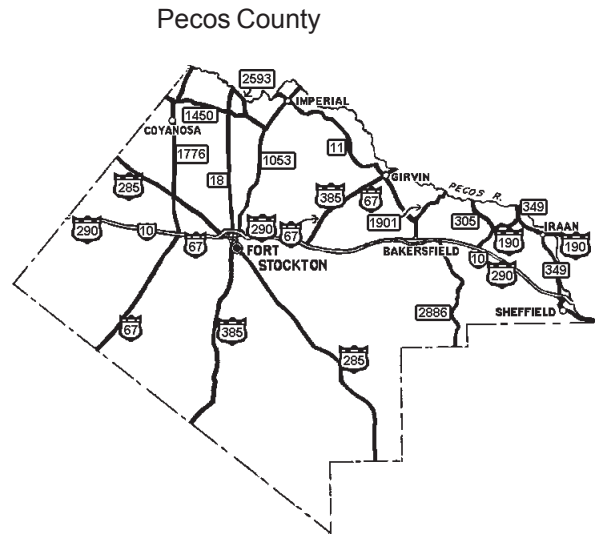
# University of Texas Systems Interim Waste Storage Facility

Radiation Branch Site No. 042

University of Texas Systems Interim Waste Storage Facility, located in Pecos County, provides temporary storage for low-level radioactive waste from several University of Texas campuses throughout Texas. The Radiation Branch surveillance program consists of TLD monitoring.



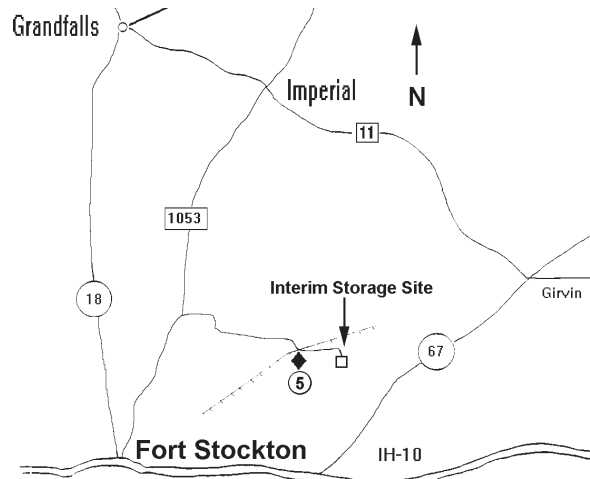
Shaded area indicates location of Pecos County



Monitoring Station Locations

◆ TLD Station    ♥ Sample Station    ♣ TLD & Sample Station

Homeland Security --  
Diagram Removed



Thermoluminescent Dosimeter (TLD) Monitoring Results  
(quarterly and annual readings are in mrem)

Station	Q1	Q2	Q3	Q4	Annual <sup>1</sup> Dose	Note
01	0.0	1.7	0.0	1.0	2.7	
02	0.0	0.0	0.0	0.0	0.0	
03	0.0	0.0	0.0	0.0	0.0	
04	0.0	0.0	0.0	--	0.0	<sup>2</sup> Q4 - TLD missing
05	25.2	18.9	20.4	21.5	86.0	Background

NOTE: <sup>1</sup>Occupancy factors not provided.

<sup>2</sup>If data are missing during a quarter, an average of known quarter readings for that year and location is used to fill in for the missing data.

# Appendices

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## Department of Energy Quality Assessment Program Results

