Radiation Branch
Environmental Monitoring Summary
for 2005

June 2006

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 nineth 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 1998-2004 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, 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 U.S. Department of Energy, referred to as DOELAP (Department of Energy Laboratory Accreditation Program). It was developed by the U.S. Department of Energy in order to provide quality assurance and control for D.O.E. 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 two hundred TLD's are exchanged and read each calendar quarter. Background is subtracted from all station readings except for Comanche Peak Steam Electric Station, 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 Texas Department of State Health Services or any other agency such as the U.S. Nuclear Regulatory Commission or the U.S. Department of Energy. 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.

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Robert Free

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Fixed Nuclear

Facilities

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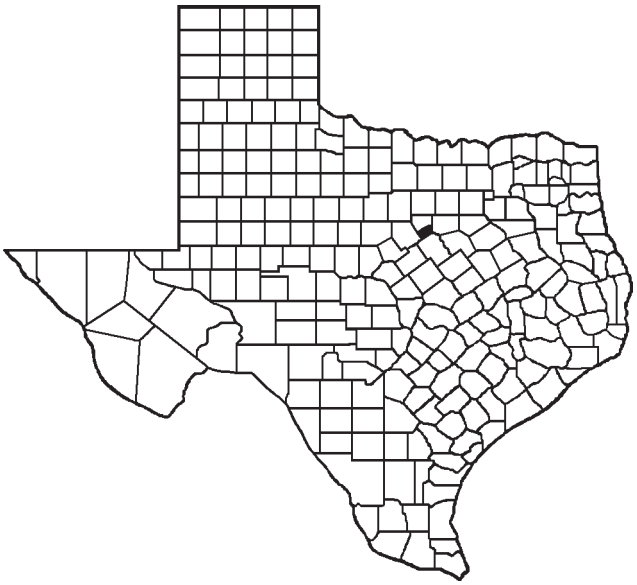
Comanche Peak Steam Electric Station

Radiation Branch Site No. 031

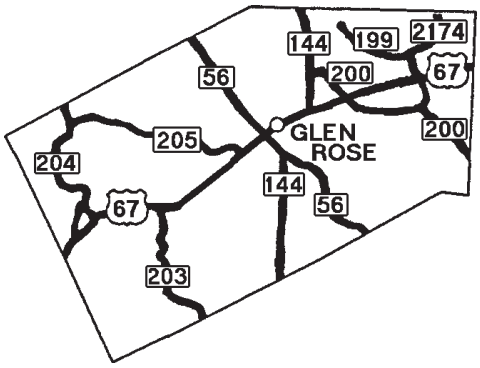
Comanche Peak Steam Electric Station (CPSES) is a two-unit nuclear-fueled power plant, owned and operated by TXU Energy, is located in Somervell County four and one-half miles northwest of Glen Rose and approximately 80 miles southwest of downtown Dallas.

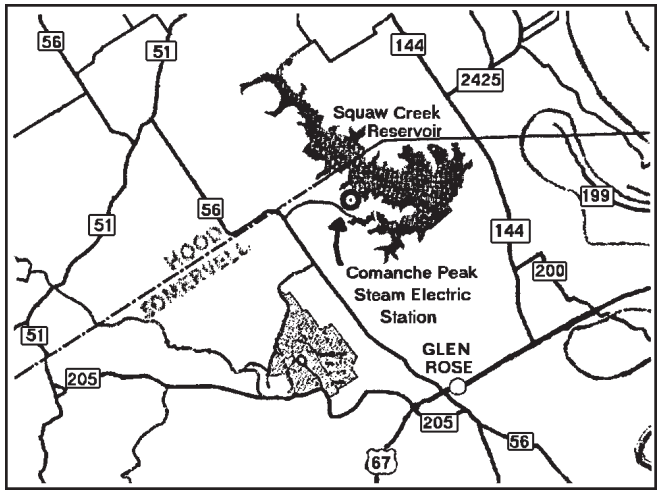
CPSES, TXU Energy's sole nuclear power plant, with an operating capacity of 2,300 megawatts annually [two Westinghouse 1,150 megawatt (electric) pressurized water reactor units], began operation in 1990, although fuel had been received on site in 1982-1983. The plant has approximately 1,300 employees.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



Shaded area indicates location of Somervell County

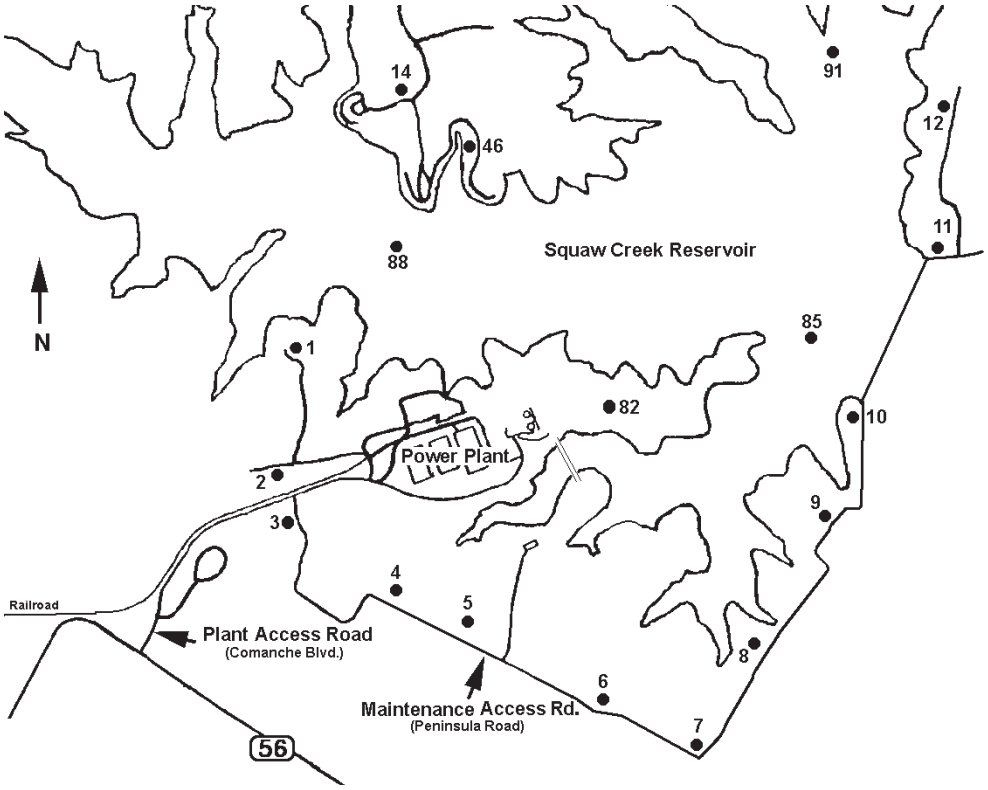
Somervell County

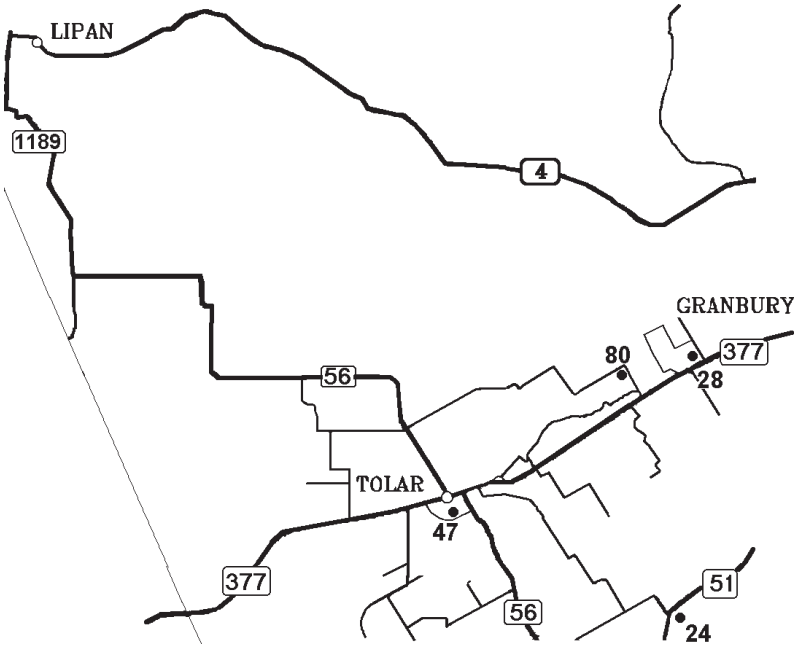


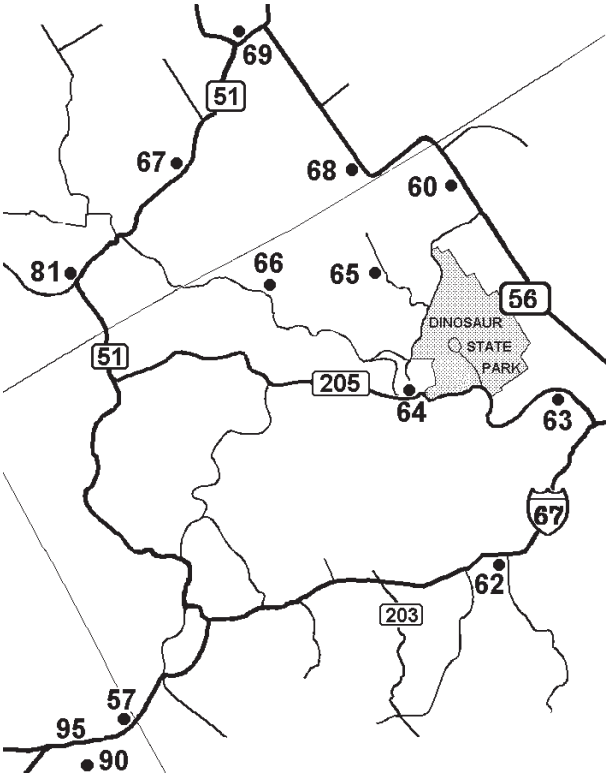


Monitoring Station Locations

Note: Sample type not indicated on maps.



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51
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DINOSAUR
STATE
PARK
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203
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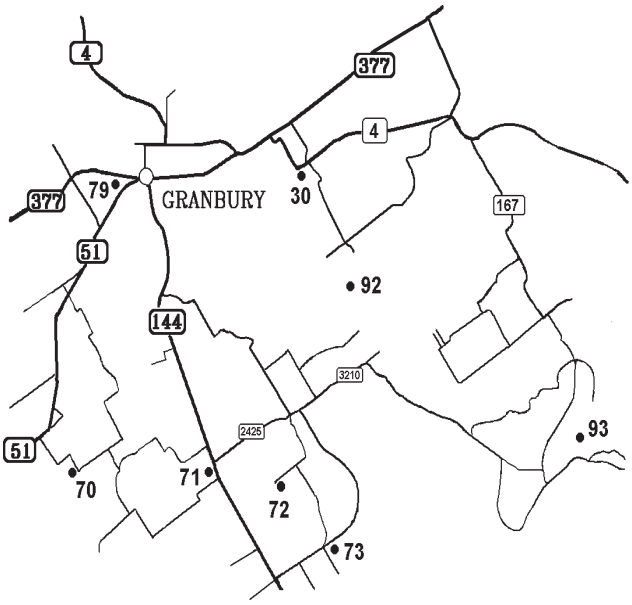
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GRANBURY
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167
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3210
2425
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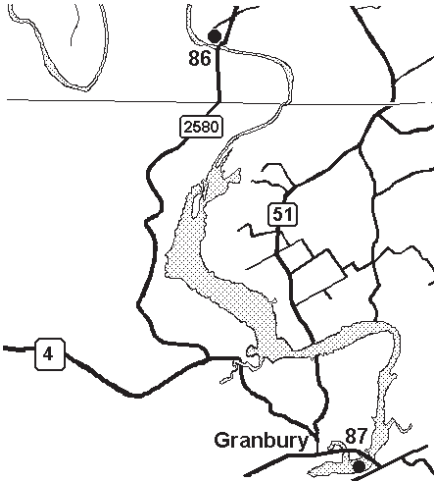
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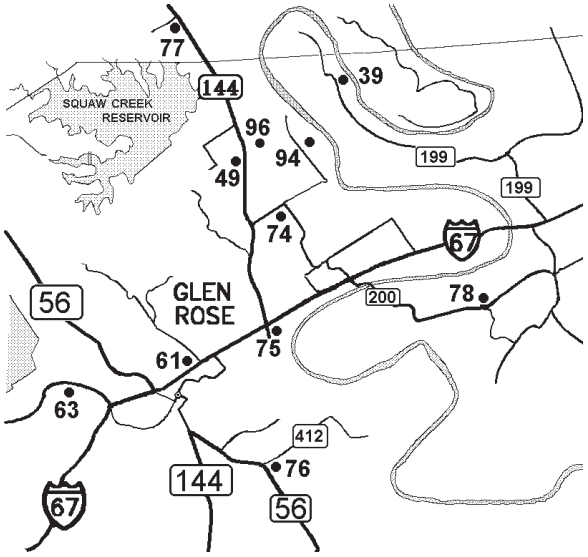
Granbury
87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144
SQUAW CREEK
RESERVOIR
39
96
94
49
199
199
74
67
56
GLEN
ROSE
200
78
61
75
63
412
144
76
67
56

Thermoluminescent Dosimeter (TLD) Monitoring Results[1]
(quarterly and annual readings are in mrem)

Station	Q1	Q2	Q3	Q4	Annual Dose	Notes
01	15.3	11.3	16.8	15.8	59.2	
02	16.4	12.9	16.8	16.7	62.8	
03	12.3	9.7	14.4	13.0	49.4	
04	15.3	12.1	16.8	15.8	60.0	
05	14.3	11.3	15.6	14.9	56.1	
06	14.3	11.3	16.8	17.6	60.0	
07	14.3	11.3	15.6	14.9	56.1	
08	15.3	12.1	18.0	14.9	60.3	
09	16.4	12.9	16.8	16.7	62.8	
10	14.3	11.3	14.4	14.9	54.9	
11	14.3	10.5	15.6	14.9	55.3	
12	16.4	13.7	18.0	16.7	64.8	
14	16.7	11.2	15.6	14.9	58.4	
24	15.5	12.0	16.8	16.7	61.0	
28	17.6	12.0	16.8	16.5	62.9	
30	15.5	11.3	16.5	16.7	60.0	
39	15.5	11.9	--	14.9	56.4	[2]Q3 TLD missing
46	14.5	11.2	15.6	14.9	56.2	
47	15.5	12.0	16.8	15.6	59.9	
49	15.5	12.8	18.0	16.7	63.0	
60	14.5	12.0	15.6	15.8	57.9	
61	14.5	12.1	15.4	14.9	56.9	
62	14.5	11.2	15.6	14.9	56.2	
63	16.5	12.8	16.8	17.6	63.7	
64	15.5	12.0	16.8	15.8	60.1	
65	13.4	10.4	14.4	13.0	51.2	
66	14.5	12.0	16.8	14.9	58.2	
67	14.5	11.2	15.6	14.9	56.2	
68	14.5	11.2	15.6	14.9	56.2	
69	13.4	10.4	14.4	12.9	51.1	
70	--	10.4	15.6	13.9	53.2	[2]Q1 TLD reading unavailable
71	15.5	11.2	15.6	14.9	57.2	
72	14.5	10.4	15.6	15.8	56.3	
73	14.5	11.2	15.6	15.8	57.1	
74	14.5	11.9	17.0	15.8	59.2	
75	--	11.3	15.4	--	53.4	[2]Q1and 4 TLD readings unavailable
76	13.4	10.5	15.4	14.9	54.2	
77	13.4	11.3	15.4	13.9	54.0	
78	15.5	11.9	15.8	15.8	59.0	
79	14.5	11.2	15.6	16.7	58.0	
80	15.5	12.8	16.8	15.6	60.7	
81	15.5	12.8	18.0	15.8	62.1	
82	16.4	12.9	18.0	16.7	64.0	

NOTE: [1] Background is not subtracted from the data.

[2] 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.

Comanche Peak Steam Electric Station

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^3																
2005-01-04	ER050002	01									<6E-3					
2005-01-04	ER050004	57									<7E-3					
2005-01-11	ER050039	01									<7E-3					
2005-01-11	ER050037	57									<7E-3					
2005-01-18	ER050053	01									<5E-3					
2005-01-18	ER050055	57									<6E-3					
2005-01-25	ER050070	01									<9E-3					
2005-01-25	ER050068	57									<9E-3					
2005-02-01	ER050074	01									<4E-3					
2005-02-01	ER050076	57									<8E-3 *					
2005-02-08	ER050089	01									<6E-3					
2005-02-08	ER050091	57									<7E-3					
2005-02-15	ER050109	01									<5E-3					
2005-02-15	ER050111	57									<5E-3					
2005-02-22	ER050113	01									<4E-3					
2005-02-22	ER050115	57									<5E-3					
2005-03-01	ER050126	01									<5E-3					
2005-03-01	ER050124	57									<4E-3					
2005-03-08	ER050136	01									<7E-3					
2005-03-08	ER050138	57									<7E-3					
2005-03-15	ER050151	01									<3E-3					
2005-03-15	ER050149	57									<7E-3					
2005-03-22	ER050165	01									<6E-3					
2005-03-22	ER050167	57									<7E-3					
2005-03-29	ER050187	01									<7E-3					
2005-03-29	ER050189	57									<7E-3					
2005-04-05	ER050203	01									<4E-3					
2005-04-05	ER050205	57									<5E-3					
2005-04-12	ER050217	01									<6E-3					
2005-04-12	ER050219	57									<6E-3					
2005-04-19	ER050236	01									<7E-3					
2005-04-19	ER050234	57									<5E-3					
2005-04-26	ER050248	01									<5E-3					
2005-04-26	ER050250	57									<5E-3					
2005-05-03	ER050271	01									<1.2E-2					
2005-05-03	ER050273	57									<8E-3					
2005-05-10	ER050269	01									<9E-3					
2005-05-10	ER050267	57									<9E-3					
2005-05-17	ER050275	01									<6E-3					
2005-05-17	ER050277	57									<6E-3					
2005-05-24	ER050288	01									<7E-3					
2005-05-24	ER050286	57									<6E-3					
2005-05-31	ER050310	01									<7E-3					
2005-05-31	ER050312	57									<7E-3					

*Flow was set at 30 lpm instead of 2 cfm.

