Nichols Ranch ISR Project U.S.N.R.C Source Material License Application

Volume II

Technical Report

Uranerz
ENERGY CORPORATION

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ADDENDUM 2A:

WELL TABLES

November 2007

Table 2A-1 NICHOLS RANCH ISR PROJECT OIL/GAS WELLS 3 MILE RADIUS

API	Company	Well Name	Section	Qtr. / Qtr.	Footage	Depth	Status
Township 43 North - Range 75 West							
49-005-28283	Wyo. Resources Corp.	Parker W-49176 34-6x	6	SW SE	648 FSL & 1968 FEL	10052	PR
49-005-24820	Wyo. Resources Corp.	North Butte W-59613 1	6	SW NW	2222 FNL & 924 FWL	10060	PR
49-005-24481	Wyo. Resources Corp.	Hollar Draw # 1	7	NE NE	474 FNL & 866 FEL	10030	PR
49-005-24603	Wyo. Resources Corp.	C Davis 1	8	SW SW	720 FSL & 600 FWL	10120	AI
49-005-27428	Wyo. Resources Corp.	Jacobs W-34732 12-17	17	SW NW	2017 FNL & 678 FWL	10180	PR
49-005-24412	Thomas Operating Co.	Murjo 1	28	NW NW	660 FNL & 460 FWL	10200	PR
49-005-24806	Justice Oil & Gas	Ruby Fed W-59613 1	30	SW SE	473 FSL & 2166 FEL	10086	PR
Township 43 North - Range 76 West							
49-005-57548	Wyo. Resources Corp.	PBSU 1-H	1	SE NW	1530 FNL & 2204 FWL	9850	PR
49-005-25274	Wyo. Resources Corp.	Fed AP W-49754 1	1	NE SE	1980 FSL & 660 FEL	10000	AI
49-005-25273	Wyo. Resources Corp.	Scott A 1	1	NE NW	660 FNL & 1950 FWL	9950	AI
49-005-24936	Wyo. Resources Corp.	Federal AX 1	1	NE NE	660 FNL & 660 FEL	5090	AI
Township 43 North - Range 77 West							
49-019-20585	Banding M R Inc	Hatch W-52284 34-12	12	SW SE	574 FSL & 2151 FEL	9999	PR
Township 44 North - Range 75 West							
49-005-25110	XTO Energy Inc.	Hartzog Draw Unit 4083	8	NE SW	1886 FSL & 2026 FWL	9750	AI
49-005-24961	XTO Energy Inc.	Hartzog Draw Unit 4084W	8	NE SE	1147 FSL & 1151FEL	9790	AI
49-005-30080	XTO Energy Inc.	Hartzog Draw Unit 4097	9	SW SW	575 FSL & 569 FWL	9918	FL
49-005-27568	XTO Energy Inc.	Hartzog Draw Unit 4098	9	SW SE	471 FSL & 2418 FEL	9885	PR
49-005-24966	XTO Energy Inc.	Hartzog Draw Unit 4093 W	9	NE SW	1832 FSL & 1950 FWL	9909	PR
49-005-34555	XTO Energy Inc.	Hartzog Draw Unit 4651	15	NW NW	630 FNL & 395 FWL	9754	AI
49-005-28245	XTO Energy Inc.	Hartzog Draw Unit 4655	15	SW NW	2052 FNL & 983 FWL	9705	PR
49-005-34553	XTO Energy Inc.	Hartzog Draw Unit 4653	15	SE NW	2443 FNL & 2324 FWL	9780	FL
49-005-24658	XTO Energy Inc.	HDU FED W-39178 4153W	15	NE SW	1397 FSL & 1882 FWL	9775	AI
49-005-28308	XTO Energy Inc.	HDU FED W-39178 4158	15	SW SE	599 FSL & 2176 FEL	9722	AI
49-005-30043	XTO Energy Inc.	HDU State 4166	16	SW NE	2100FNL & 2061 FEL	9852	FL
49-005-25035	XTO Energy Inc.	HDU State 69-7848 4161	16	NE NW	961 FNL & 1798 FWL	9872	AI
49-005-24646	XTO Energy Inc.	HDU State 69-7848 4162W	16	NE NE	820 FNL & 939 FEL	9790	AI
49-005-24123	XTO Energy Inc.	HDU State 69-7848 4164	16	NE SE	2153 FSL & 510 FEL	9794	AI
49-005-24683	XTO Energy Inc.	HDU Fed W-35796 4222W	22	NE NE	860 FNL & 950 FEL	9656	AI
Township 44 North - Range 76 West							
49-005-25875	Wyo. Resources Corp.	Federal W-60425 1	22	SE NE	1864 FNL 100FEL	10040	PR
49-005-25616	Wyo. Resources Corp.	Christensen G 1	22	SE SE	755 FSL 760 FEL	9890	AI