**QAP 0403**

### QAP 60 Results by Laboratory

**Lab:** TX Texas Dept. of Health/Laboratories, Austin

No. Test	Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation
<b>Matrix: AI Air Filter Bq/filter</b>							
1	AM241	0.115	0.01	0.1045	0.0025	1.100	A
1	CO60	37.5	0.4	35.4	0.85	1.059	A
1	CS134	16.7	0.2	18.2	0.402	0.918	A
1	CS137	28.9	0.5	26.4	0.86	1.095	A
1	Gross Alpha	1.19	0.08	1.2	0.12	0.992	A
1	Gross Beta	2.89	0.13	2.85	0.28	1.014	A
1	PU238	0.041	0.002	0.0405	0.0027	1.012	A
1	PU239	0.164	0.005	0.1644	0.0112	0.998	A
1	U234	0.092	0.005	0.0858	0.0008	1.072	A
1	U238	0.09	0.005	0.085	0.0029	1.059	A
<b>Matrix: SO Soil Bq/kg</b>							
1	AC228	52.4	1.8	49.0	1.96	1.069	A
1	AM241	13.9	0.9	13.0	0.43	1.069	A
1	BI212	51.2	8.2	50.43	4.61	1.015	A
1	BI214	52.3	1.9	58.4	2.2	0.896	A
1	CS137	1359.0	30.0	1323.0	66.17	1.027	A
1	K40	564.0	17.0	539.0	29.11	1.046	A
1	PB212	50.1	1.9	47.73	2.53	1.050	A
1	PB214	55.6	2.0	61.0	2.38	0.911	A
1	PU238	0.888	0.185	0.82	0.05	1.083	A
1	PU239	22.4	1.2	22.82	0.56	0.982	A
1	SR90	52.5	9.4	51.0 *	5.9	1.029	A
1	TH234	71.1	8.9	84.0	5.96	0.846	A
1	U234	84.6	2.7	87.22	1.97	0.970	A
1	U238	90.6	2.7	89.73	4.22	1.010	A
<b>Matrix: VE Vegetation Bq/kg</b>							
1	AM241	5.33	0.56	4.93	0.29	1.081	A
1	CO60	17.7	0.9	14.47	0.64	1.223	A
1	CS137	659.0	11.0	584.67	29.23	1.127	A
1	K40	837.0	25.0	720.0	37.92	1.163	A
1	PU238	0.592	0.159	0.455	0.0485	1.301	A
1	PU239	6.56	0.53	6.81	0.28	0.963	A
1	SR90	688.0	22.0	734.0 *	82.0	0.937	A
<b>Matrix: WA Water Bq/L</b>							
1	AM241	1.22	0.11	1.31	0.04	0.931	A
1	CO60	162.0	1.0	163.2	5.9	0.993	A
1	CS137	52.2	0.9	51.95	2.7	1.005	A
1	Gross Alpha	320.0	28.0	326.0	32.0	0.982	A
1	Gross Beta	1217.0	60.0	1170.0	117.0	1.040	A
1	H3	255.0	18.0	186.6	3.3	1.367	W
1	PU238	1.03	0.06	1.1	0.03	0.936	A
1	PU239	2.86	0.14	3.08	0.1	0.929	A
1	SR90	5.68	0.67	4.76 *	0.5	1.193	W
1	U234	2.26	0.09	2.28	0.02	0.991	A
1	U238	2.25	0.09	2.25	0.06	1.000	A

Values for elemental uranium are reported in µg/filter, g, or mL.

pCi/g or mL = Bq x 0.027

Evaluation: A=Acceptable, W=Acceptable with Warning, N=Not Acceptable

If the evaluation system is not appropriate for the types of analyses performed in your lab, apply site specific evaluation.

\* Grand mean average used in lieu of experimentally determined EML value



Department of Homeland Security  
Environmental Measurements Laboratory  
201 Varick Street  
New York, NY 10014-7447

March 1, 2004

To: Participants in Quality Assessment Program (QAP)  
From: Mitchell D. Erickson, Laboratory Director

### **TERMINATION OF THE QUALITY ASSESSMENT PROGRAM**

The Department of Energy's (DOE) Quality Assessment Program (QAP), managed by the Environmental Measurements Laboratory (EML), will be terminated after we issue the report for this current performance sample distribution (QAP 60).

The Program was established in 1976 to test the quality of the environmental radiological analysis being reported to DOE by its contractors for site cleanup and regulatory compliance. Since the Program's inception, DOE/EML successfully prepared, analyzed, and distributed thousands of performance samples to DOE contractors and other participants in the program. DOE/EML then collected, compiled, assessed, and reported the resulting analytical data, which was used by DOE program managers to select qualified contractors, monitor contractors' performance, and assure data quality. QAP data show continuous improvement in radiochemical analyses as labs gained proficiency and EML's QA scientists encouraged better performance through consultation, feedback, and new methods. Detailed information on QAP, including full reports, is available at <http://www.eml.doe.gov/qap/>.

EML is proud to have successfully managed the Program for 27 years on behalf of DOE; helping the Nation by ensuring that the quality of the radiological analysis from DOE contractors was demonstrated. We would also like to take this opportunity to thank all those individuals and organizations that have helped and supported us over the years.

EML transferred to the Science and Technology (S&T) Directorate of the Department of Homeland Security (DHS) on March 1, 2003. As we continue to respond to the challenges of our new mission, we need to redirect our proficiency testing (PT) activities to reflect our new mission. We will keep you informed as these new PT activities develop.