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
2005-06-07	ER050321	01									<7E-3					
2005-06-07	ER050323	57									<1.0E-2 **					
2005-06-14	ER050334	01									<5E-3					
2005-06-14	ER050336	57									<5E-3					
2005-06-21	ER050342	01									<5E-3					
2005-06-21	ER050344	57									<8E-3					
2005-06-28	ER050351	01									<4E-3					
2005-06-28	ER050353	57									<5E-3					
2005-07-05	ER050380	01									<6E-3					
2005-07-05	ER050378	57									<9E-3					
2005-07-12	ER050385	01									<6E-3					
2005-07-12	ER050387	57									<7E-3					
2005-07-19	ER050408	01									<1.1E-2					
2005-07-19	ER050410	57									<7E-3					
2005-07-26	ER050431	01									<1.1E-2					
2005-07-26	ER050429	57									<9E-3					
2005-08-02	ER050438	01									<6E-3					
2005-08-02	ER050436	57									<6E-3					
2005-08-09	ER050445	01									<6E-3					
2005-08-09	ER050447	57									<5E-3					
2005-08-16	ER050454	01									<6E-3					
2005-08-16	ER050456	57									<6E-3					
2005-08-23	ER050465	01									<6E-3					
2005-08-23	ER050463	57									<6E-3					
2005-08-30	ER050473	01									<6E-3					
2005-08-30	ER050475	57									<7E-3					
2005-09-06	ER050487	01									<6E-3					
2005-09-06	ER050489	57									<5E-3					
2005-09-13	ER050497	01									<7E-3					
2005-09-13	ER050495	57									<6E-3					
2005-09-20	ER050504	01									<6E-3					
2005-09-20	ER050506	57									<6E-3					
2005-09-27	ER050512	01									<6E-3					
2005-09-27	ER050514	57									<7E-3					
2005-10-04	ER050528	01									<7E-3					
2005-10-04	ER050530	57									<7E-3					
2005-10-11	ER050568	01									<6E-3					
2005-10-11	ER050570	57									<6E-3					
2005-10-18	ER050588	01									<6E-3					
2005-10-18	ER050590	57									<7E-3					
2005-10-25	ER050605	01									<7E-3					
2005-10-25	ER050603	57									<7E-3					
2005-11-01	ER050615	01									<4E-3					
2005-11-01	ER050613	57									<6E-3					
2005-11-08	ER050622	01									<6E-3					
2005-11-08	ER050624	57									<6E-3					
2005-11-15	ER050635	01									<6E-3					
2005-11-15	ER050633	57									<6E-3					

**Sampler stopped prior to time of filter exchange.

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
2005-11-22	ER050664	01									<1.1E-2					
2005-11-22	ER050662	57									<1.0E-2					
2005-11-29	ER050675	01									<6E-3					
2005-11-29	ER050673	57									<6E-3					
2005-12-06	ER050687	01									<7E-3					
2005-12-06	ER050685	57									<8E-3					
2005-12-13	ER050696	01									<3E-3					
2005-12-13	ER050694	57									<4E-3					
2005-12-20	ER050713	01									<4E-3					
2005-12-20	ER050711	57									<6E-3					
2005-12-27	ER050724	01									<7E-3					
2005-12-27	ER050726	57									<5E-3					
Air Particulate pCi/m^3																
2005-01-04	ER050001	01	1.6E-2													
2005-01-04	ER050003	57	1.5E-2													
2005-01-11	ER050038	01	3.3E-2													
2005-01-11	ER050036	57	2.8E-2													
2005-01-18	ER050052	01	3.7E-2													
2005-01-18	ER050054	57	3.2E-2													
2005-01-25	ER050069	01	4.9E-2													
2005-01-25	ER050067	57	4.4E-2													
2005-02-01	ER050075	01	2.2E-2													
2005-02-01	ER050077	57	2.6E-2 *													
2005-02-08	ER050090	01	2.7E-2													
2005-02-08	ER050092	57	2.6E-2													
2005-02-15	ER050108	01	3.3E-2													
2005-02-15	ER050110	57	3.6E-2													
2005-02-22	ER050114	01	2.7E-2													
2005-02-22	ER050112	57	2.8E-2													
2005-03-01	ER050125	01	2.8E-2													
2005-03-01	ER050123	57	2.7E-2													
2005-03-08	ER050135	01	2.4E-2													
2005-03-08	ER050137	57	2.5E-2													
2005-03-15	ER050152	01	4.5E-2													
2005-03-15	ER050150	57	5.2E-2													
2005-03-22	ER050164	01	2.6E-2													
2005-03-22	ER050166	57	2.7E-2													
2005-03-29	ER050186	01	2.2E-2													
2005-03-29	ER050188	57	2.2E-2													
2005-04-05	ER050202	01	2.1E-2													
2005-04-05	ER050204	57	2.3E-2													
2005-04-12	ER050216	01	3.0E-2													
2005-04-12	ER050218	57	3.0E-2													
2005-04-19	ER050235	01	2.6E-2													
2005-04-19	ER050233	57	2.5E-2													
2005-04-26	ER050247	01	2.1E-2													
2005-04-26	ER050249	57	2.1E-2													

*Flow was set at 30 lpm instead of 2 cfm.

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
2005-05-03	ER050270	01	2.8E-2													
2005-05-03	ER050272	57	2.7E-2													
2005-05-10	ER050268	01	2.6E-2													
2005-05-10	ER050266	57	2.8E-2													
2005-05-17	ER050274	01	2.8E-2													
2005-05-17	ER050276	57	2.9E-2													
2005-05-24	ER050287	01	3.1E-2													
2005-05-24	ER050285	57	3.0E-2													
2005-05-31	ER050309	01	2.5E-2													
2005-05-31	ER050311	57	2.4E-2													
2005-06-07	ER050320	01	2.1E-2													
2005-06-07	ER050322	57	2.4E-2 **													
2005-06-14	ER050333	01	1.8E-2													
2005-06-14	ER050335	57	1.5E-2													
2005-06-21	ER050341	01	3.0E-2													
2005-06-21	ER050343	57	2.6E-2													
2005-06-28	ER050350	01	3.2E-2													
2005-06-28	ER050352	57	3.2E-2													
2005-07-05	ER050379	01	2.0E-2													
2005-07-05	ER050377	57	1.8E-2													
2005-07-12	ER050386	01	2.3E-2													
2005-07-12	ER050388	57	2.2E-2													
2005-07-19	ER050409	01	1.9E-2													
2005-07-19	ER050411	57	1.8E-2													
2005-07-26	ER050432	01	1.9E-2													
2005-07-26	ER050430	57	1.6E-2													
2005-08-02	ER050439	01	2.5E-2													
2005-08-02	ER050437	57	2.3E-2													
2005-08-09	ER050446	01	2.3E-2													
2005-08-09	ER050448	57	2.3E-2													
2005-08-16	ER050455	01	1.8E-2													
2005-08-16	ER050457	57	1.6E-2													
2005-08-23	ER050464	01	1.5E-2													
2005-08-23	ER050462	57	1.5E-2													
2005-08-30	ER050474	01	1.9E-2													
2005-08-30	ER050476	57	2.1E-2													
2005-09-06	ER050486	01	4.3E-2													
2005-09-06	ER050488	57	2.9E-2													
2005-09-13	ER050496	01	3.5E-2													
2005-09-13	ER050494	57	2.8E-2													
2005-09-20	ER050503	01	1.9E-2													
2005-09-20	ER050505	57	1.4E-2													
2005-09-27	ER050511	01	2.4E-2													
2005-09-27	ER050513	57	2.1E-2													
2005-10-04	ER050527	01	2.9E-2													
2005-10-04	ER050529	57	2.4E-2													
2005-10-11	ER050567	01	2.1E-2													
2005-10-11	ER050569	57	1.7E-2													

**Sampler stopped prior to time of filter exchange.

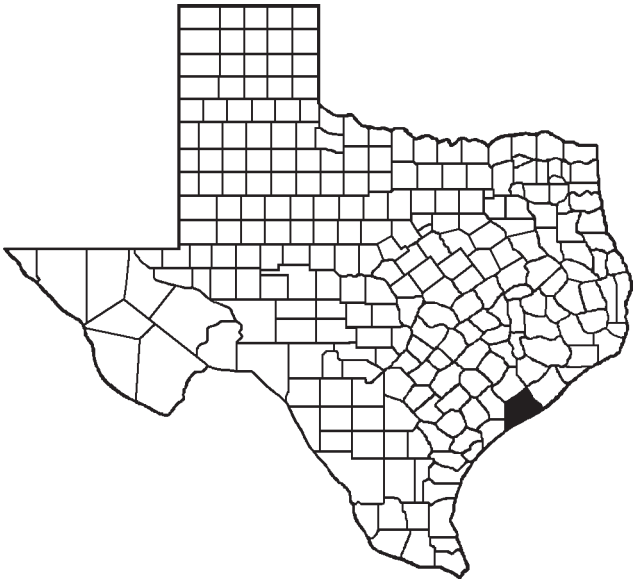
Date	Lab. No.	Station	Beta	Ba-140	Co-58	Co-60	Cs-134	Cs-137	Fe-59	H-3	I-131	La-140	Mn-54	Nb-95	Zn-65	Zr-95
2005-10-18	ER050587	01	4.9E-2													
2005-10-18	ER050589	57	4.1E-2													
2005-10-25	ER050606	01	2.8E-2													
2005-10-25	ER050604	57	2.5E-2													
2005-11-01	ER050614	01	3.4E-2													
2005-11-01	ER050612	57	2.7E-2													
2005-11-08	ER050621	01	3.1E-2													
2005-11-08	ER050623	57	2.3E-2													
2005-11-15	ER050634	01	2.6E-2													
2005-11-15	ER050632	57	1.9E-2													
2005-11-22	ER050663	01	2.2E-2													
2005-11-22	ER050661	57	1.8E-2													
2005-11-29	ER050674	01	3.3E-2													
2005-11-29	ER050672	57	2.6E-2													
2005-12-06	ER050686	01	4.0E-2													
2005-12-06	ER050684	57	3.2E-2													
2005-12-13	ER050695	01	4.5E-2													
2005-12-13	ER050693	57	3.2E-2													
2005-12-20	ER050712	01	3.5E-2													
2005-12-20	ER050710	57	3.5E-2													
2005-12-27	ER050723	01	4.4E-2													
2005-12-27	ER050725	57	4.1E-2													
Air Particulate Composite pCi/Sample																
2005-05-03	ER050245	01		<7.0	<2.1	<2.5	<2.2	<2.2	<4.7		<2.1	<3.1	<2.3	<2.2	<5.5	<3.8
2005-05-03	ER050246	57		<7.1	<2.3	<2.7	<2.3	<2.5	<4.4		<2.0	<3.1	<2.2	<2.3	<5.9	<3.8
2005-08-04	ER050412	01		<6.3	<2.2	<2.4	<2.2	<2.6	<4.8		<2.0	<3.1	<2.4	<2.4	<5.8	<3.7
2005-08-04	ER050413	57		<6.9	<2.2	<2.9	<2.3	<2.6	<4.5		<2.1	<3.4	<2.3	<2.2	<5.5	<3.9
2005-10-13	ER050549	01		<1.1E+1	<3.4	<3.4	<3.2	<3.5	<6.4		<3.0	<3.7	<3.4	<3.4	<7.5	<5.9
2005-10-13	ER050550	57		<1.0E+1	<2.8	<4.0	<3.1	<3.3	<6.1		<2.9	<3.5	<3.4	<3.2	<7.2	<4.9
2006-01-13	ER060017	01		<1.1E+1	<3.3	<3.3	<3.1	<3.4	<6.0		<2.8	<3.8	<3.2	<3.1	<7.3	<5.7
2006-01-13	ER060018	57		<5.0	<1.9	<2.2	<1.7	<1.8	<3.4		<1.5	<2.3	<1.7	<1.7	<4.0	<2.7
Fish pCi/kg																
2005-04-05	ER050211	91		<1.8E+1	<4.2	<4.7	<3.6	<4.4	<9.8		<6.7	<5.0	<3.9	<4.3	<1.1E+1	<7.1
2005-09-30	ER050592	91		<6.5E+1	<8.6	<7.4	<6.6	<7.8	<2.0E+1		<3.6E+1	<1.8E+1	<7.5	<1.1E+1	<1.8E+1	<1.6E+1
2005-10-10	ER050591	91		<6.1E+1	<1.2E+1	<1.4E+1	<1.1E+1	<1.2E+1	<2.7E+1		<2.3E+1	<1.9E+1	<1.2E+1	<1.4E+1	<2.9E+1	<2.1E+1
Food Product pCi/kg																
2005-11-08	ER050625	93		<2.4E+1	<5.4	<6.1	<4.9	<6.0	<1.4E+1		<8.2	<6.9	<5.5	<5.9	<1.4E+1	<9.2
Sediment pCi/kg																
2005-01-11	ER050035	88		<3.14E+2	<7.2E+1	<5.4E+1	<5.6E+1	<6.3E+1	<1.45E+2		<1.09E+2	<7.9E+1	<6.6E+1	<7.9E+1	<1.98E+2	<1.02E+2
2005-07-05	ER050376	88		<1.97E+2	<4.7E+1	<4.5E+1	<3.8E+1	<5.1E+1	<8.5E+1		<7.5E+1	<5.1E+1	<4.1E+1	<5.0E+1	<1.25E+2	<8.1E+1
Vegetation for Milk pCi/kg																
2005-01-25	ER050073	14		<6.3E+1	<1.3E+1	<1.2E+1	<1.1E+1	<1.3E+1	<2.5E+1		<2.6E+1	<1.8E+1	<1.2E+1	<1.4E+1	<2.7E+1	<2.2E+1
2005-02-22	ER050118	14		<7.3E+1	<1.5E+1	<1.6E+1	<1.5E+1	<1.8E+1	<3.0E+1		<3.0E+1	<2.1E+1	<1.4E+1	<1.8E+1	<3.2E+1	<2.6E+1
2005-03-29	ER050190	14		<1.18E+2	<2.5E+1	<2.2E+1	<2.2E+1	<2.7E+1	<4.8E+1		<4.7E+1	<3.4E+1	<2.4E+1	<2.7E+1	<5.2E+1	<4.6E+1
2005-03-29	ER050191	90		<5.4E+1	<1.4E+1	<1.3E+1	<1.1E+1	<1.2E+1	<2.8E+1		<2.1E+1	<1.7E+1	<1.1E+1	<1.3E+1	<3.0E+1	<2.1E+1

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
2005-04-26	ER050251	14		<7.2E+1	<1.8E+1	<2.0E+1	<1.9E+1	2.4E+1	<3.4E+1		<2.6E+1	<2.5E+1	<1.9E+1	<1.9E+1	<4.3E+1	<3.0E+1
2005-05-31	ER050315	14		<5.6E+1	<1.3E+1	<1.3E+1	<1.2E+1	<1.3E+1	<2.9E+1		<2.0E+1	<1.8E+1	<1.3E+1	<1.4E+1	<3.0E+1	<2.3E+1
2005-06-28	ER050355	14		<1.33E+2	<3.0E+1	<3.0E+1	<2.5E+1	<3.0E+1	<5.9E+1		<4.9E+1	<3.8E+1	<2.7E+1	<3.1E+1	<6.4E+1	<5.3E+1
2005-06-28	ER050354	90		<5.8E+1	<1.3E+1	<1.4E+1	<1.2E+1	<1.3E+1	<2.9E+1		<2.2E+1	<1.7E+1	<1.2E+1	<1.4E+1	<3.0E+1	<2.2E+1
2005-07-26	ER050433	14		<6.0E+1	<1.4E+1	<1.6E+1	<1.2E+1	<1.4E+1	<3.2E+1		<2.5E+1	<1.8E+1	<1.3E+1	<1.6E+1	<3.2E+1	<2.5E+1
2005-08-30	ER050472	14		<3.1E+1	<8.7	<8.7	<7.6	<9.3	<1.8E+1		<1.1E+1	<9.1	<8.7	<8.7	<2.0E+1	<1.5E+1
2005-09-27	ER050515	14		<1.0E+2	<2.7E+1	<2.8E+1	<2.5E+1	<2.8E+1	<5.7E+1		<3.3E+1	<3.0E+1	<2.6E+1	<2.8E+1	<6.1E+1	<4.8E+1
2005-09-27	ER050516	90		<1.04E+2	<2.7E+1	<3.1E+1	<2.6E+1	<3.0E+1	<6.0E+1		<3.1E+1	<3.1E+1	<2.8E+1	<2.8E+1	<6.6E+1	<4.7E+1
2005-10-25	ER050602	14		<8.1E+1	<1.8E+1	<1.8E+1	<1.6E+1	<1.9E+1	<3.8E+1		<3.2E+1	<2.5E+1	<1.8E+1	<2.0E+1	<4.2E+1	<3.2E+1
2005-11-29	ER050676	14		<5.9E+1	<1.3E+1	<1.4E+1	<1.3E+1	<1.3E+1	<2.8E+1		<2.1E+1	<1.8E+1	<1.3E+1	<1.5E+1	<3.0E+1	<2.2E+1
2005-12-27	ER050722	14		<4.3	<8.1	<9.1	<7.8	<8.4	<1.9E+1		<1.7E+1	<1.4E+1	<7.5	<8.9	<1.9E+1	<1.5E+1
2005-12-27	ER050721	90		<3.7E+1	<7.8	<7.7	<7.2	<7.6	<1.7E+1		<1.4E+1	<1.2E+1	<7.1	<8.5	<1.8E+1	<1.4E+1
Water-Surface pCi/l																
2005-01-25	ER050071	85	1.6E+1	<1.1E+1	<2.2	<2.1	<2.0	<2.3	<4.3		<4.0	<3.1	<2.2	<2.4	<4.4	<3.9
2005-01-25	ER050072	86	1.0E+1	<9.5	<2.0	<1.9	<1.8	<2.0	<3.9		<3.8	<3.4	<1.9	<2.1	<4.0	<3.5
2005-02-22	ER050116	85	1.3E+1	<8.5	<2.1	<2.2	<2.1	<2.4	<4.3		<2.8	<2.9	<2.0	<2.2	<4.7	<3.7
2005-02-22	ER050117	86	1.2E+1	<8.3	<2.2	<2.1	<2.1	<2.3	<4.2		<2.9	<2.8	<2.1	<2.3	<4.4	<3.9
2005-03-29	ER050192	85	1.7E+1	<9.6	<2.3	<2.2	<1.9	<2.3	<4.2		<3.7	<3.1	<2.2	<2.4	<4.5	<3.9
2005-03-29	ER050193	86	6.0	<8.5	<1.9	<2.0	<1.9	<2.1	<4.0		<3.4	<3.0	<1.9	<2.1	<4.0	<3.6
2005-04-26	ER050252	85	1.6E+1	<8.0	<2.2	<2.2	<1.9	<2.3	<4.0		<2.7	<2.4	<2.2	<2.3	<4.5	<3.9
2005-04-26	ER050253	86	7.2	<6.8	<1.8	<2.0	<1.9	<1.9	<4.0		<2.2	<2.6	<2.0	<2.0	<4.0	<3.1
2005-05-31	ER050313	85	1.4E+1	<8.2	<2.2	<2.1	<1.9	<2.4	<4.1		<2.8	<2.7	<2.1	<2.2	<4.5	<3.7
2005-05-31	ER050314	86	1.0E+1	<7.4	<1.8	<2.1	<1.8	<1.9	<3.6		<2.5	<2.7	<1.8	<2.0	<4.0	<3.1
2005-06-28	ER050356	85	1.4E+1	<7.9	<2.1	<2.1	<2.0	<2.2	<3.9		<2.6	<2.5	<2.1	<2.2	<4.4	<3.8
2005-06-28	ER050357	86	9.0	<6.9	<1.8	<2.0	<1.7	<1.9	<3.6		<2.3	<2.7	<1.9	<1.8	<3.8	<3.2
2005-07-26	ER050434	85	1.5E+1	<9.9	<2.3	<2.2	<2.0	<2.3	<4.3		<3.7	<3.1	<2.2	<2.4	<4.5	<4.1
2005-07-26	ER050435	86	1.6E+1	<8.6	<1.7	<2.0	<1.8	<2.0	<3.8		<3.1	<3.2	<1.9	<2.1	<4.0	<3.5
2005-08-30	ER050470	85	1.5E+1	<6.8	<1.9	<1.8	<1.8	<2.0	<3.7		<2.3	<2.6	<1.8	<2.0	<4.0	<3.3
2005-08-30	ER050471	86	9.8	<7.5	<1.8	<2.0	<1.8	<2.0	<3.8		<2.4	<2.9	<1.9	<1.9	<3.8	<3.4
2005-09-27	ER050517	85	1.6E+1	<8.0	<2.1	<2.1	<2.0	<2.3	<4.0		<2.7	<2.4	<2.1	<2.2	<4.4	<3.7
2005-09-27	ER050518	86	9.3	<6.9	<1.8	<1.9	<1.9	<2.1	<3.5		<2.3	<2.6	<1.9	<1.9	<4.0	<3.2
2005-10-25	ER050600	85	1.9E+1	<9.2	<1.9	<2.0	<1.8	<2.1	<4.0		<3.3	<3.3	<1.9	<2.1	<4.0	<3.4
2005-10-25	ER050601	86	1.1E+1	<7.1	<1.8	<2.0	<1.9	<2.1	<3.6		<2.4	<2.8	<1.8	<2.1	<4.0	<3.2
2005-11-29	ER050677	85	2.1E+1	<7.1	<1.9	<1.9	<1.9	<1.9	<3.8		<2.2	<2.5	<1.8	<2.0	<4.2	<3.4
2005-11-29	ER050678	86	1.2E+1	<7.5	<1.8	<2.0	<1.9	<2.0	<4.0		<2.5	<2.9	<1.9	<2.0	<4.3	<3.4
2005-12-27	ER050727	85	1.5E+1	<7.2	<1.9	<2.1	<1.9	<2.0	<3.7		<2.4	<2.7	<1.8	<2.0	<4.0	<3.2
2005-12-27	ER050728	86	9.0	<8.5	<1.9	<2.0	<1.8	<2.1	<3.9		<3.2	<3.4	<1.9	<2.0	<4.1	<3.4
Water-Surface Composite pCi/l																
2005-05-20	ER050241	85								1.15E+4						
2005-05-20	ER050242	86								<1.0E+3						
2005-08-16	ER050418	85								1.28E+4						
2005-08-16	ER050419	85								<1.0E+3						
2005-11-08	ER050551	85								1.33E+4						
2005-11-08	ER050552	86								<1.0E+3						
2006-02-09	ER060021	85								1.17E+4						
2006-02-09	ER060022	86								<1.0E+3						

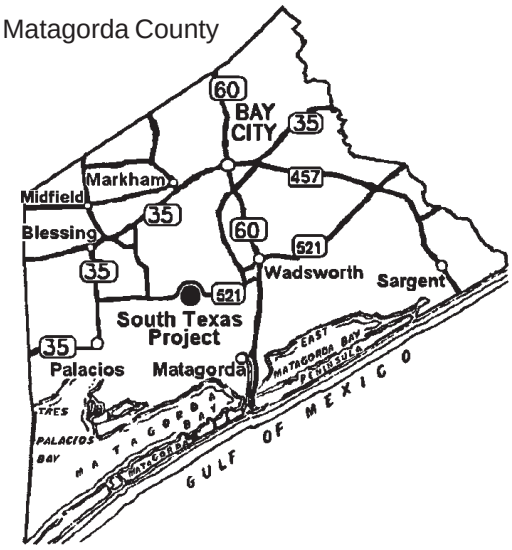
South Texas Project
Radiation Branch Site No. 012

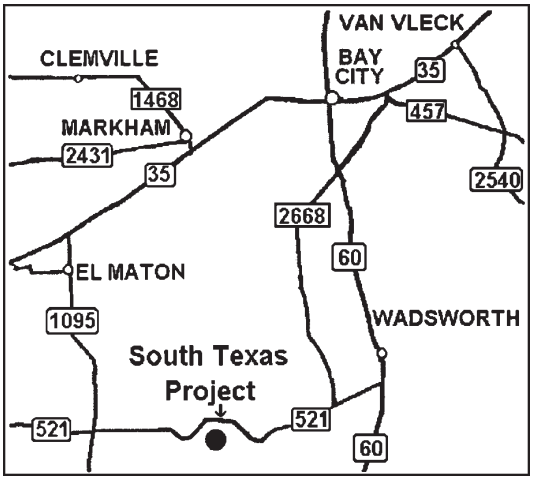
The South Texas Project (STP) is a commercial nuclear power plant operated by STP Nuclear Operating Company and is located 89 miles southwest of Houston and 14 miles south-southwest of Bay City. Two 1250 megawatt (electric) Westinghouse pressurized water reactor nuclear steam supply electrical generating 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, water, sediment, fish, food products, and vegetation and TLD monitoring.



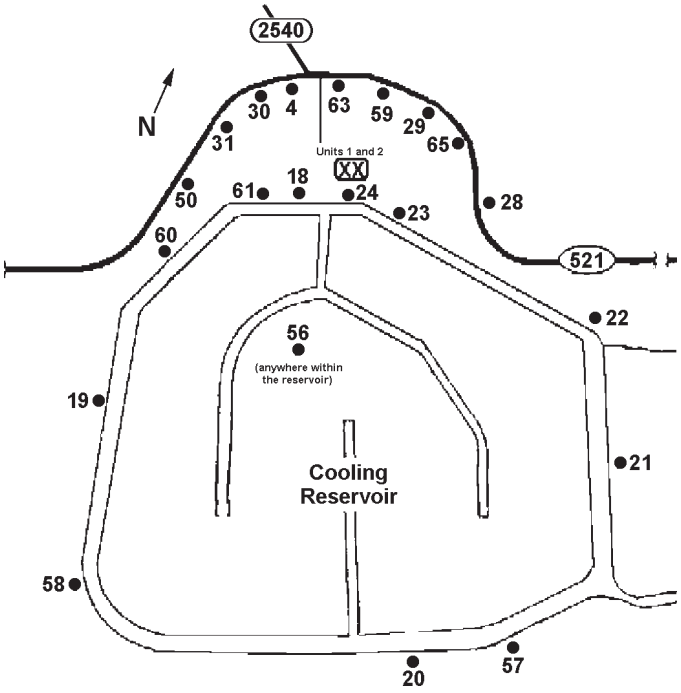
Shaded area indicates location of Matagorda County

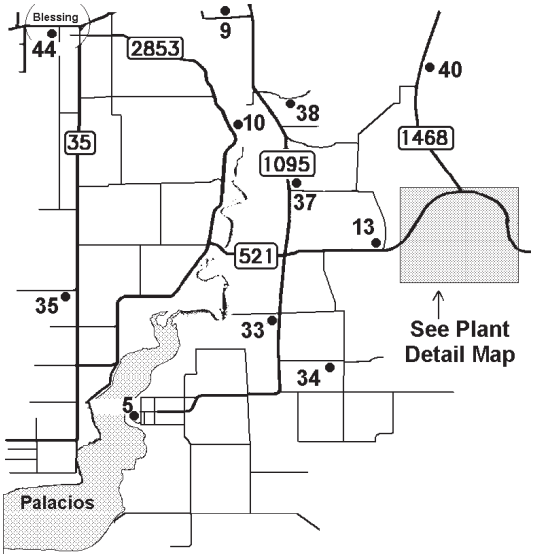


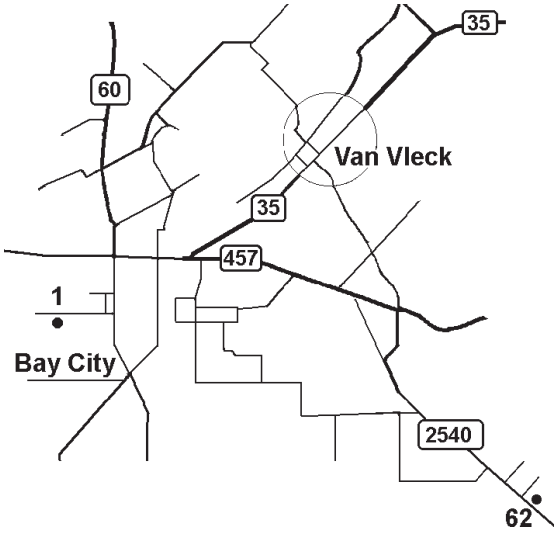


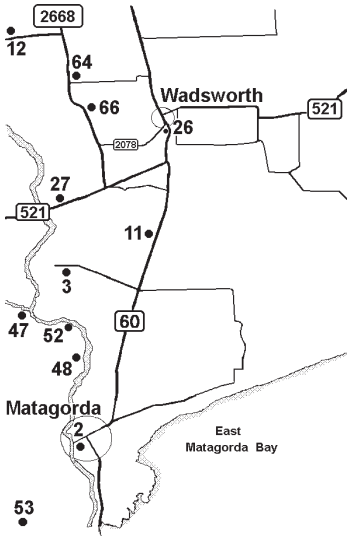
Monitoring Station Locations

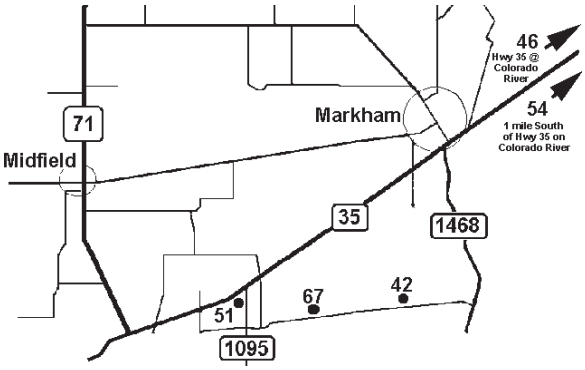
Note: Sample type not indicated on maps.











Thermoluminescent Dosimeter (TLD) Monitoring Results[1]
(quarterly and annual readings are in mrem)

Station	Q1	Q2	Q3	Q4	Annual Dose	Notes
01	16.3	13.9	15.0	17.0	62.2	
02	16.3	13.9	15.0	17.0	62.2	
03	14.1	12.1	12.0	13.0	51.2	
04	17.3	15.8	15.0	17.0	65.1	
05	14.1	13.0	13.0	16.0	56.1	
09	16.3	15.8	16.0	18.0	66.1	
10	16.3	14.9	15.0	17.0	63.2	
11	16.3	13.9	14.0	16.0	60.2	
12	16.3	14.9	16.0	17.0	64.2	
13	17.3	15.8	16.0	17.0	66.1	
18	16.3	13.9	14.0	16.0	60.2	
19	15.2	13.9	13.0	17.0	59.1	
20	16.3	--	14.0	16.0	61.7	[2]Q2 TLD missing
21	15.2	13.0	13.0	16.0	57.2	
22	16.3	13.9	14.0	16.0	60.2	
23	16.3	13.9	14.0	17.0	61.2	
24	15.2	13.0	13.0	16.0	57.2	
26	15.2	13.0	13.0	15.0	56.2	
27	15.2	12.1	13.0	15.0	55.3	
28	17.3	13.9	15.0	18.0	64.2	
29	17.3	14.9	15.0	16.0	63.2	
30	16.3	13.9	14.0	17.0	61.2	
31	18.4	15.8	16.0	19.0	69.2	
33	17.3	15.8	15.0	17.0	65.1	
34	16.3	13.9	15.0	17.0	62.2	
35	16.3	13.9	14.0	17.0	61.2	
37	18.4	15.8	16.0	17.0	67.2	
38	17.3	13.0	14.0	17.0	61.3	
40	15.2	13.0	14.0	16.0	58.2	
42	20.6	16.7	18.0	20.0	75.3	
44	14.1	13.0	14.0	16.0	57.1	
50	18.4	16.7	17.0	20.0	72.1	
51	18.4	15.8	15.0	18.0	67.2	
57	16.3	13.0	14.0	17.0	60.3	
58	15.2	12.1	13.0	17.0	57.3	
59	16.3	14.9	15.0	18.0	64.2	
60	16.3	13.9	14.0	17.0	61.2	
61	16.3	13.0	14.0	16.0	59.3	
62	18.4	15.8	17.0	18.0	69.2	
63	17.3	13.9	15.0	18.0	64.2	
64	17.3	14.9	15.0	17.0	64.2	
65	17.3	13.9	15.0	17.0	63.2	
66	16.3	13.9	15.0	17.0	62.2	
67	16.3	15.8	16.0	18.0	66.1	

NOTE: [1] Background is not subtracted from the data.

[2] 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.

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^3																
2005-01-04	ER050016	30									<9E-3					
2005-01-04	ER050014	35									<8E-3					
2005-01-11	ER050043	30									<6E-3					
2005-01-11	ER050041	35									<5E-3					
2005-01-17	ER050051	30									<8E-3					
2005-01-17	ER050049	35									<7E-3					
2005-01-25	ER050066	30									<8E-3					
2005-01-25	ER050064	35									<7E-3					
2005-02-01	ER050081	30									<5E-3					
2005-02-01	ER050079	35									<7E-3					
2005-02-08	ER050096	30									<9E-3					
2005-02-08	ER050094	35									<8E-3					
2005-02-15	ER050107	30									<6E-3					
2005-02-15	ER050105	35									<6E-3					
2005-02-22	ER050122	30									<5E-3					
2005-02-22	ER050120	35									<6E-3					
2005-03-01	ER050147	30									<1.1E-2					
2005-03-01	ER050145	35									<1.6E-2					
2005-03-08	ER050142	30									<2.0E-2					
2005-03-08	ER050140	35									<8E-3					
2005-03-15	ER050156	30									<5E-3					
2005-03-15	ER050154	35									<5E-3					
2005-03-22	ER050161	30									<4E-3					
2005-03-22	ER050159	35									<5E-3					
2005-03-29	ER050171	30									<7E-3					
2005-03-29	ER050169	35									<6E-3					
2005-04-05	ER050209	30									<7E-3					
2005-04-05	ER050207	35									<7E-3					
2005-04-12	ER050223	30									<7E-3					
2005-04-12	ER050221	35									<6E-3					
2005-04-19	ER050232	30									<6E-3					
2005-04-19	ER050230	35									<6E-3					
2005-04-27	ER050257	30									<4.4 *					
2005-04-27	ER050255	35									<7E-3					
2005-05-03		30									--- **					
2005-05-03	ER050260	35									<1.0E-2					
2005-05-10	ER050264	30									<6E-3					
2005-05-10	ER050262	35									<7E-3					
2005-05-17	ER050282	30									<7E-3					
2005-05-17	ER050280	35									<7E-3					
2005-05-24	ER050292	30									<5E-3					
2005-05-24	ER050290	35									<5E-3					
2005-05-31	ER050319	30									<1.0E-2					
2005-05-31	ER050317	35									<9E-3					

*Units expressed as pCi/sample; loss of electrical power/instrument failure
**Sample unavailable

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
2005-06-08	ER050328	30									<6E-3					
2005-06-08	ER050326	35									<4E-3					
2005-06-14	ER050340	30									<8E-3					
2005-06-14	ER050338	30									<8E-3					
2005-06-21	ER050348	30									<6E-3					
2005-06-21	ER050346	35									<6E-3					
2005-06-28	ER050361	30									<7E-3					
2005-06-28	ER050359	35									<9E-3					
2005-07-05	ER050384	30									<7E-3					
2005-07-05	ER050382	35									<1.0E-2					
2005-07-12	ER050392	30									<9E-3					
2005-07-12	ER050390	35									<8E-3					
2005-07-19	ER050423	30									<2.0E-2 ***					
2005-07-19	ER050421	35									<8E-3					
2005-07-26	ER050427	30									<4.3 *					
2005-07-26	ER050425	35									<3E-3					
2005-08-02	ER050443	30									<1.0E-2					
2005-08-02	ER050441	35									<8E-3					
2005-08-09	ER050452	30									<7E-3					
2005-08-09	ER050450	35									<3E-3					
2005-08-16	ER050461	30									<9E-3					
2005-08-16	ER050459	35									<8E-3					
2005-08-23	ER050469	30									<1.0E-2					
2005-08-23	ER050467	35									<9E-3					
2005-08-30	ER050480	30									<7E-3 ***					
2005-08-30	ER050478	35									<6E-3					
2005-09-07	ER050493	30									<5E-3					
2005-09-07	ER050491	35									<5E-3					
2005-09-13	ER050500	30									<1.0E-2 ***					
2005-09-13	ER050499	35									<7E-3					
2005-09-20	ER050510	30									<9E-3					
2005-09-20	ER050508	35									<8E-3					
2005-09-27	ER050522	30									<6E-3					
2005-09-27	ER050520	35									<6E-3					
2005-10-06	ER050558	30									<7E-3					
2005-10-06	ER050556	35									<7E-3					
2005-10-12	ER050577	30									<4E-3					
2005-10-12	ER050575	35									<6E-3					
2005-10-19	ER050598	30									<6E-3					
2005-10-19	ER050596	35									<6E-3					
2005-10-26	ER050610	30									<6E-3					
2005-10-26	ER050608	35									<5E-3					
2005-11-02	ER050619	30									<8E-3					
2005-11-02	ER050617	35									<8E-3					
2005-11-08	ER050629	30									<9E-3					
2005-11-08	ER050627	35									<5E-3					
2005-11-15	ER050652	30									<7E-3					
2005-11-15	ER050650	35									<6E-3					

*Units expressed as pCi/sample; loss of electrical power/instrument failure
***Flow rate assumed to be 2.0 cfm at stop time;loss of electrical power/instrument failure

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
2005-11-22	ER050660	30									<9E-3					
2005-11-22	ER050658	35									<9E-3					
2005-11-29	ER050682	30									<7E-3					
2005-11-29	ER050680	35									<6E-3					
2005-12-07	ER050691	30									<6E-3					
2005-12-07	ER050689	35									<6E-3					
2005-12-13	ER050703	30									<6E-3					
2005-12-13	ER050701	35									<8E-3					
2005-12-20	ER050717	30									<7E-3					
2005-12-20	ER050715	35									<1.0E-2					
2005-12-27	ER060008	30									<1.1E-2					
2005-12-27	ER060006	35									<1.1E-2					
Air Particulate pCi/m^3																
2005-01-04	ER050015	30	1.5E-2													
2005-01-04	ER050013	35	1.3E-2													
2005-01-11	ER050042	30	2.5E-2													
2005-01-11	ER050040	35	2.3E-2													
2005-01-17	ER050050	30	3.2E-2													
2005-01-17	ER050048	35	3.0E-2													
2005-01-25	ER050065	30	2.6E-2													
2005-01-25	ER050063	35	2.6E-2													
2005-02-01	ER050080	30	2.5E-2													
2005-02-01	ER050078	35	2.4E-2													
2005-02-08	ER050095	30	2.3E-2													
2005-02-08	ER050093	35	2.1E-2													
2005-02-15	ER050106	30	2.6E-2													
2005-02-15	ER050104	35	2.3E-2													
2005-02-22	ER050121	30	3.0E-2													
2005-02-22	ER050119	35	2.8E-2													
2005-03-01	ER050146	30	2.1E-2													
2005-03-01	ER050144	35	2.0E-2													
2005-03-08	ER050141	30	2.3E-2													
2005-03-08	ER050139	35	2.2E-2													
2005-03-15	ER050155	30	2.1E-2													
2005-03-15	ER050153	35	2.1E-2													
2005-03-22	ER050160	30	2.3E-2													
2005-03-22	ER050158	35	2.0E-2													
2005-03-29	ER050170	30	2.2E-2													
2005-03-29	ER050168	35	2.1E-2													
2005-04-05	ER050208	30	2.2E-2													
2005-04-05	ER050206	35	2.0E-2													
2005-04-12	ER050222	30	2.7E-2													
2005-04-12	ER050220	35	2.7E-2													
2005-04-19	ER050231	30	2.4E-2													
2005-04-19	ER050229	35	2.4E-2													
2005-04-27	ER050256	30	3.5 *													
2005-04-27	ER050254	35	1.9E-2													

*Units expressed as pCi/sample; loss of electrical power/instrument failure

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
2005-05-03		30	--- **													
2005-05-03	ER050259	35	2.7E-2													
2005-05-10	ER050263	30	2.8E-2													
2005-05-10	ER050261	35	2.6E-2													
2005-05-17	ER050281	30	3.0E-2													
2005-05-17	ER050279	35	3.0E-2													
2005-05-24	ER050291	30	2.9E-2													
2005-05-24	ER050289	35	2.8E-2													
2005-05-31	ER050318	30	2.7E-2													
2005-05-31	ER050316	35	2.7E-2													
2005-06-08	ER050327	30	1.7E-2													
2005-06-08	ER050325	35	1.7E-2													
2005-06-14	ER050339	30	1.6E-2													
2005-06-14	ER050337	35	1.6E-2													
2005-06-21	ER050347	30	1.8E-2													
2005-06-21	ER050345	35	2.1E-2													
2005-06-28	ER050360	30	2.7E-2													
2005-06-28	ER050358	35	2.8E-2													
2005-07-05	ER050383	30	1.7E-2													
2005-07-05	ER050381	35	1.7E-2													
2005-07-12	ER050391	30	1.7E-2													
2005-07-12	ER050389	35	1.8E-2													
2005-07-19	ER050422	30	2.1E-2 ***													
2005-07-19	ER050420	35	1.4E-2													
2005-07-26	ER050426	30	2.5 *													
2005-07-26	ER050424	35	1.4E-2													
2005-08-02	ER050442	30	3.0E-2													
2005-08-02	ER050440	35	3.0E-2													
2005-08-09	ER050451	30	2.6E-2													
2005-08-09	ER050449	35	2.8E-2													
2005-08-16	ER050460	30	2.7E-2													
2005-08-16	ER050458	35	2.6E-2													
2005-08-23	ER050468	30	1.7E-2													
2005-08-23	ER050466	35	1.7E-2													
2005-08-30	ER050479	30	2.3E-2 ***													
2005-08-30	ER050477	35	2.1E-2													
2005-09-07	ER050492	30	3.8E-2													
2005-09-07	ER050490	35	3.7E-2													
2005-09-13	ER050501	30	2.6E-2 ***													
2005-09-13	ER050498	35	2.3E-2													
2005-09-20	ER050509	30	1.9E-2													
2005-09-20	ER050507	35	1.9E-2													
2005-09-27	ER050521	30	2.8E-2													
2005-09-27	ER050519	35	3.0E-2													
2005-10-06	ER050557	30	1.9E-2													
2005-10-06	ER050555	35	1.7E-2													

*Units expressed as pCi/sample; loss of electrical power/instrument failure
**Sample unavailable
***Flow rate assumed to be 2.0 cfm at stop time;loss of electrical power/instrument failure