**Laboratory Services Section  
Environmental Sciences Branch**

Each laboratory procedure is performed under unique analysis conditions. Variations occur in volumes, counting efficiencies, detector backgrounds, count times, decay factors, chemical recoveries, and other analysis parameters which affect the sensitivity of the measurement. The detection limits listed in the following tables were derived using standard analysis conditions and are routinely achievable on normal samples. If greater sensitivity is required, it is usually possible to adjust detection limits by changing one or more of these parameters.

**Detection Limits for Gamma Spectroscopy  
Sample Type**

Isotope	Soil - Sediment		Air Filter		Water - Milk		Vegetation - Fish	
	µCi/g	pCi/kg	µCi/filter	pCi/filter	µCi/ml	pCi/l	µCi/g	pCi/kg
Ac-228	2.0E-07	2.0E+02	2.0E-05	2.0E+01	2.0E-08	2.0E+01	1.0E-07	1.0E+02
Ag-110m	1.0E-07	1.0E+02	5.0E-06	5.0E+00	5.0E-09	5.0E+00	1.0E-07	1.0E+02
Am-241	1.0E-07	1.0E+02	5.0E-06	5.0E+00	1.0E-08	1.0E+01	1.0E-07	1.0E+02
Ba-140	4.0E-07	4.0E+02	2.0E-05	2.0E+01	2.0E-08	2.0E+01	1.0E-07	1.0E+02
Be-7	1.0E-06	1.0E+03	3.0E-05	3.0E+01	3.0E-08	3.0E+01	1.0E-07	1.0E+02
Bi-212	5.0E-07	5.0E+02	3.0E-05	3.0E+01	1.0E-07	1.0E+02	1.0E-07	1.0E+02
Bi-214	2.0E-07	2.0E+02	1.0E-05	1.0E+01	1.0E-08	1.0E+01	1.0E-07	1.0E+02
Co-57	1.0E-07	1.0E+02	2.0E-06	2.0E+00	5.0E-09	5.0E+00	1.0E-07	1.0E+02
Co-58	1.0E-07	1.0E+02	5.0E-06	5.0E+00	5.0E-09	5.0E+00	1.0E-07	1.0E+02
Co-60	1.0E-07	1.0E+02	1.0E-05	1.0E+01	1.0E-08	1.0E+01	1.0E-07	1.0E+02
Cr-51	1.0E-06	1.0E+03	3.0E-05	3.0E+01	3.0E-08	3.0E+01	1.0E-07	1.0E+02
Cs-134	1.0E-07	1.0E+02	5.0E-06	5.0E+00	5.0E-09	5.0E+00	1.0E-07	1.0E+02
Cs-137	1.0E-07	1.0E+02	5.0E-06	5.0E+00	5.0E-09	5.0E+00	1.0E-07	1.0E+02
Fe-59	1.0E-07	1.0E+02	1.0E-05	1.0E+01	1.0E-08	1.0E+01	1.0E-07	1.0E+02
I-125	1.0E-06	1.0E+03	1.0E-05	1.0E+01	2.0E-08	2.0E+01	1.0E-07	1.0E+02
I-131*	1.0E-07	1.0E+02	5.0E-06	5.0E+00	1.0E-08	1.0E+01	1.0E-07	1.0E+02
Ir-192	1.0E-07	1.0E+02	5.0E-06	5.0E+00	1.0E-08	1.0E+01	1.0E-07	1.0E+02
K-40	2.0E-06	2.0E+03	1.0E-04	1.0E+02	4.0E-08	4.0E+01	1.0E-07	1.0E+02
La-140	1.0E-07	1.0E+02	5.0E-06	5.0E+00	5.0E-09	5.0E+00	1.0E-07	1.0E+02
Mn-54	1.0E-07	1.0E+02	5.0E-06	5.0E+00	5.0E-09	5.0E+00	1.0E-07	1.0E+02
Nb-95	1.0E-07	1.0E+02	5.0E-06	5.0E+00	5.0E-09	5.0E+00	1.0E-07	1.0E+02
Pb-210	4.0E-07	4.0E+02	2.0E-05	2.0E+01	5.0E-09	5.0E+00	1.0E-07	1.0E+02
Pb-212	2.0E-07	2.0E+02	1.0E-05	1.0E+01	3.0E-08	3.0E+01	1.0E-07	1.0E+02
Pb-214	2.0E-07	2.0E+02	1.0E-05	1.0E+01	1.0E-08	1.0E+01	1.0E-07	1.0E+02
Ra-226	2.0E-06	2.0E+03	1.0E-04	1.0E+02	1.0E-07	1.0E+02	2.0E-07	2.0E+02
Sb-124	1.0E-07	1.0E+02	5.0E-06	5.0E+00	5.0E-09	5.0E+00	1.0E-07	1.0E+02
Sc-46	1.0E-07	1.0E+02	5.0E-06	5.0E+00	5.0E-09	5.0E+00	1.0E-07	1.0E+02
Th-230	1.0E-05	1.0E+04	3.0E-04	3.0E+02	1.0E-06	1.0E+03	2.0E-06	2.0E+03
Th-234	1.0E-06	1.0E+03	4.0E-05	4.0E+01	1.0E-07	1.0E+02	2.0E-07	2.0E+02
Tl-208	1.0E-07	1.0E+02	5.0E-06	5.0E+00	5.0E-09	5.0E+00	1.0E-07	1.0E+02
U-235	4.0E-07	4.0E+02	2.0E-05	2.0E+01	3.0E-08	3.0E+01	1.0E-07	1.0E+02
U-238	1.0E-06	1.0E+03	3.0E-05	3.0E+01	6.0E-08	6.0E+01	2.0E-07	2.0E+02
Zn-65	2.0E-07	2.0E+02	1.0E-05	1.0E+01	1.0E-08	1.0E+01	1.0E-07	1.0E+02
Zr-95	1.0E-07	1.0E+02	1.0E-05	1.0E+01	1.0E-08	1.0E+01	1.0E-07	1.0E+02