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
2005-10-12	ER050576	30	1.7E-2													
2005-10-12	ER050574	35	2.2E-2													
2005-10-19	ER050597	30	5.4E-2													
2005-10-19	ER050595	35	5.2E-2													
2005-10-26	ER050609	30	2.9E-2													
2005-10-26	ER050607	35	2.8E-2													
2005-11-02	ER050618	30	2.8E-2													
2005-11-02	ER050616	35	3.0E-2													
2005-11-08	ER050628	30	2.3E-2													
2005-11-08	ER050626	35	2.4E-2													
2005-11-15	ER050651	30	1.8E-2													
2005-11-15	ER050649	35	2.0E-2													
2005-11-22	ER050659	30	2.4E-2													
2005-11-22	ER050657	35	2.4E-2													
2005-11-29	ER050681	30	2.9E-2													
2005-11-29	ER050679	35	2.9E-2													
2005-12-07	ER050690	30	3.6E-2													
2005-12-07	ER050688	35	3.4E-2													
2005-12-13	ER050702	30	5.9E-2													
2005-12-13	ER050700	35	7.2E-2													
2005-12-20	ER050716	30	2.8E-2													
2005-12-20	ER050714	35	2.8E-2													
2005-12-27	ER060007	30	2.7E-2													
2005-12-27	ER060005	35	2.8E-2													
Air Particulate Composite pCi/Sample																
2005-05-03	ER050243	30		<1.1E+1	<2.8	<3.9	<3.0	<3.2	<5.9		<2.9	<4.0	<3.1	<2.9	<7.3	<5.3
2005-05-03	ER050244	35		<9.9	<3.3	<3.4	<2.9	<3.5	<6.3		<2.8	<3.5	<3.2	<3.3	<7.0	<5.9
2005-08-04	ER050414	30		<9.1	<3.0	<3.8	<3.1	<3.2	<5.8		<2.7	<3.8	<3.0	<3.0	<7.1	<5.0
2005-08-04	ER050415	35		<1.1E+1	<3.2	<3.3	<2.9	<3.3	<6.5		<2.9	<3.4	<3.3	<3.3	<7.5	<5.6
2005-10-13	ER050547	30		<1.1E+1	<3.2	<3.4	<3.0	<3.4	<6.2		<2.9	<3.4	<3.2	<3.1	<6.8	<5.5
2005-10-13	ER050548	35		<9.4	<2.9	<3.7	<3.0	<3.2	<5.7		<2.9	<4.0	<3.1	<2.9	<6.3	<4.9
2006-01-13	ER060015	30		<6.6	<2.1	<2.3	<2.0	<2.2	<4.0		<1.9	<2.4	<2.1	<2.1	<4.9	<3.6
2006-01-13	ER060016	35		<4.7	<1.4	<1.7	<1.4	<1.6	<2.8		<1.4	<2.1	<1.4	<1.5	<3.5	<2.4
Fish pCi/kg																
2005-05-17	ER050284	53		<7.7E+1	<1.6E+1	<1.8E+1	<1.4E+1	<1.6E+1	<3.3E+1		<2.9E+1	<2.5E+1	<1.6E+1	<1.7E+1	<3.5E+1	<2.8E+1
2005-10-19	ER050611	53		<1.17E+2	<2.0E+1	<2.1E+1	<1.7E+1	<1.9E+1	<4.3E+1		<5.2E+1	<3.5E+1	<1.9E+1	<2.3E+1	<4.4E+1	<3.4E+1
Food Product pCi/kg																
2005-06-09	ER050332	04		<5.2E+1	<1.2E+1	<1.3E+1	<1.1E+1	<1.3E+1	<2.7E+1		<1.9E+1	<1.6E+1	<1.2E+1	<1.4E+1	<3.0E+1	<2.2E+1
2005-06-09	ER050331	35		<4.4E+1	<1.1E+1	<1.1E+1	<8.9	<1.1E+1	<2.3E+1		<1.7E+1	<1.3E+1	<9.9	<1.2E+1	<2.4E+1	<1.9E+1
2005-09-29	ER050525	04		<4.3E+1	<9.3	<1.0E+1	<9.1	<9.7	<2.3E+1		<1.6E+1	<1.3E+1	<9.2	<1.1E+1	<2.3E+1	<1.7E+1
2005-09-29	ER050524	35		<3.4E+1	<7.5	<8.2	<6.8	<8.6	<1.9E+1		<1.2E+1	<1.1E+1	<7.7	<8.5	<2.0E+1	<1.4E+1
2005-12-20	ER050719	35		<7.6E+1	<1.3E+1	<1.2E+1	<1.2E+1	<1.2E+1	<2.9E+1		<3.4E+1	<2.1E+1	<1.2E+1	<1.5E+1	<2.7E+1	<2.3E+1
2005-12-20	ER050720	63		<1.20E+2	<2.0E+1	<1.8E+1	<1.8E+1	<1.9E+1	<4.2E+1		<6.0E+1	<3.6E+1	<1.9E+1	<2.4E+1	<4.1E+1	<3.5E+1
Sediment pCi/kg																
2005-03-18	ER050163	52		<3.62E+2	<8.5E+1	<8.9E+1	<9.6E+1	<9.0E+1	<1.69E+2		<1.34E+2	<1.34E+2	<8.6E+1	<9.1E+1	<2.36E+2	<1.61E+2

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
Vegetation for Milk pCi/kg																
2005-03-15	ER050157	04		<2.6E+1	<6.9	<8.5	<6.8	<7.5	<1.7E+1		<8.6	<7.9	<7.1	<7.0	<1.8E+1	<1.3E+1
2005-04-20	ER050237	04		<2.7E+1	<7.5	<8.8	<6.6	<7.7	<1.8E+1		<7.9	<7.9	<7.4	<7.5	<2.0E+1	<1.3E+1
2005-05-24	ER050293	30		<3.0E+1	<8.1	<9.3	<7.4	<8.7	<2.1E+1		<9.1	<8.5	<8.4	<8.6	<2.2E+1	<1.5E+1
2005-06-09	ER050330	63		<2.8E+1	<7.1	<7.7	<6.5	<7.0	<1.8E+1		<9.0	<7.8	<6.6	<7.4	<2.0E+1	<1.3E+1
2005-07-26	ER050428	04		<4.5E+1	<1.1E+1	<1.1E+1	<8.5	<1.1E+1	<2.4E+1		<1.7E+1	<1.3E+1	<9.9	<1.1E+1	<2.5E+1	<1.9E+1
2005-08-30	ER050481	30		<3.3E+1	<7.3	<8.3	<6.7	<7.2	<1.9E+1		<1.3E+1	<8.9	<7.2	<8.4	<2.0E+1	<1.3E+1
2005-09-27	ER050523	30		<4.5E+1	<1.1E+1	<1.2E+1	<9.8	<1.2E+1	<2.7E+1		<1.7E+1	<1.4E+1	<1.1E+1	<1.2E+1	<2.8E+1	<2.0E+1
2005-10-19	ER050599	04		<3.4E+1	<9.0	<1.1E+1	<8.9	<1.0E+1	<2.3E+1		<1.1E+1	<1.1E+1	<9.1	<9.4	<2.5E+1	<1.7E+1
2005-11-08	ER050630	30		<4.7E+1	<1.1E+1	<1.2E+1	<9.2	<1.1E+1	<2.7E+1		<1.8E+1	<1.4E+1	<1.1E+1	<1.2E+1	<2.8E+1	<1.9E+1
2005-12-13	ER050704	04		<5.2E+1	<1.3E+1	<1.3E+1	<1.1E+1	<1.2E+1	<2.7E+1		<1.9E+1	<1.4E+1	<1.3E+1	<1.4E+1	<3.0E+1	<3.0E+1
Water-Surface pCi/l																
2005-01-11	ER050044	54	2.0E+1	<5.0	<1.4	<1.3	<1.2	<1.4	<2.6		<1.7	<1.7	<1.4	<1.4	<2.7	<2.4
2005-01-31	ER050082	47	9.9	<7.7	<1.7	<2.0	<1.8	<2.0	<3.5		<2.7	<2.7	<1.8	<2.0	<3.9	<3.0
2005-02-08	ER050097	54	1.5E+1	<8.5	<2.1	<2.1	<2.0	<2.3	<4.2		<2.8	<2.6	<2.1	<2.4	<4.3	<3.9
2005-02-23	ER050148	47	7.0	<1.8E+1	<2.1	<2.1	<1.9	<2.0	<5.2		<1.1E+1	<6.5	<2.0	<2.7	<4.2	<3.9
2005-03-08	ER050143	54	9.9	<8.4	<1.9	<2.0	<1.9	<2.0	<3.9		<3.2	<3.4	<1.9	<2.1	<3.9	<3.4
2005-03-22	ER050162	52	8.6	<8.9	<2.0	<2.0	<1.9	<2.0	<4.2		<3.6	<3.2	<1.9	<2.1	<4.1	<3.4
2005-04-05	ER050210	54	1.4E+1	<7.6	<2.0	<2.0	<1.8	<2.1	<3.9		<2.8	<2.6	<1.9	<2.1	<3.8	<3.2
2005-04-28	ER050258	47	9.3	<8.3	<1.8	<1.9	<1.8	<1.9	<3.9		<3.0	<2.8	<1.9	<2.1	<3.9	<3.3
2005-05-10	ER050265	54	6.0	<6.9	<1.8	<1.9	<1.8	<2.0	<3.9		<2.3	<2.5	<1.9	<2.0	<4.1	<3.2
2005-05-18	ER050283	52	7.7	<6.5	<1.9	<2.1	<1.8	<2.0	<3.5		<2.3	<2.5	<1.8	<1.8	<4.0	<3.2
2005-06-08	ER050329	54	5.8	<9.9	<2.2	<2.1	<2.0	<2.3	<4.3		<3.6	<3.2	<2.2	<2.4	<4.6	<3.9
2005-06-22	ER050349	52	2.2E+1	<7.9	<2.1	<2.0	<2.0	<2.4	<3.9		<2.6	<2.4	<2.0	<2.2	<4.7	<3.8
2005-07-12	ER050393	54	5.9	<6.9	<1.9	<2.1	<1.8	<1.8	<3.8		<2.2	<2.4	<1.9	<1.9	<3.8	<3.2
2005-07-28	ER050444	52	1.1E+1	<1.1E+1	<2.1	<2.1	<1.8	<1.9	<4.0		<4.7	<4.5	<1.9	<2.2	<4.2	<3.6
2005-08-09	ER050453	54	6.4	<7.1	<1.8	<2.0	<1.9	<2.1	<3.8		<2.2	<2.6	<1.9	<1.9	<4.1	<3.1
2005-08-31	ER050482	52	1.9E+1	<7.9	<2.1	<2.2	<2.0	<2.3	<4.0		<2.6	<2.7	<2.2	<2.2	<4.4	<3.7
2005-09-07	ER050502	54	6.6	<1.0E+1	<2.1	<2.0	<1.8	<2.0	<3.7		<4.1	<3.6	<1.9	<2.2	<3.8	<3.5
2005-09-28	ER050526	47	1.0E+1	<1.1E+1	<2.2	<2.1	<2.0	<2.3	<4.4		<4.0	<3.2	<2.2	<2.5	<4.4	<4.0
2005-10-12	ER050578	54	5.6	<6.9	<1.9	<2.0	<1.9	<2.2	<3.4		<2.3	<2.5	<1.8	<2.0	<3.9	<3.3
2005-10-29	ER050620	52	2.7E+1	<1.0E+1	<1.9	<2.0	<1.9	<2.1	<4.4		<4.1	<3.9	<1.9	<2.1	<3.9	<3.5
2005-11-08	ER050631	54	6.1	<1.0E+1	<2.2	<2.1	<2.0	<2.3	<4.3		<3.8	<3.3	<2.1	<2.5	<4.4	<3.9
2005-11-30	ER050683	52	2.8E+1	<9.4	<2.3	<2.2	<2.1	<2.3	<4.3		<3.4	<2.9	<2.2	<2.4	<4.6	<4.0
2005-12-07	ER050692	54	7.1	<8.9	<2.0	<2.0	<2.1	<1.9	<4.1		<3.2	<3.5	<1.9	<2.3	<4.7	<3.5
2005-12-19	ER050718	47	2.9E+1	<1.4E+1	<2.4	<2.1	<2.1	<2.3	<4.5		<5.6	<4.1	<2.3	<2.7	<4.6	<4.2
Water-Surface Composite pCi/l																
2005-05-20	ER050239	47								<1.0E+3						
2005-05-20	ER050240	54								<1.0E+3						
2005-08-16	ER050417	52								<1.0E+3						
2005-08-16	ER050416	54								<1.0E+3						
2005-11-08	ER050553	52								<1.0E+3						
2005-11-08	ER050554	54								<1.0E+3						
2006-02-09	ER060019	52								<1.0E+3						
2006-02-09	ER060020	54								<1.0E+3						

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Radioactive Waste

Processors

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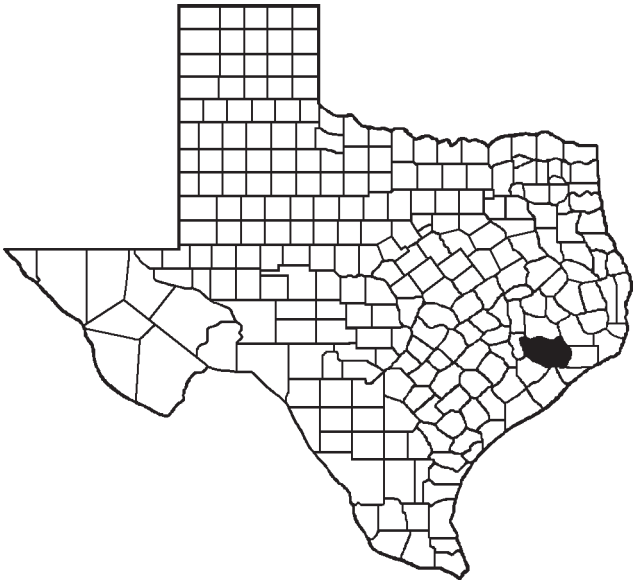
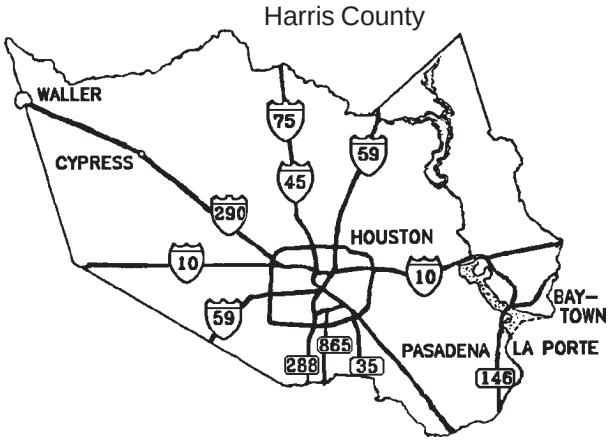
Nuclear Sources and Services, Inc.

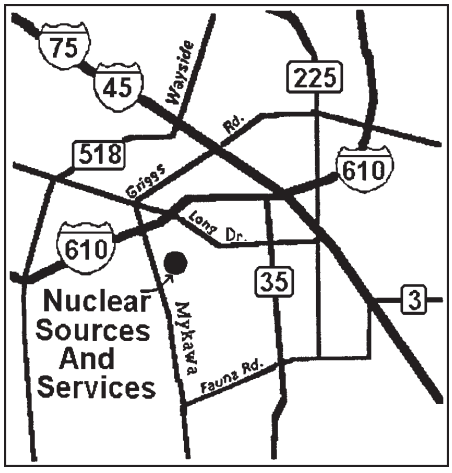
Radiation Branch Site No. 023

The Nuclear Sources and Services, Inc. (NSSI) facility occupies approximately 5 acres in a light industrial area of Southeast Houston approximately 4 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 offsite generators both inside and outside of Texas. At the conclusion of treatment or storage, the residues are shipped to permitted offsite 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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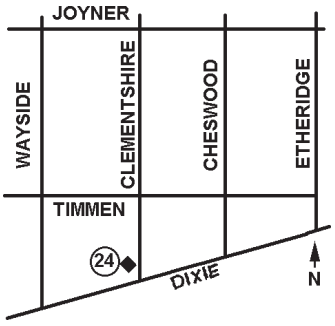

Thermoluminescent Dosimeter (TLD) Monitoring Results[1]
(quarterly and annual readings are in mrem)

Station	Q1	Q2	Q3	Q4	Annual[2] Dose	Notes
03	180.9	115.1	86.0	104.0	486.0	
04	41.7	13.9	14.0	16.0	85.6	
06	9.9	0.9	1.0	3.0	14.8	
07	106.3	10.2	9.0	22.0	147.5	
11	8.8	0.9	2.0	1.0	12.7	
12	16.4	1.9	4.0	10.0	32.3	
16	17.5	13.9	19.0	22.0	72.4	
18	15.3	0.9	1.0	4.0	21.2	
19	26.3	9.3	11.0	17.0	63.6	
20	27.4	12.1	12.0	13.0	64.5	
21	279.6	37.1	53.0	169.0	538.7	
22	3.3	0.9	2.0	1.0	7.2	
23	5.5	12.1	7.0	3.0	27.6	
24	17.5	13.9	13.0	16.0	60.4	Background
24	2.2	0.9	1.0	1.0	5.1	Background TLD provided by Landauer, Inc.
25	54.8	51.1	42.0	122.0	269.9	
41	82.2	17.6	13.0	17.0	129.8	

NOTE: [1]Combined neutron/gamma dosimeters are deployed at this facility. Exposure reported includes neutron and gamma doses.
[2]Occupancy factor not provided.

Environmental Sample Results

Date	Lab No.	Station	Alpha	Ra-226*	Am-241	Co-60	Cs-137	I-125	Ra-226
Soil µCi/g									
2005-01-14	ER050046	26	1.3E-5	9E-7	<3E-7	<2E-7	3.7E-6	<3E-7	<3.5E-6
2005-01-14	ER050045	28	6.4E-5	8E-7	<5E-7	<4E-7	1.4E-6	<5E-7	<4.3E-6
2005-04-07	ER050213	26	2.7E-5	9E-7	<3E-7	<1E-7	1.9E-5	<4E-7	<4.3E-6
2005-04-07	ER050212	28	3.3E-5	1.2E-6	<3E-7	<2E-7	<2E-7	<3E-7	<2.7E-6
2005-07-14	ER050394	26	2.0E-5	1.0E-6	<3E-7	<2E-7	3.2E-6	<3E-7	<3.2E-6
2005-07-14	ER050395	28	2.7E-5	1.0E-6	<3E-7	<2E-7	<3E-7	<4E-7	3.1E-6
2005-10-13	ER050572	26	2.0E-5	8E-7	<3E-7	<2E-7	1.0E-6	<2E-7	<2.8E-6
2005-10-13	ER050573	28	2.6E-5	1.4E-6	<2E-7	<2E-7	<2E-7	<2E-7	<2.3E-6

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

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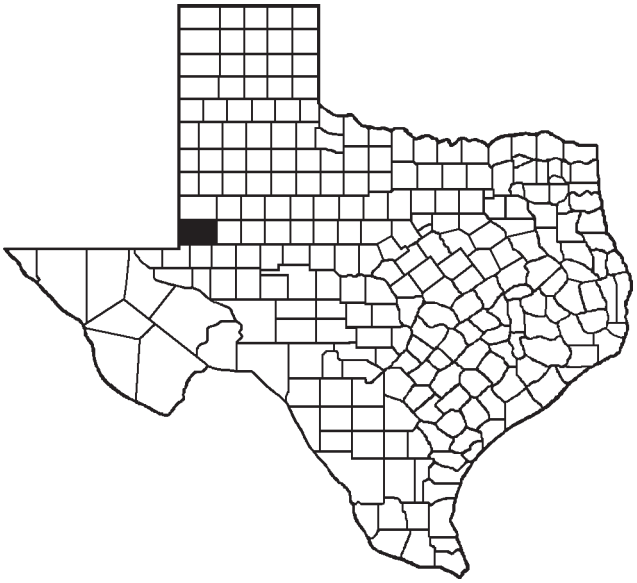
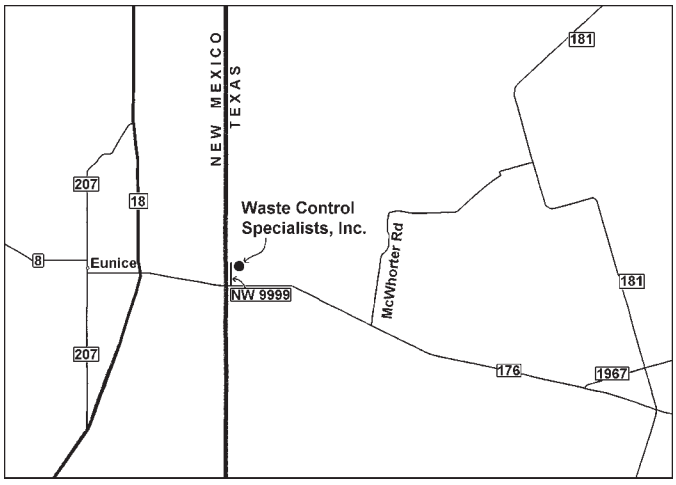
Waste Control Specialists
Radiation Branch Site No. 048

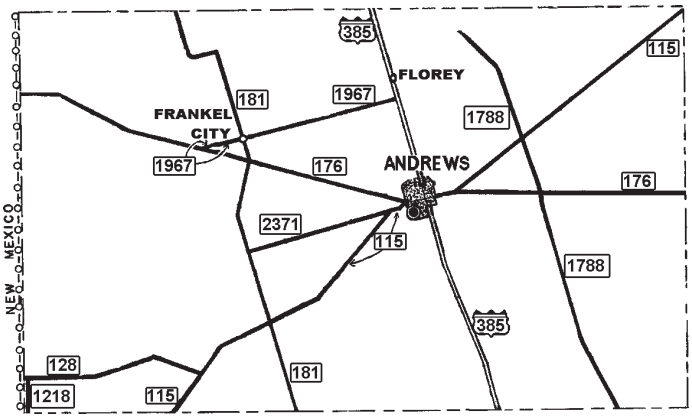
Waste Control Specialists (WCS) facility occupies 14,400 acres, in Andrews County approximately 30 miles west of Andrews on the Texas-New Mexico border. Approximately 1,300 acres are devoted to low-level radioactive waste storage. The primary activities of WCS currently are treatment, storage, and disposal of radioactive and hazardous wastes. The Radiation Branch surveillance program consists of sampling water, sewage, and soil and TLD monitoring.



Shaded area indicates location of Andrews County



Andrews County



Monitoring Station Locations

♦ TLD Station ♥ Sample Station ♣ TLD & Sample Station

Homeland Security --
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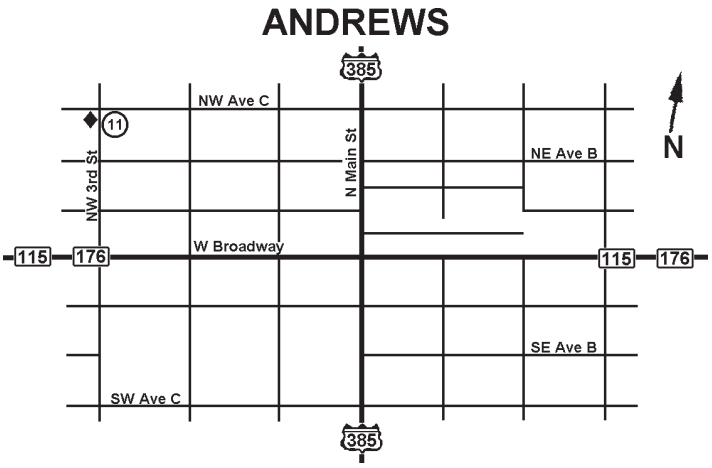

Thermoluminescent Dosimeter (TLD) Monitoring Results
(quarterly and annual readings are in mrem)

Station	Q1	Q2	Q3	Q4	Annual* Dose	Note
01	--	--	--	--	--	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	22.5	18.4	20.4	21.9	83.2	Background

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[1]	Ra-226[1]	Th-232[1]	U-234[1]	U-238[1]	Cs-137
Sewage µCi/ml										
2005-04-01	ER050201	12	-	-	2.43E-7	4.2E-8	2.7E-8	2.98E-7	1.85E-7	<7.4E-9
Soil µCi/g										
2005-01-06	ER050018	01	-	-	-	6E-7	-	<1.0E-6	<1.0E-6	-
2005-01-06	ER050020	02	-	-	-	6E-7	-	<1.0E-6	<1.0E-6	-
2005-01-06	ER050021	04	-	-	-	7E-7	-	<1.0E-6	<1.0E-6	1E-7
2005-01-06	ER050022	05	-	-	-	7E-7	-	<1.0E-6	<1.0E-6	-
2005-01-06	ER050023	09	-	-	-	7E-7	-	<1.0E-6	<1.0E-6	1E-7
2005-04-01	ER050194	01[2]	-	-	-	7E-7	-	<1.0E-6	1.2 E-6	-
2005-04-01	ER050196	02	-	-	-	4E-7	-	<1.0E-6	<1.0E-6	-
2005-04-01	ER050197	04	-	-	-	8E-7	-	1.0E-6	<1.0E-6	-
2005-04-01	ER050198	05	-	-	-	4E-7	-	<1.0E-6	<1.0E-6	-
2005-04-01	ER050199	09	-	-	-	6E-7	-	<1.0E-6	<1.0E-6	4E-7
2005-07-14	ER050401	01[2]	-	-	-	1.2E-6	-	1.3E-6	1.3E-6	-
2005-07-14	ER050403	02	-	-	-	8E-7	-	<1.0E-6	<1.0E-6	-
2005-07-14	ER050404	04	-	-	-	9E-7	-	<1.0E-6	<1.0E-6	-
2005-07-14	ER050405	05	-	-	-	6E-7	-	<1.0E-6	<1.0E-6	-
2005-07-14	ER050406	09	-	-	-	7E-7	-	<1.0E-6	<1.0E-6	8E-7
2005-10-11	ER050559	01[2]	-	-	-	1.0E-6	-	1.0E-6	1.0E-6	-
2005-10-11	ER050561	02	-	-	-	8E-7	-	<1.0E-6	<1.0E-6	-
2005-10-11	ER050562	04	-	-	-	9E-7	-	<1.0E-6	<1.0E-6	-
2005-10-11	ER050563	05	-	-	-	4E-7	-	<1.0E-6	<1.0E-6	-
2005-10-11	ER050564	09	-	-	-	6E-7	-	<1.0E-6	<1.0E-6	1E-7
Water-Monitor Well µCi/ml										
2005-01-06	ER050019	01	1.13E-7	9.0E-8	-	1.8E-9	-	6.5E-8	4.1E-8	-
2005-01-06	ER050024	09	2.9E-9	4.6E-9	-	6E-10	-	1.1E-9	<1.0E-9	-
2005-04-01	ER050195	01[2]	2.5E-8	3.2E-8	-	1.0E-9	-	2.0E-8	8.3E-9	-
2005-04-01	ER050200	09	2.4E-9	<4.0E-9	-	7E-10	-	1.1E-9	<1.0E-9	-
2005-07-14	ER050402	01[2]	3.0E-8	3.9E-8	-	1.0E-9	-	1.9E-8	8.1E-9	-
2005-07-14	ER050407	09	2.2E-9	7.4E-9	-	1.7E-9	-	<1.0E-9	<1.0E-9	-
2005-10-11	ER050560	01[2]	3.0E-8	3.4E-8	-	1.3E-9	-	1.8E-8	7.4E-9	-
2005-10-11	ER050565	09	3.6E-9	<4.2E-9	-	7E-10	-	<1.0E-9	<1.0E-9	-

NOTE: [1]Indicates the analysis was by alpha spectrometry, or if Ra-226, analysis by radon emanation.
[2]Beginning in 2nd quarter, alternate Station 1 at/near WCS Well DW-35A while Licensing Branch evaluates permanent monitoring station.

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Research Reactors

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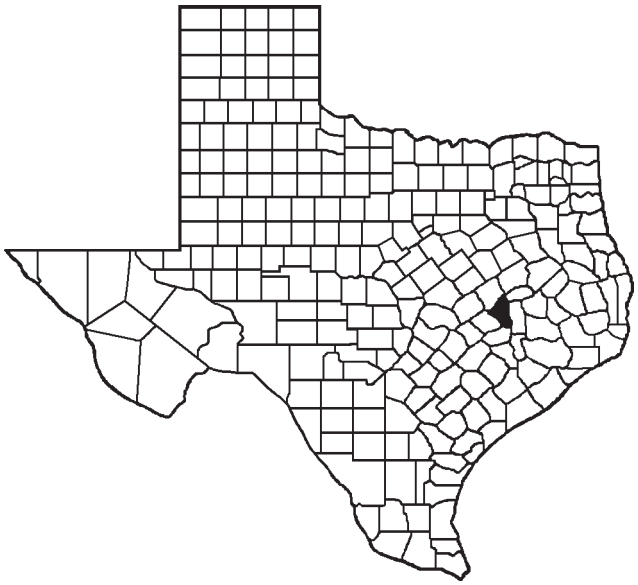
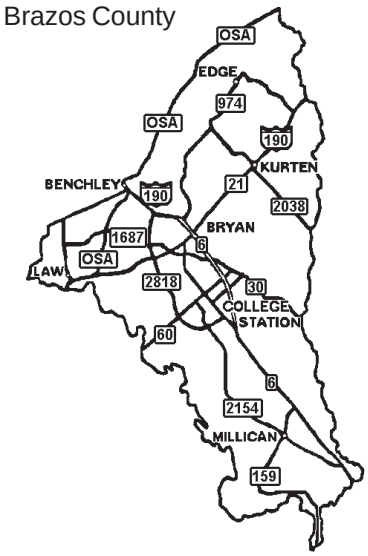
Texas A & M University Nuclear Science Center

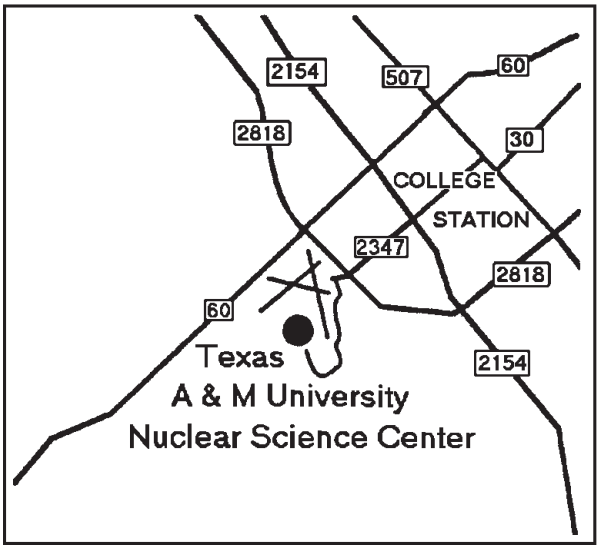
Radiation Branch Site No. 001

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

Homeland Security --
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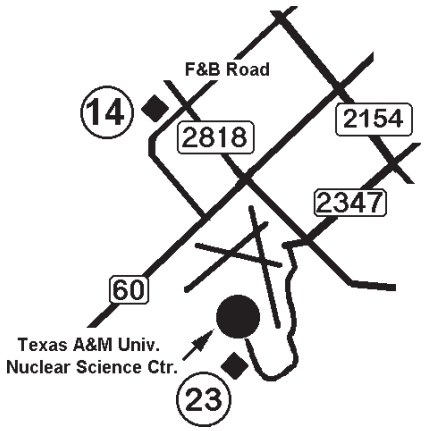


Thermoluminescent Dosimeter (TLD) Monitoring Results
(quarterly and annual readings are in mrem)

Station	Q1	Q2	Q3	Q4	Annual[2] Dose	Notes
02	3.7	5.6	4.8	4.4	18.5	
03	0.0	1.9	1.0	1.1	4.0	
04	6.1	9.4	6.5	5.7	27.7	
05	2.5	2.8	1.9	2.2	9.4	
10	0.0	2.8	1.0	0.0	3.8	
11	1.2	0.9	1.0	0.0	3.1	
14	22.1	--	16.3	--	76.8	Background; [1]Q2 and 4 TLD missing
18	4.9	3.8	2.9	2.2	13.8	
19	2.5	0.9	2.9	4.4	10.7	
20	0.0	3.8	0.0	0.0	3.8	
21	0.0	0.0	0.0	0.0	0.0	
22	0.0	0.0	0.0	0.0	0.0	
23	22.1	14.1	15.3	20.8	72.3	Background

NOTE: [1]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.
[2]Value does not include 1/16 occupancy factor.

Environmental Sample Results

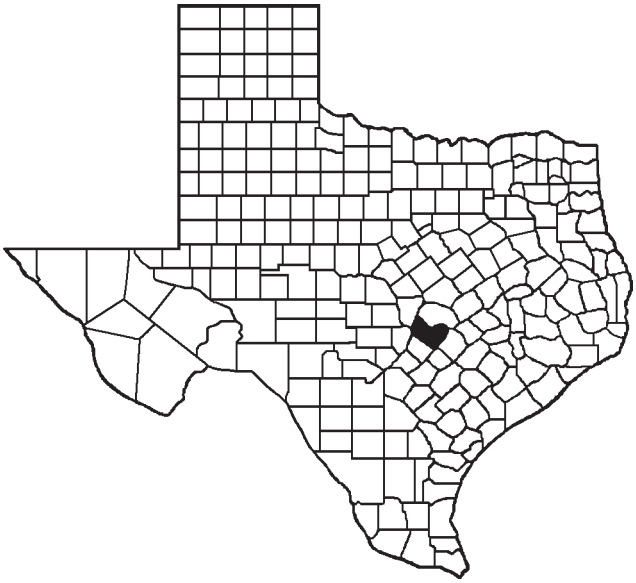
Texas A & M University Nuclear Science Center

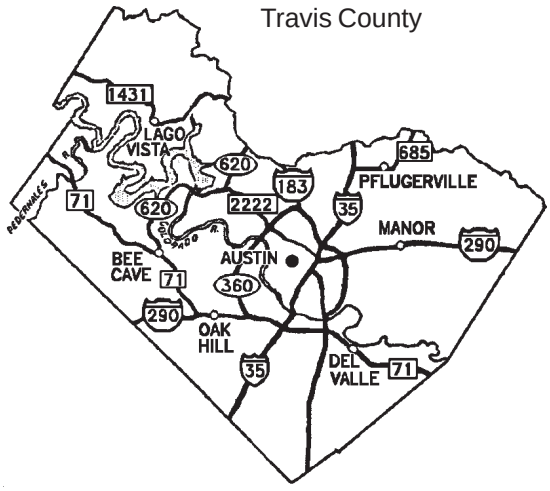
Date	Lab No.	Station	Ba-140	Co-58	Co-60	Cs-134	Cs-137	Fe-59	I-131	La-140	Mn-54	Nb-95	Sb-124	Sc-46	Zn-65	Zr-95
Sediment µCi/g																
2005-01-26	ER050062	16	<1.8E-6	<4E-7	5E-7	<5E-7	<5E-7	<6E-7	<6E-7	<4E-7	<4E-7	<4E-7	4.8E-5	2.3E-5	<2.0E-6	<7E-7
2005-04-05	ER050215	16	<8E-7	<2E-7	1.2E-6	<2E-7	<2E-7	<3E-7	<3E-7	<2E-7	<2E-7	<2E-7	--	4.7E-6	<1.0E-6	<3E-7
2005-07-11	ER050398	16	<7E-7	<2E-7	6E-7	<2E-7	<2E-7	<2E-7	<3E-7	<2E-7	1.8E-6	<2E-7	2.3E-6	3.1E-6	<7E-7	<3E-7
2005-10-13	ER050593	16	<5E-7	<1E-7	6E-7	<1E-7	<1E-7	<2E-7	<2E-7	<1E-7	1.0E-6	<1E-7	4E-7	--	<3E-7	<2E-7

University of Texas Nuclear Engineering Teaching Laboratory

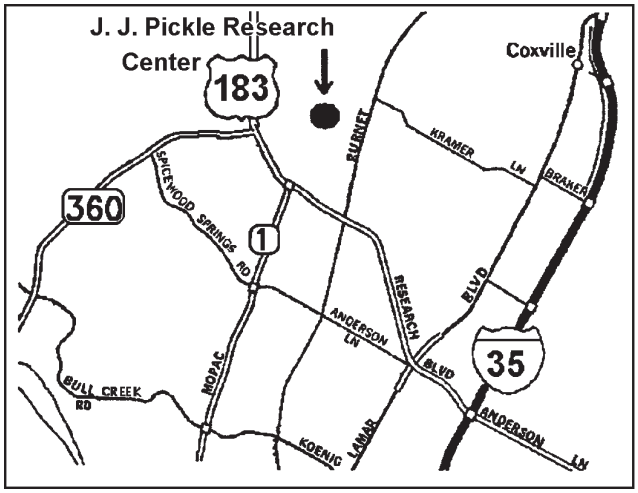
Radiation Branch Site No. 003

U. T. 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 water and sewage and TLD monitoring.





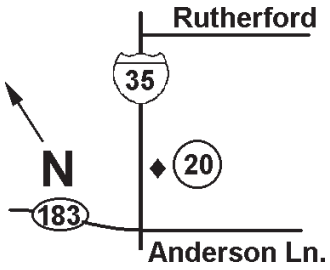
Shaded area indicates location of Travis County



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	Note
01	0.0	0.0	0.0	0.0	0.0	
02	0.0	0.0	0.0	0.0	0.0	
03	0.0	0.0	0.0	0.0	0.0	
04	5.9	1.0	2.0	2.0	10.9	
05	1.0	1.0	0.0	8.0	10.0	
20	15.8	14.5	13.8	16.0	60.1	Background

NOTE: *Occupancy factor not provided.

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
Sewage µCi/ml															
2005-01-20	ER050056	08	<2.1E-8	<6.1E-9	<6.2E-9	<5.4E-9	<6.4E-9	<1.2E-8	<1.0E-6	<6.3E-9	<7.4E-9	<6.1E-9	<6.2E-9	<1.3E-8	<1.1E-8
2005-04-22	ER050238	09	<2.2E-8	<6.1E-9	<7.7E-9	<6.5E-9	<6.6E-9	<1.3E-8	<1.0E-6	<6.1E-9	<7.1E-9	<6.7E-9	<6.5E-9	<1.6E-8	<1.2E-8
2005-07-19	ER050397	08	<3.4E-8	<6.7E-9	<7.7E-9	<6.1E-9	<6.8E-9	<1.5E-8	6.66E-6	<1.3E-8	<1.2E-8	<6.5E-9	<7.1E-9	<1.5E-8	<1.3E-8
2005-10-19	ER050594	09	<1.4E-8	<3.9E-9	<4.2E-9	<3.9E-9	<4.5E-9	<7.0E-9	<1.0E-6	<4.1E-9	<4.9E-9	<4.1E-9	<3.8E-9	<8.7E-9	<6.7E-9

Surface water samples from Station 07 were unavailable in 2005.

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Other Facilities

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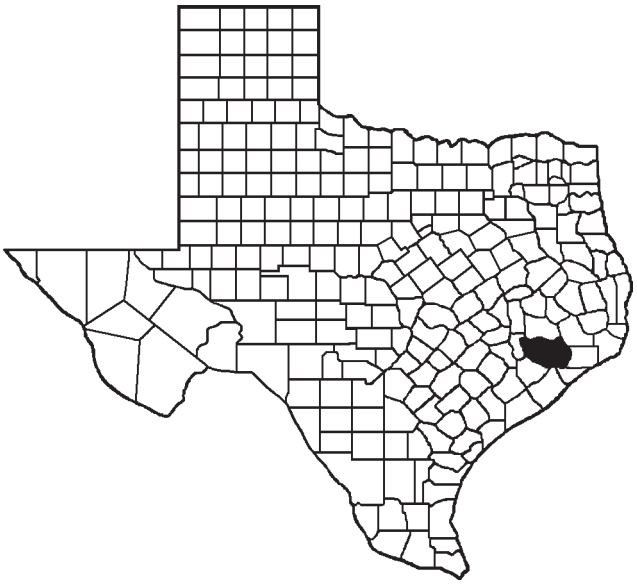
Gammatron, Inc.

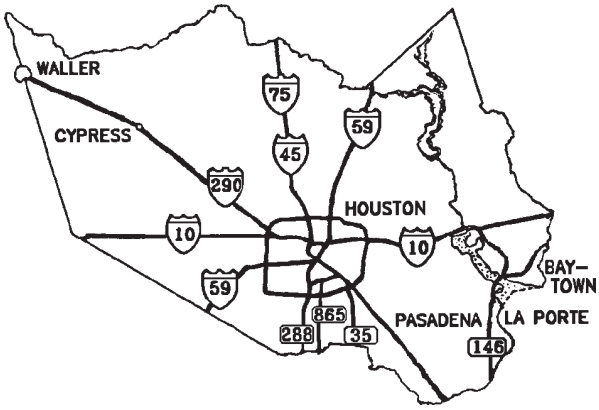
Radiation Branch Site No. 018

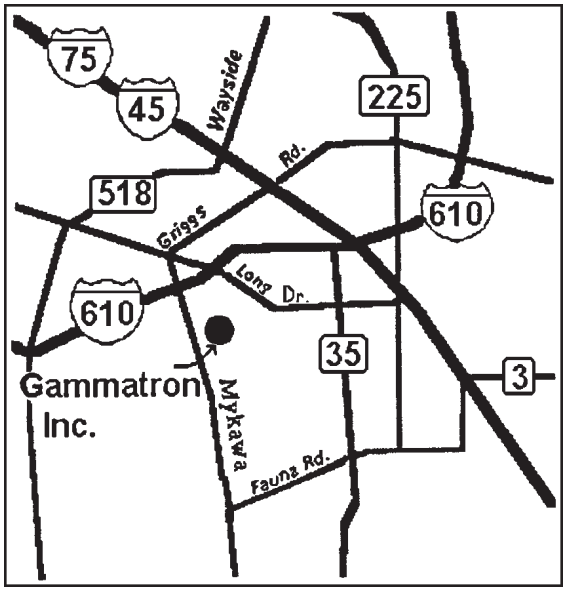
Gammatron, Inc. is a manufacturer of sealed radioactive sources, specializing in Am241Be and Am241Li neutron sources and Cs137 gamma sources. The facility is located in an industrial area of Houston approximately 4 miles northwest of William P. Hobby Airport. The Radiation Branch surveillance program consists of soil sampling and TLD monitoring.