\*Air iodine can be determined by using cartridges. Detection limits are 2.0E-14µCi/ml or 2.0E-02 pCi/m<sup>3</sup>.

**Laboratory Services Section  
Environmental Sciences Branch**

**Detection Limits for Chemical Analysis Procedures  
Sample Type**

Isotope	Soil - Sediment		Air Filter		Water - Milk		Vegetation - Fish	
	μCi/g	pCi/kg	μCi/filter	pCi/filter	μCi/ml	pCi/l	μCi/g	pCi/kg
Alpha	6.1E-06	6.1E+03	7.0E-07	7.0E-01	3.3E-09	3.3E+00	3.3E-06	3.3E+03
Beta	1.2E-05	1.2E+04	1.3E-06	1.3E+00	6.6E-09	6.6E+00	6.6E-06	6.6E+03
C-14					3.0E-07	3.0E+02		
H-3			2.0E-06	2.0E+00	1.0E-06	1.0E+03		
Ra-226	4.0E-07	4.0E+02	8.0E-07	8.0E-01	8.0E-10	8.0E-01	4.0E-07	4.0E+02
Ra-228	1.9E-06	1.9E+03	3.9E-06	3.9E+00	3.9E-09	3.9E+00	1.9E-06	1.9E+03
Sr-89	9.0E-07	9.0E+02	1.7E-06	1.7E+00	1.7E-09	1.7E+00	9.0E-07	9.0E+02
Sr-90	1.3E-06	1.3E+03	2.7E-06	2.7E+00	2.7E-09	2.7E+00	1.3E-06	1.3E+03

**Detection Limits for Alpha Spectroscopy  
Sample Type**

Isotope	Soil - Sediment		Air Filter		Water - Milk		Vegetation - Fish	
	μCi/g	pCi/kg	μCi/filter	pCi/filter	μCi/ml	pCi/l	μCi/g	pCi/kg
Am-241	1.0E-06	1.0E+03	1.0E-06	1.0E+00	1.0E-09	1.0E+00	1.0E-06	1.0E+03
Pu-239	2.0E-07	2.0E+02	2.0E-07	2.0E-01	2.0E-10	2.0E-01	2.0E-07	2.0E+02
Th-228	1.0E-06	1.0E+03	1.0E-06	1.0E+00	1.0E-09	1.0E+00	1.0E-06	1.0E+03
Th-230	1.0E-06	1.0E+03	1.0E-06	1.0E+00	1.0E-09	1.0E+00	1.0E-06	1.0E+03
Th-232	1.0E-06	1.0E+03	1.0E-06	1.0E+00	1.0E-09	1.0E+00	1.0E-06	1.0E+03
U-234	1.0E-06	1.0E+03	1.0E-06	1.0E+00	1.0E-09	1.0E+00	1.0E-06	1.0E+03
U-238	1.0E-06	1.0E+03	1.0E-06	1.0E+00	1.0E-09	1.0E+00	1.0E-06	1.0E+03

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