Shaded area indicates location of Harris County

Harris County

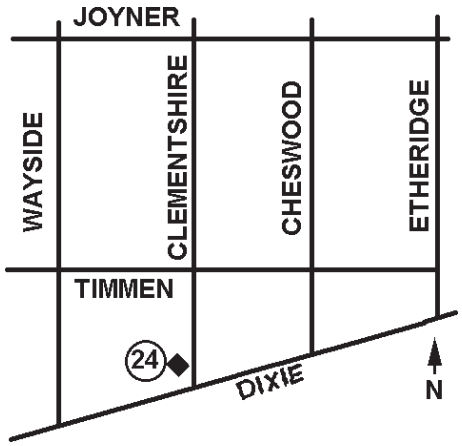




Monitoring Station Locations

♦ TLD Station ♥ Sample Station ♣ TLD & Sample Station

Homeland Security -- Diagram Removed



Thermoluminescent Dosimeter (TLD) Monitoring Results[1]
(quarterly and annual readings are in mrem)

Station	Q1	Q2	Q3	Q4	Annual[2] Dose	Notes
03	118.4	125.4	116.0	142.0	501.8	
05	99.8	129.1	148.0	--	502.5	[3]Q4 TLD missing
08	143.6	167.1	158.0	211.0	679.7	
24	17.5	13.9	13.0	16.0	60.4	Background
24	2.2	0.9	1.0	1.0	5.1	Background TLD provided by Landauer, Inc.
30	74.6	50.1	50.0	70.0	244.7	
31	16.4	8.4	8.0	11.0	43.8	
34	195.2	226.6	160.0	165.0	746.8	
40	58.1	21.4	15.0	51.0	145.5	Q2 photon and beta evaluation only;neutron component lost

NOTE: [1]Combined neutron/gamma dosimeters are deployed at this facility. Exposure reported includes neutron and gamma doses.
[2]Occupancy factor not provided.
[3]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

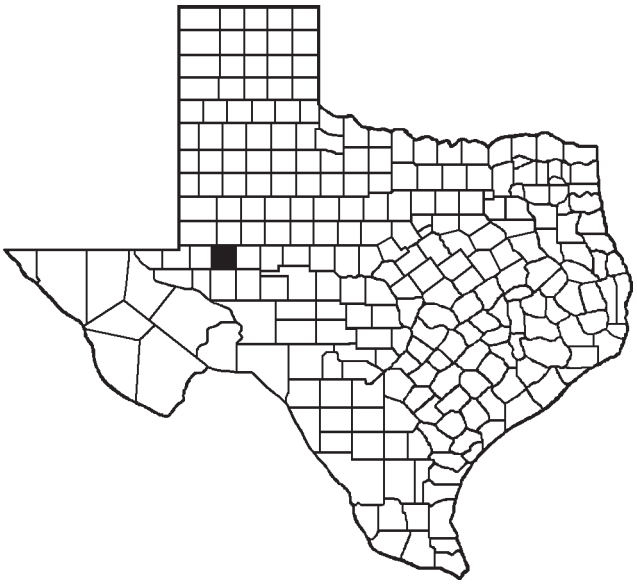
Date	Lab No.	Station	Alpha	Ra-226*	Am-241	Co-60	Cs-137	Ra-226
Soil µCi/g								
2005-01-14	ER050047	31	1.3E-5	8E-7	<1.1E-6	<2E-7	<2E-7	<2.3E-6
2005-04-07	ER050214	31	3.4E-5	1.0E-6	<3E-7	<2E-7	<2E-7	<3.0E-6
2005-07-14	ER050396	31	2.6E-5	2.2E-6	<3E-7	<2E-7	<2E-7	2.5E-6
2005-10-13	ER050571	31	2.2E-5	1.0E-6	<3E-7	<2E-7	<2E-7	<2.9E-6

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

GeoCo, Inc.

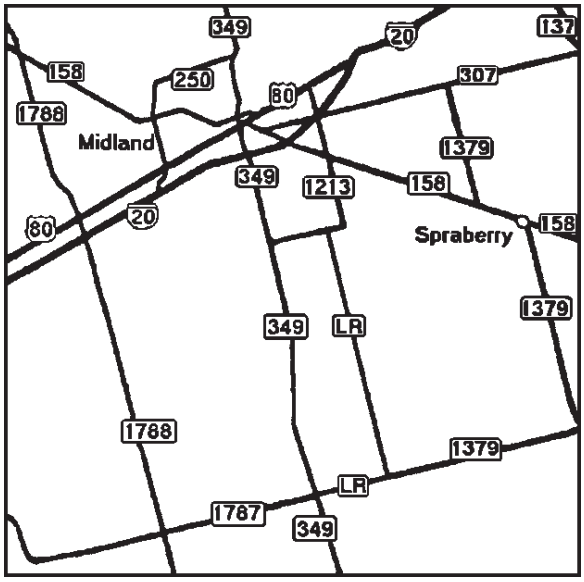
Radiation Branch Site No. 051

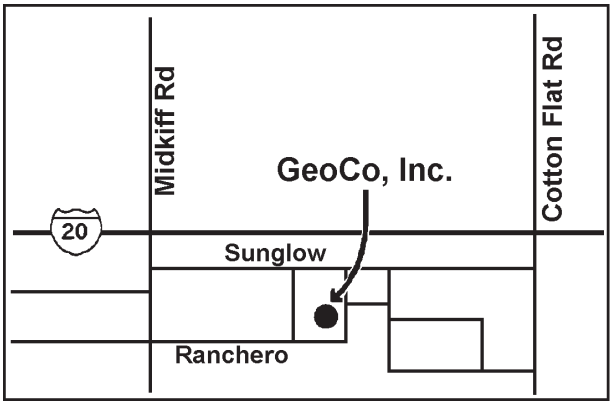
GeoCo, Inc. is a tracer studies company specializing in oil and gas wells. The facility is located in Midland approximately six miles east of Midland-Odessa International Airport. The Radiation Branch surveillance program consists of TLD monitoring.



Shaded area indicates location of Midland County

Midland County

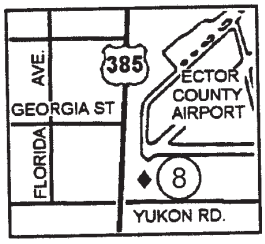




Monitoring Station Locations

♦ TLD Station ♥ Sample Station ♣ TLD & Sample Station

Homeland Security --
Diagram Removed



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

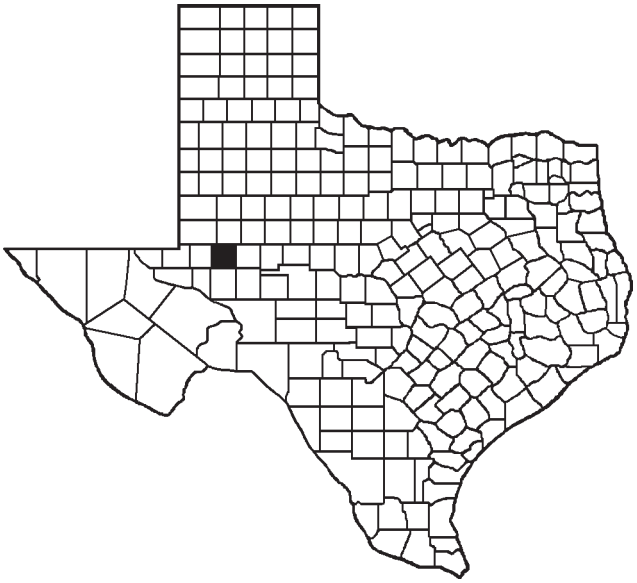
Station	Q1	Q2	Q3	Q4	Annual* Dose	Notes
01	130.6	87.5	99.1	90.1	407.3	
08	20.3	15.6	17.4	19.3	72.6	Background

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

Isotech Laboratories, Inc.

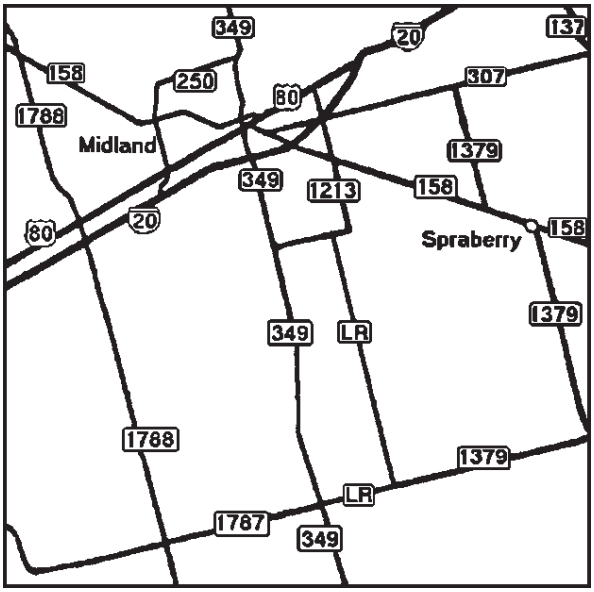
Radiation Branch Site No. 008

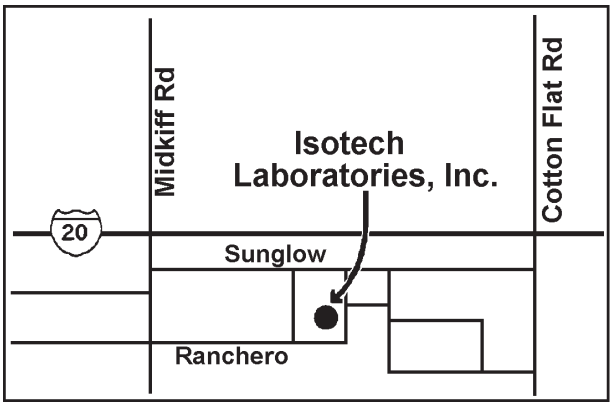
Isotech Laboratories, Inc. manufactures tracer material for the oil and gas industry, calibrates radiation detection instruments, and provides radiation safety training for well-logging and tracer services. The facility is located in Midland approximately six miles east of Midland-Odessa International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



Shaded area indicates location of Midland County

Midland County

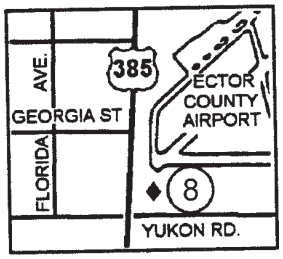




Monitoring Station Locations

♦ TLD Station ♥ Sample Station ♣ TLD & Sample Station

Homeland Security -- Diagram Removed



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

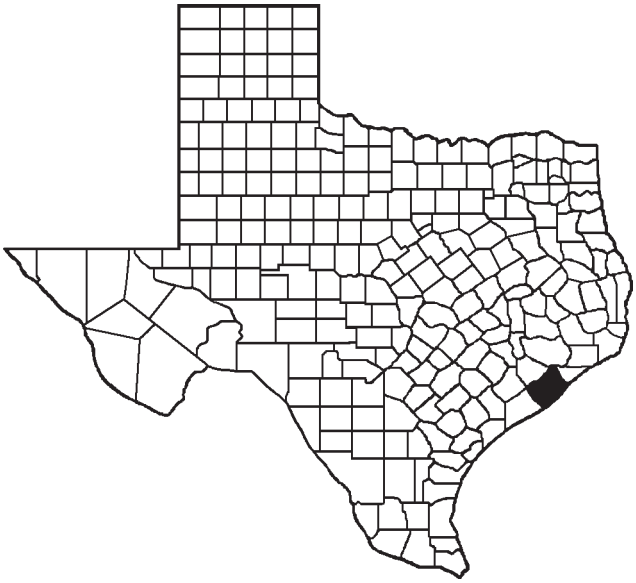
Station	Q1	Q2	Q3	Q4	Annual* Dose	Notes
01	10.7	6.1	8.1	7.4	32.3	
02	86.7	55.1	37.4	51.1	230.3	
03	53.5	36.8	28.3	34.4	153.0	
04	79.2	40.3	34.4	51.1	205.0	
06	76.0	46.4	28.3	36.2	186.9	
08	20.3	15.8	17.4	19.3	72.8	Background

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

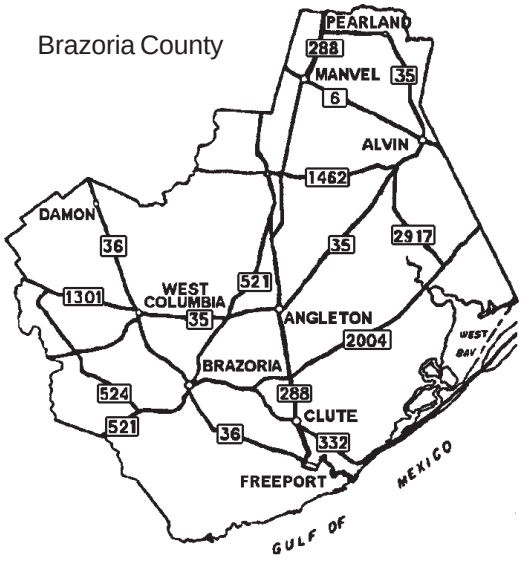
Iso-Tex, Inc.

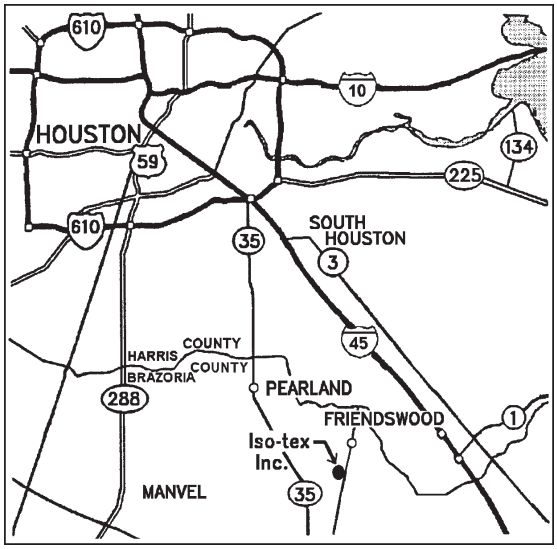
Radiation Branch Site No. 021

Iso-Tex, 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 5 miles southeast of Pearland on County Road 129. The Radiation Branch surveillance program consists of TLD monitoring.



Shaded area indicates location of Brazoria County

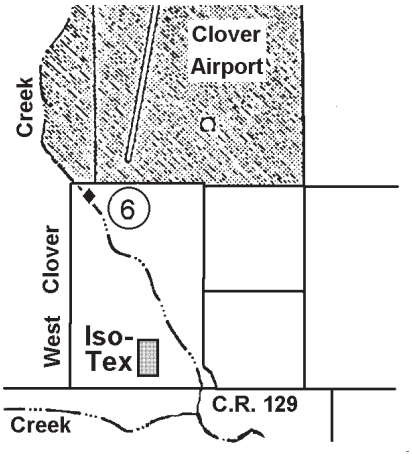




Monitoring Station Locations

♦ 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	3.3	2.8	3.0	3.0	12.1	
06	18.9	13.9	12.0	14.0	58.8	Background
07	13.3	13.0	6.0	6.0	38.3	
10	4.4	2.8	3.0	4.0	14.2	

NOTE: *Occupancy factor not provided.

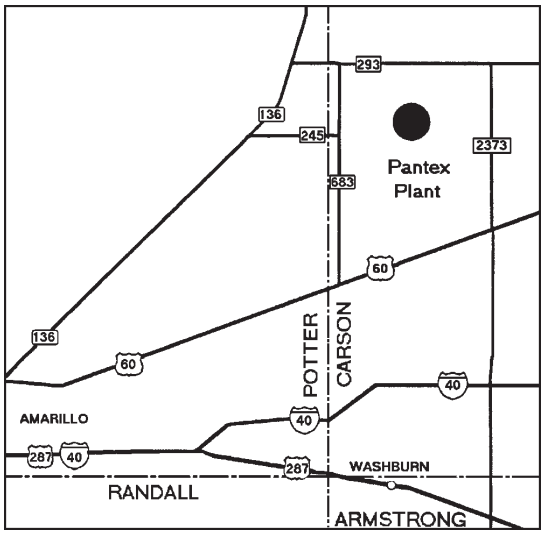
Pantex

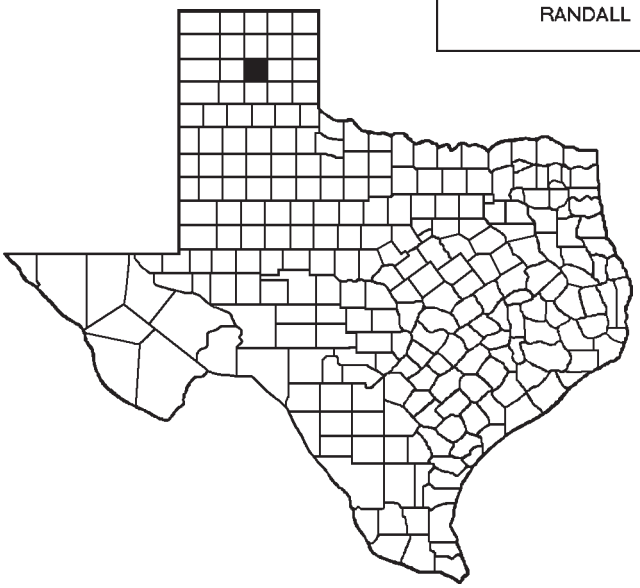
Radiation Branch Site No. 005

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 U.S. Department of Energy (DOE) 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.

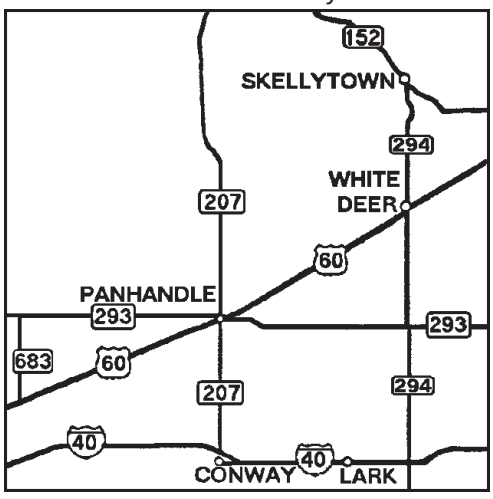
The Radiation Branch surveillance program consists of sampling air, water, soil, sediment, food products, and vegetation and TLD monitoring. Analysis of samples is concentrated on determining presence of any special nuclear material.





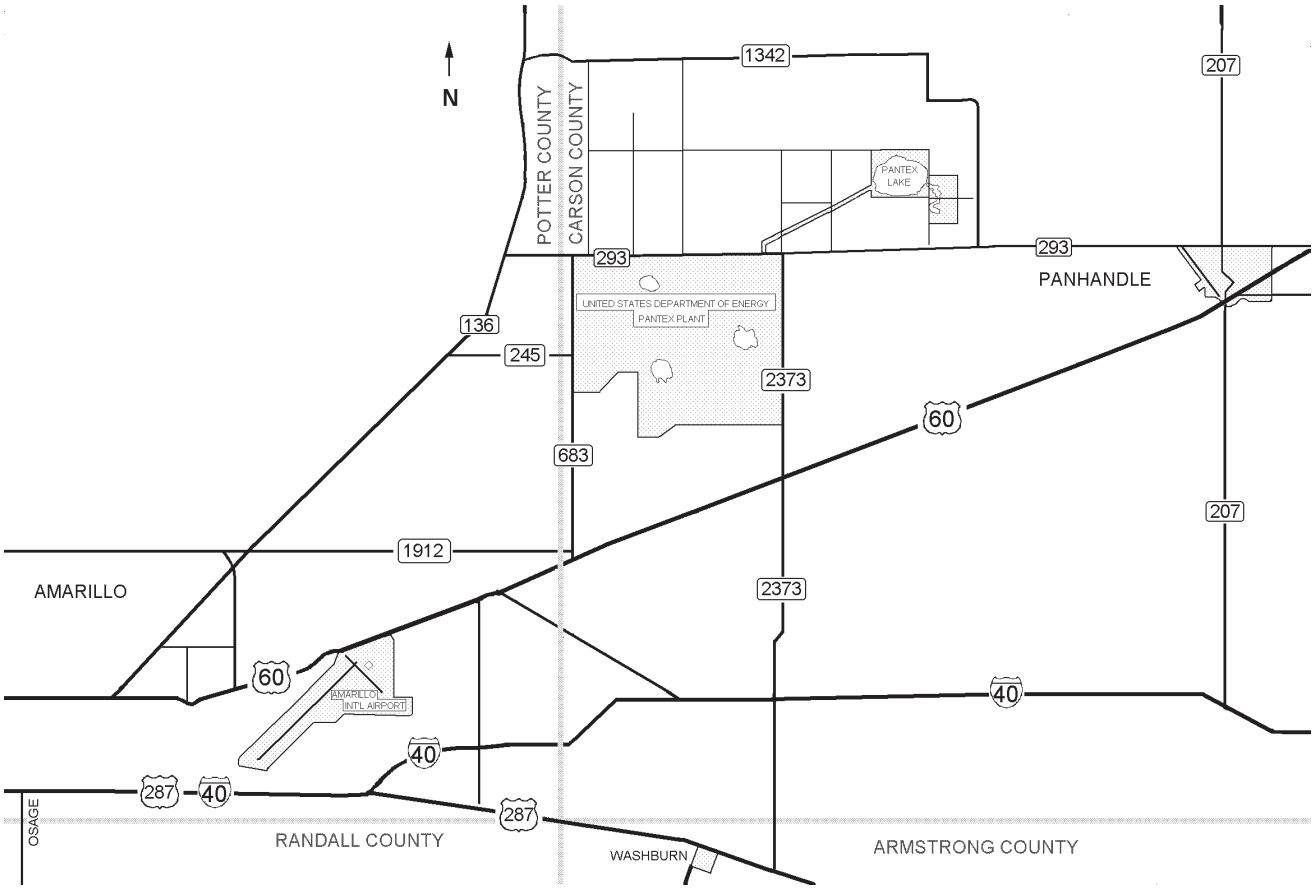
Shaded area indicates location of Carson County

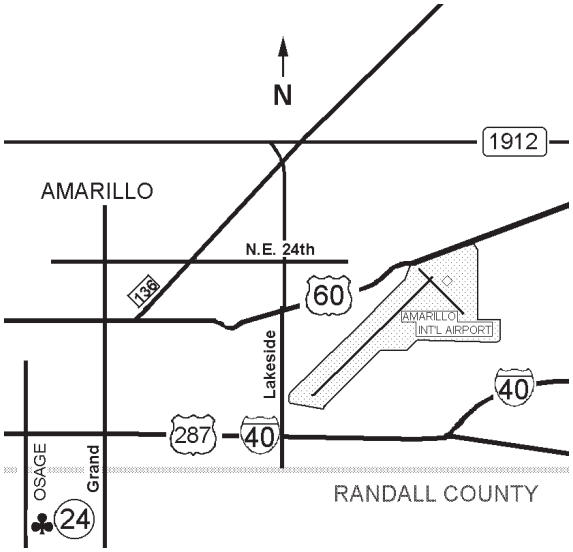
Carson County

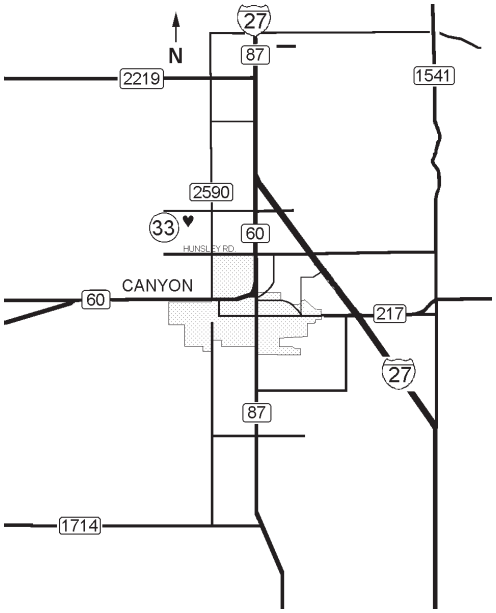


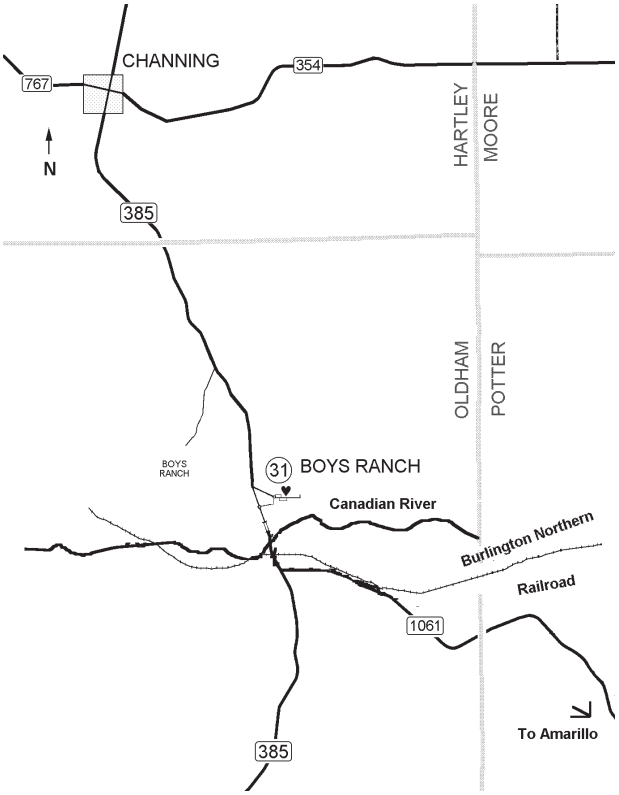
Monitoring Station Locations

♦ TLD Station ♥ Sample Station ♣ TLD & Sample Station

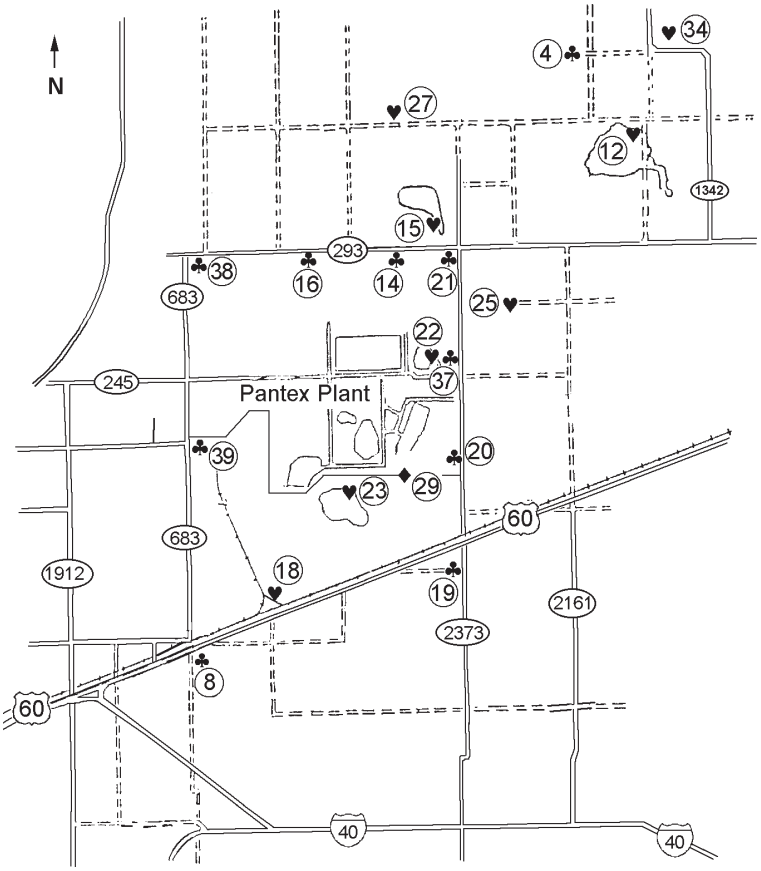


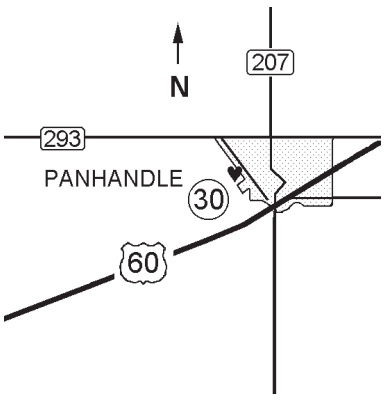






Homeland Security -- Diagram Removed





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

Station	Q1	Q2	Q3	Q4	Annual Dose	Notes
04	28.0	23.0	22.8	35.0	108.8	
08	29.2	23.0	22.1	33.8	108.1	
14	28.0	23.0	22.1	32.7	105.8	
16	28.0	22.1	20.7	33.8	104.6	
19	28.0	23.0	21.4	33.8	106.2	
20	28.0	22.1	21.4	32.7	104.2	
21	26.8	20.2	20.7	30.3	98.0	
24	26.5	19.5	21.4	29.5	96.9	Background
29	28.0	23.0	22.1	31.5	104.6	
37	29.2	23.9	22.1	33.8	109.0	
38	26.8	22.1	21.4	30.3	100.6	
39	26.8	22.1	20.7	32.7	102.3	

NOTE: *Background is not subtracted from the data.

Environmental Sample Results

Date	Lab No.	Station	Pu-239*	U-234*	U-235*	U-238*	Ra-226
Air Samples µCi/ml							
2005-01-26	ER050128	104	<5E-17	4.5E-16	<4.5E-16	<4.5E-16	<1.5E-14
2005-01-26	ER050127	105	<5E-17	<5.0E-16	<5.0E-16	<5.0E-16	<1.5E-14
2005-02-03	ER050130	104	<5E-17	<4.5E-16	<4.5E-16	<4.5E-16	<1.3E-14
2005-02-03	ER050129	105	<5E-17	5.3E-16	<5.0E-16	<5.0E-16	<1.1E-14
2005-02-10	ER050132	104	<5E-17	<4.6E-16	<4.6E-16	<4.6E-16	<9.3E-15
2005-02-10	ER050131	105	<5E-17	5.0E-16	<5.0E-16	<5.0E-16	<1.6E-14
2005-02-23	ER050134	104	<5E-17	<4.5E-16	<4.5E-16	4.9E-16	<1.5E-14
2005-02-23	ER050133	105	<6E-17	5.9E-16	<5.1E-16	<5.1E-16	<1.5E-14
2005-03-09	ER050294	104	<5E-17	4.4E-16	<4.0E-16	4.7E-16	<1.2E-14
2005-03-09	ER050295	104Q	<5E-17	5.8E-16	<5.0E-16	<5.0E-16	<1.6E-14
2005-03-09	ER050296	105	<6E-17	<5.2E-16	<5.2E-16	<5.2E-16	<1.1E-14
2005-03-29	ER050298	104	<5E-17	<4.5E-16	<4.5E-16	<4.5E-16	<1.3E-14
2005-03-29	ER050299	104Q	<6E-17	<5.1E-16	<5.1E-16	<5.1E-16	<1.6E-14
2005-03-29	ER050297	105	<6E-17	6.1E-16	<5.5E-16	5.4E-16	<1.6E-14
2005-04-07	ER050300	104	<5E-17	<4.7E-16	<4.7E-16	<4.7E-16	<9.5E-15
2005-04-07	ER050301	105	<5E-17	<4.5E-16	<4.5E-16	<4.5E-16	<9.0E-15
2005-04-12	ER050537	104	<5E-17	6.2E-16	<4.7E-16	<4.7E-16	<1.5E-14
2005-04-12	ER050538	105	<5E-17	4.8E-16	<4.6E-16	4.9E-16	<9.5E-15
2005-04-28	ER050302	104	<5E-17	<4.7E-16	<4.7E-16	<4.7E-16	<9.6E-15
2005-04-28	ER050303	104Q	<5E-17	<4.9E-16	<4.9E-16	<4.9E-16	<1.5E-14
2005-04-28	ER050304	105	<5E-17	<4.7E-16	<4.7E-16	<4.7E-16	<1.5E-14
2005-05-12	ER050305	104	<5E-17	5.5E-16	<4.8E-16	5.4E-16	<9.4E-15
2005-05-12	ER050306	105	<5E-17	6.0E-16	<4.6E-16	<4.6E-16	<1.4E-14
2005-05-17	ER050307	104	<5E-17	<4.7E-16	<4.7E-16	5.4E-16	<1.4E-14
2005-05-17	ER050308	105	<5E-17	<4.6E-16	<4.6E-16	4.8E-16	<1.4E-14
2005-05-25	ER050579	104	<5E-17	<4.7E-16	<4.7E-16	<4.7E-16	<1.3E-14
2005-05-25	ER050580	105	<5E-17	4.7E-16	<4.7E-16	<4.7E-16	<1.5E-14
2005-06-06	ER050581	104	<5E-17	<4.6E-16	<4.6E-16	<4.6E-16	<9.4E-15
2005-06-06	ER050582	104Q	<6E-17	5.3E-16	<5.0E-16	<5.0E-16	<1.4E-14
2005-06-06	ER050583	105	<5E-17	5.6E-16	<4.8E-16	<4.8E-16	9.8E-15

Date	Lab No.	Station	Pu-239*	U-234*	U-235*	U-238*	Ra-226
2005-06-23	ER050584	104	<5E-17	<4.9E-16	<4.9E-16	<4.9E-16	<1.1E-14
2005-06-23	ER050585	104Q	<6E-17	<5.3E-16	<5.3E-16	<5.3E-16	<1.5E-14
2005-06-23	ER050586	105	<5E-17	4.8E-16	<4.9E-16	5.4E-16	<1.0E-14
2005-07-14	ER050544	104	<5E-17	5.2E-16	<4.8E-16	5.9E-16	<1.4E-14
2005-07-14	ER050545	104Q	<6E-17	4.9E-16	<5.0E-16	<5.0E-16	<1.6E-14
2005-07-14	ER050546	105	<6E-17	5.0E-16	<5.0E-16	<5E-16	<1.1E-14
2005-08-02	ER050542	104	<5E-17	<4.6E-16	<4.6E-16	5.5E-16	<9.3E-15
2005-08-02	ER050543	105	<5E-17	5.0E-16	<4.8E-16	<4.8E-16	<9.7E-15
2005-09-22	ER050539	104	<5E-17	<4.7E-16	<4.7E-16	<4.7E-16	<1.3E-14
2005-09-22	ER050540	104Q	<5E-17	<4.9E-16	<4.9E-16	<4.9E-16	<1.4E-14
2005-09-22	ER050541	105	<5E-17	<4.9E-16	<4.9E-16	5.2E-16	<1.6E-14
2005-09-26	ER050709	104	<5E-17	<4.9E-16	<4.9E-16	<4.9E-16	<1.1E-14
2005-09-26	ER050708	105	<5E-17	<4.6E-16	<4.6E-16	5.1E-16	<9.4E-15
2005-11-08	ER050707	105	<6E-17	<5.2E-16	<5.2E-16	<5.2E-16	1.9E-14
2005-11-18	ER050706	105	<5E-17	4.9E-16	<4.9E-16	5.4E-16	<1.1E-14
2005-11-30	ER050705	104	<5E-17	5.6E-16	<4.9E-16	5.4E-16	1.4E-14
2005-12-08	ER060009	105	<5E-17	<4.4E-16	<4.4E-16	<4.4E-16	1.0E-14
2005-12-14	ER060010	104	<5E-17	<4.8E-16	<4.8E-16	<4.8E-16	<1.6E-14

Date	Lab No.	Station	Pu-239*	U-234*	U-235*	U-238*	H-3**	Ra-226	U-238
Sediment µCi/g									
2005-01-11	ER050034	22	<1E-7	<1.0E-6	<1.0E-6	1.1E-6	<1.0E-6	<2.3E-6	<2.0E-6
2005-03-30	ER050185	12	<1E-7	<1.0E-6	<1.0E-6	1.0E-6	-	<2.0E-6	<1.2E-6
2005-07-07	ER050367	22	<1E-7	1.0E-6	<1.0E-6	1.2E-6	<1.0E-6	1.5E-6	<1.0E-6
2005-11-15	ER050638	15	<1E-7	<1.0E-6	<1.0E-6	1.0E-6	-	1.2E-6	<1.3E-6
2005-11-15	ER050636	23	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	-	<2.3E-6	<1.5E-6
Soil µCi/g									
2005-01-10	ER050025	14	<1E-7	<1.0E-6	<1.0E-6	1.3E-6	-	3.0E-6	<1.8E-6
2005-01-10	ER050026	18	<1E-7	1.1E-6	<1.0E-6	1.2E-6	-	<3.8E-6	<2.5E-6
2005-01-10	ER050027	20	<1E-7	1.3E-6	<1.0E-6	1.1E-6	-	<3.0E-6	<2.5E-6
2005-01-10	ER050028	37	<1E-7	1.0E-6	<1.0E-6	<1.0E-6	-	<2.8E-6	<1.7E-6
2005-01-10	ER050029	39	<1E-7	1.0E-6	<1.0E-6	<1.0E-6	-	2.6E-6	<1.6E-6
2005-03-29	ER050172	04	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	-	<2.8E-6	<1.7E-6
2005-03-29	ER050173	08	<1E-7	<1.0E-6	<1.0E-6	1.0E-6	-	<3.4E-6	<2.1E-6
2005-03-29	ER050174	16	<1E-7	1.0E-6	<1.0E-6	<1.0E-6	-	<2.7E-6	<2.3E-6
2005-03-29	ER050175	19	<1E-7	<1.0E-6	<1.0E-6	1.0E-6	-	<3.0E-6	<1.8E-6
2005-03-29	ER050176	21	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	-	1.5E-6	<1.5E-6
2005-03-29	ER050177	38	<1E-7	1.0E-6	<1.0E-6	<1.0E-6	-	<2.5E-6	<2.1E-6
2005-07-06	ER050363	14	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	-	<2.8E-6	<1.7E-6
2005-07-06	ER050364	18	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	-	1.5E-6	<1.5E-6
2005-07-06	ER050366	20	<1E-7	1.0E-6	<1.0E-6	1.1E-6	-	<2.8E-6	<2.3E-6
2005-07-06	ER050372	37	<1E-7	1.1E-6	<1.0E-6	1.0E-6	-	<2.9E-6	<1.7E-6
2005-07-06	ER050374	39	<1E-7	1.1E-6	<1.0E-6	1.0E-6	-	1.9E-6	<1.7E-6
2005-11-15	ER050645	04	<1E-7	1.0E-6	<1.0E-6	1.1E-6	-	<2.3E-6	<2.1E-6
2005-11-15	ER050642	08	<1E-7	<1.0E-6	<1.0E-6	1.0E-6	-	<2.4E-6	<2.2E-6
2005-11-15	ER050639	16	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	-	<2.1E-6	<1.4E-6
2005-11-15	ER050644	19	<1E-7	<1.0E-6	<1.0E-6	1.1E-6	-	1.2E-6	<9E-7
2005-11-15	ER050637	21	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	-	<1.9E-6	<1.3E-6
2005-11-15	ER050641	38	<1E-7	1.0E-6	<1.0E-6	1.1E-6	-	<1.4E-6	<9E-7

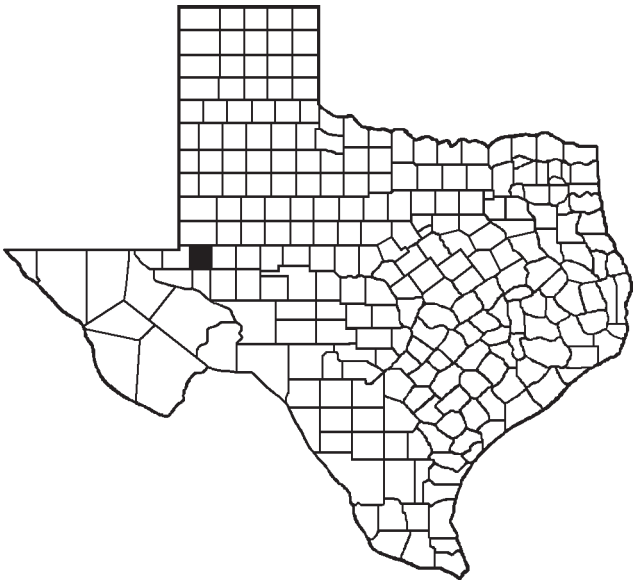
Date	Lab No.	Station	Pu-239*	U-234*	U-235*	U-238*	H-3**	Ra-226	U-238
Vegetation µCi/g									
2005-03-29	ER050178	04	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<9E-7	<8E-7
2005-03-29	ER050179	08	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.6E-6	<1.1E-6
2005-03-29	ER050180	16	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<8E-7	<5E-7
2005-03-29	ER050181	21	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.1E-6	<9E-7
2005-07-06	ER050362	14	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.2E-6	<8E-7
2005-07-06	ER050365	18	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<7E-7
2005-07-06	ER050373	37	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.3E-6	<1.1E-6
2005-07-06	ER050375	39	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<7E-7
2005-11-15	ER050653	04	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<7E-7
2005-11-15	ER050643	08	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<9E-7	<8E-7
2005-11-15	ER050640	16	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<9E-7	<6E-7
2005-11-15	ER050654	19	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<8E-7	<7E-7
2005-11-15	ER050655	21	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.1E-6	<7E-7
2005-11-15	ER050656	38	<1E-7	<1.0E-6	<1.0E-6	<1.0E-6	<1.0E-6	<1.1E-6	<1.0E-6
Water-Drinking µCi/ml									
2005-01-10	ER050031	30	<1E-10	4.8E-9	<1.0E-9	1.9E-9	<1.0E-6	<4.8E-8	<4.5E-8
2005-03-29	ER050184	30	<1E-10	5.7E-9	<1.0E-9	2.7E-9	<1.0E-6	<4.9E-8	<4.6E-8
2005-07-06	ER050371	30	<1E-10	4.8E-9	<1.0E-9	2.1E-9	<1.0E-6	<4.9E-8	<4.5E-8
2005-11-14	ER050648	30	<1E-10	5.2E-9	<1.0E-9	2.4E-9	<1.0E-6	<5.1E-8	<4.8E-8
Water-Ground µCi/ml									
2005-01-11	ER050032	27	<1E-10	4.5E-9	<1.0E-9	2.1E-9	<1.0E-6	<5.1E-8	<3.7E-8
2005-03-30	ER050183	27	<1E-10	4.5E-9	<1.0E-9	1.8E-9	<1.0E-6	<5.2E-8	<3.6E-8
2005-07-06	ER050370	27	<1E-10	4.1E-9	<1.0E-9	2.1E-9	<1.0E-6	<4.9E-8	<4.5E-8
2005-11-15	ER050647	27	<1E-10	4.8E-9	<1.0E-9	2.2E-9	<1.0E-6	<5.5E-8	<3.8E-8
Water-Surface µCi/ml									
2005-01-11	ER050033	22	<1E-10	<1.0E-9	<1.0E-9	<1.0E-9	<1.0E-6	<4.8E-8	<4.5E-8
2005-01-11	ER050030	24	<1E-10	4.9E-9	<1.0E-9	2.2E-9	<1.0E-6	<4.7E-8	<4.5E-8
2005-03-30	ER050182	24	<1E-10	4.3E-9	<1.0E-9	2.2E-9	<1.0E-6	<4.9E-8	<4.6E-8
2005-07-06	ER050369	24	<1E-10	3.6E-9	<1.0E-9	2.1E-9	<1.0E-6	<5.2E-8	<3.6E-8
2005-07-07	ER050368	22	<1E-10	1.2E-9	<1.0E-9	<1.0E-9	<1.0E-6	<4.8E-8	<4.5E-8
2005-11-15	ER050646	24	<1E-10	4.3E-9	<1.0E-9	2.2E-9	<1.0E-6	<4.9E-8	<4.4E-8

NOTE: *Indicates the analysis was by alpha spectrometry, or if Ra-226, analysis by radon emanation.
**Indicates the tritium (H-3) analysis for vegetation and sediment is reported in µCi/ml.

Radiation Technology, Inc.

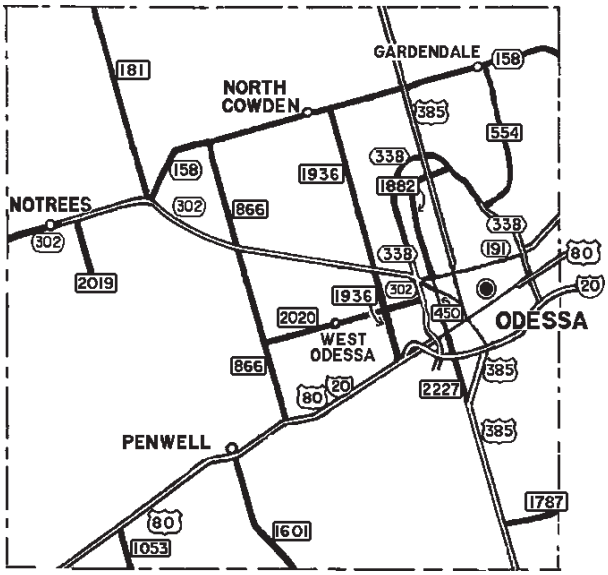
Radiation Branch Site No. 050

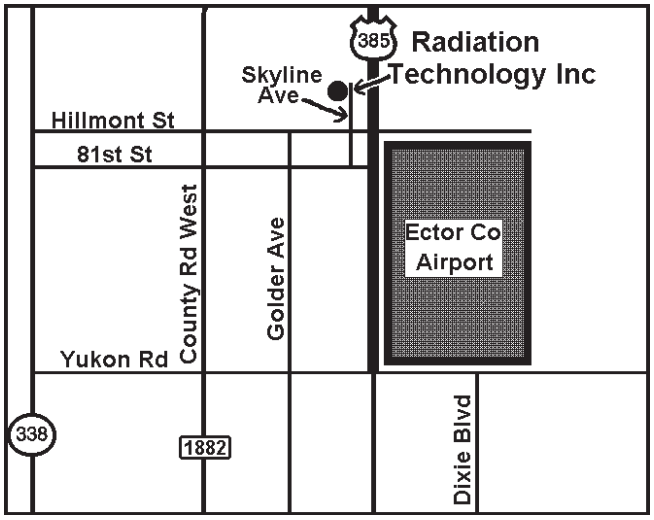
Radiation Technology, Inc. (RTI), located six miles north of downtown Odessa, provides installation, repair, and maintenance of nuclear gauging devices and provides services for loading and unloading radioactive sources in nuclear gauges. Radiation Branch surveillance program consists of TLD monitoring.



Shaded area indicates location of Ector County

Ector County

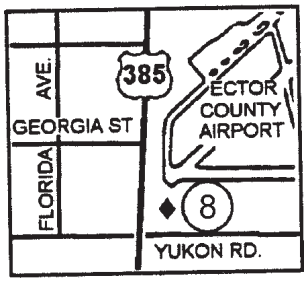




Monitoring Station Locations

♦ TLD Station ♥ Sample Station ♣ TLD & Sample Station

Homeland Security -- Diagram Removed



Thermoluminescent Dosimeter (TLD) Monitoring Results[1]
(quarterly and annual readings are in mrem)

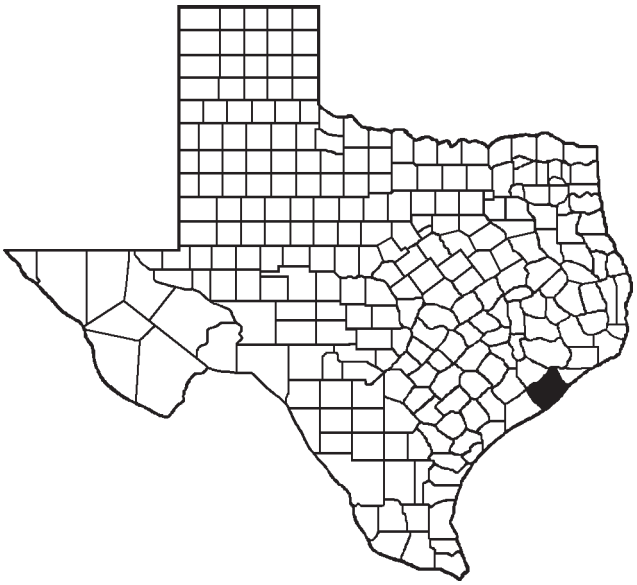
Station	Q1	Q2	Q3	Q4	Annual[2] Dose	Notes
01	18.2	18.4	36.8	53.3	126.7	
02	1407.8	1285.4	1157.4	1146.2	4996.8	
03	192.7	172.4	139.1	209.6	713.8	
04	38.5	35.9	42.9	48.7	166.0	
08	20.3	15.6	--	--	35.9	Background
08	--	--	3.1	5.5	8.6	Q3 and Q4 Background TLD provided by Landauer, Inc.

NOTE: [1]Combined neutron/gamma dosimeters are deployed at this facility. Exposure reported includes neutron and gamma doses.
[2]Occupancy factor not provided.

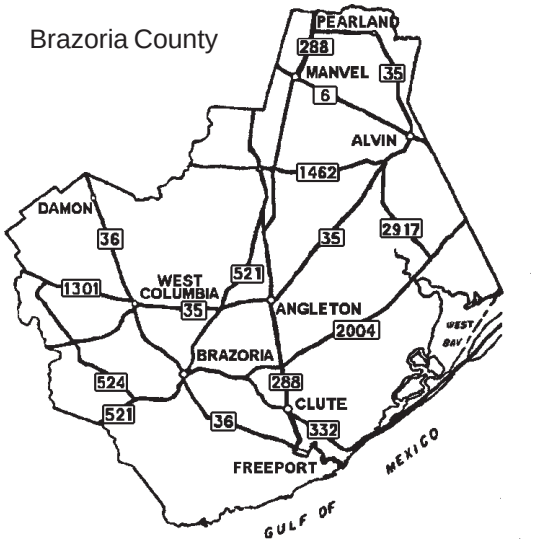
Rhodia, Inc.

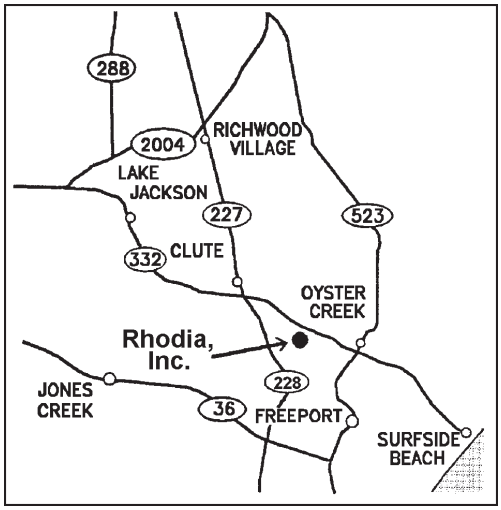
Radiation Branch Site No. 026

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

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

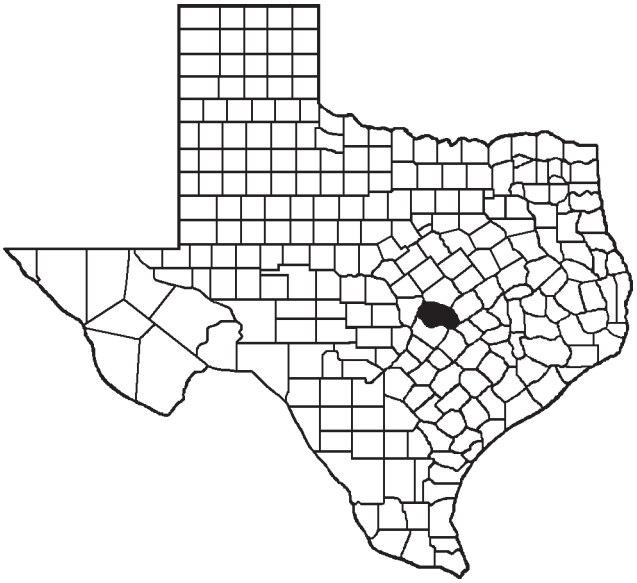
Station	Q1	Q2	Q3	Q4	Annual* Dose	Notes
01	0.0	0.0	0.0	0.0	0.0	
02	0.0	0.0	0.0	0.0	0.0	
04	7.6	6.5	7.0	8.0	29.1	
05	35.8	31.6	32.0	33.0	132.4	
06	29.3	27.9	26.0	29.0	112.2	
16	16.3	14.9	14.0	17.0	62.2	Background

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

Thermo MeasureTech
Radiation Branch Site No. 004

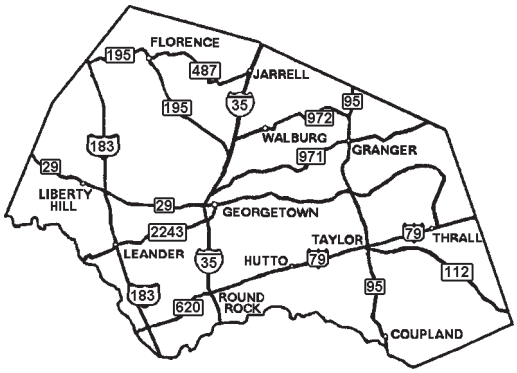
During the third quarter of 2005 Thermo MeasureTech re-located to Sugar Land. The Radiation Branch performed the close-out survey (Round Rock location) in December 2005. Based on this survey, the Round Rock location was released for unrestricted use. Thermo MeasureTech was located just north of Round Rock in Williamson County. The Radiation Branch implemented a monitoring program in July of 1990 and collected baseline radiation data prior to the licensee moving any radioactive materials to the site. The major licensed activity at the facility was the manufacture and distribution of gauging devices and fluorescence analyzers.

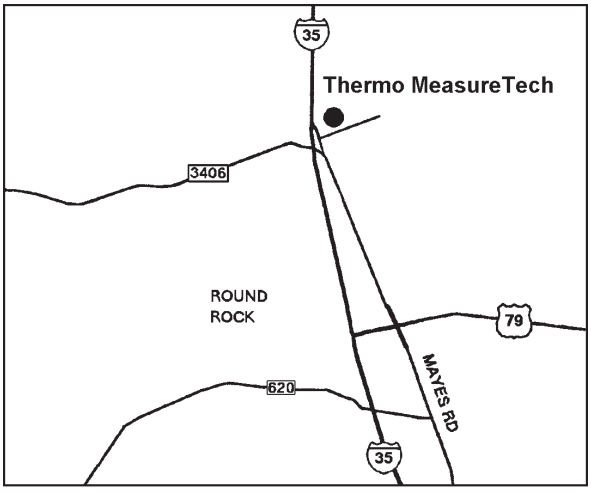
Upon receipt of a statement from Thermo MeasureTech, that it no longer wished to pursue a license to process radioactive waste in 1992, the Radiation Branch removed the soil and vegetation sampling from the monitoring program. Consequently, reports after 1992 only contain the results of doses indicated by TLD's used to monitor ambient radiation levels at selected locations on and around the premises.



Shaded area indicates location of Williamson County

Williamson County

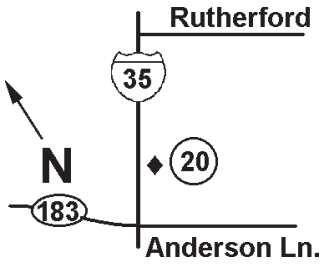




Monitoring Station Locations

♦ TLD Station ♥ Sample Station ♣ TLD & Sample Station

Homeland Security --
Diagram Removed



Thermoluminescent Dosimeter (TLD) Monitoring Results[1]
(quarterly and annual readings are in mrem)

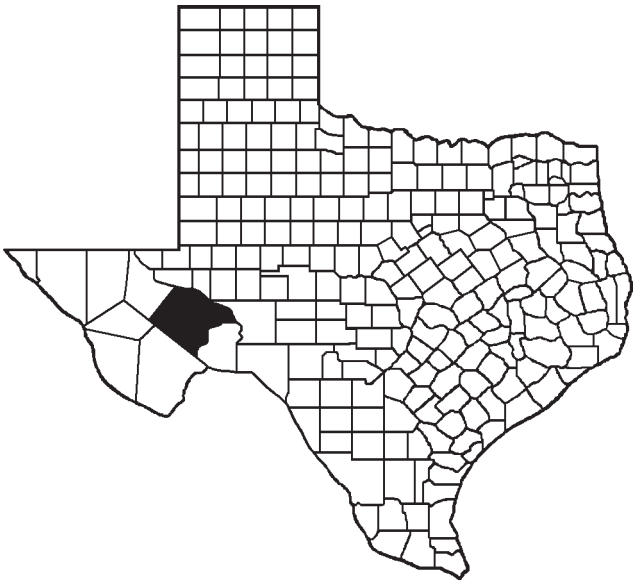
Station	Q1	Q2	Q3	Q4[3]	Annual[2] Dose	Notes
04	16.8	12.4	14.8	--	44.0	
05	2491.6	2051.6	1876.4	--	6419.6	
06	719.1	792.1	841.8	--	2353.0	
07	2244.3	2401.2	2585.6	--	7231.1	
08	2.0	1.0	4.9	--	7.9	
09	4.0	4.1	7.4	--	15.5	
10	1025.7	961.7	891.2	--	2878.6	
11	780.4	732.1	761.6	--	2274.1	
12	1151.3	1000.0	893.2	--	3044.5	
13	1321.5	1284.3	1097.9	--	3703.7	
20	15.8	14.5	13.8	--	44.1	Background
20	--	1.3	1.0	--	2.3	Q2 and Q3 Background TLD provided by Landauer, Inc.

NOTE: [1]Combined neutron/gamma dosimeters are deployed at this facility. Exposure reported includes neutron and gamma doses.
[2]Occupancy factor not provided.
[3]During the third quarter of 2005 the facility re-located to Sugar Land.

U. T. Systems Interim Waste Storage Facility

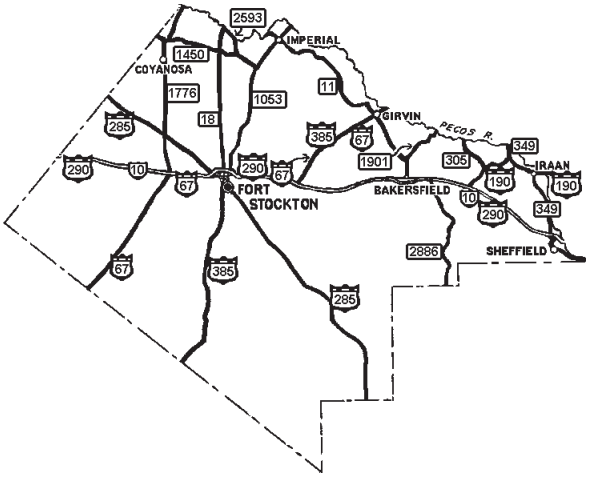
Radiation Branch Site No. 042

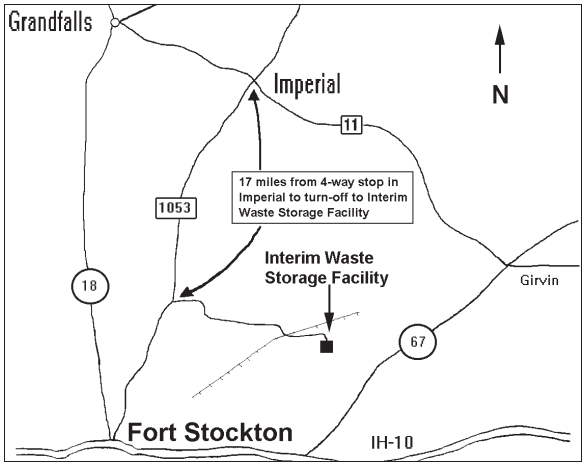
University of Texas Systems Interim Waste Storage Facility, located in Pecos County, provides temporary storage for low-level radioactive waste from several U.T. campuses throughout Texas. The Radiation Branch surveillance program consists of TLD monitoring.



Shaded area indicates location of Pecos County

Pecos County

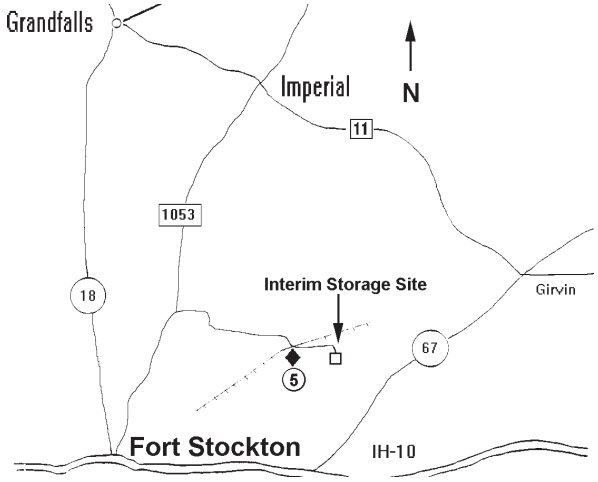




Monitoring Station Locations

♦ 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* Dose	Note
01	1.0	1.9	2.0	0.0	4.9	
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	23.8	19.2	20.0	25.0	88.0	Background

NOTE: *Occupancy factor not provided.

Appendices

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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
Matrix: AI Air Filter Bq/filter							
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
Matrix: SO Soil Bq/kg							
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
Matrix: VE Vegetation Bq/kg							
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
Matrix: WA Water Bq/L							
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^3.

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