*** Wyo. Oil and Gas Conservation Commission
Abbreviations found in Table 2A-6

Table 2A-1 NICHOLS RANCH ISR PROJECT OIL/GAS WELLS 3 MILE RADIUS

API	Company	Well Name	Section	Qtr. / Qtr.	Footage	Depth	Status
49-005-25639	Wyo. Resources Corp.	Pfister D 1	23	SE SW	660 FSL & 1966 FWL	9910	AI
49-005-25575	Wyo. Resources Corp.	Pfister B Fee 1	26	NE SW	1907 FSL & 2085 FWL	9860	AI
49-005-25739	Wyo. Resources Corp.	Pfister C Fee 1	26	NW SE	1308 FSL & 1368 FEL	9920	AI
49-005-25489	Wyo. Resources Corp.	Christensen F Fee 1	26	SW NW	2026 FNL & 658 FWL	9870	PR
49-005-25413	Wyo. Resources Corp.	Stephens-Fed-W45731 41-35	35	NE NE	823 FNL & 802 FEL	9995	PR
49-005-25258	Wyo. Resources Corp.	State G 3-12556 1	36	SW SE	1000 FSL & 1980 FEL	9986	PR
49-005-25196	State F 73-12556 1	State f 73-12556 1	36	NE SW	1406 FSL & 1270 FWL	9960	PR
Township 44 North - Range 77 West							
49-019-20669	Whiting Oil & Gsa Corp.	Holler Draw Unit 35 -11	35	NE SW	2100 FSL & 2090 FWL	9977	PR
49-019-20672	Whiting Oil & Gsa Corp.	Jepson Draw unit 2-G35-I	35	SW NE	1920 FNL & 1926 FEL	9958	SI

*** Wyo. Oil and Gas Conservation Commission
Abbreviations found in Table 2A-6

Table 2A-2 Nichols Ranch Unit Coal Bed Methane Wells Permit Area and Adjacent

Api	Company	Well Name	Section	Qtr/Qtr	Footage	Status	Depth
Township 43 Range 76							
49-019-23123	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 34-7-4376	7	SW SE	553 FSL and 1960 FEL	SI	1449
49-019-23124	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 43-7-4376	7	NE SE	2139 FSL and 618 FEL	SI	1364
49-005-53319	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 34-8-4376	8	SW SE	682 FSL and 1993 FEL	AP	1629
49-005-53320	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 43-8-4376	8	NE SE	2154 FSL and 851 FEL	AP	1631
49-005-47350	YATES PETROLEUM CORPORATION	SPATULA CS STATE 5	16	NE SW	1876 FSL and 2017 FWL	SI	1285
49-005-53900	YATES PETROLEUM CORPORATION	SPATULA CS STATE 2	16	NE NW	712 FNL and 1889 FWL	SI	1273
49-005-58233	YATES PETROLEUM CORPORATION	SPATULA CS STATE 3	16	SW NW	1956 FNL and 715 FWL	AP	1570
49-005-58235	YATES PETROLEUM CORPORATION	SPATULA CS STATE 6	16	SW SW	867 FSL and 712 FWL	AP	1465
49-005-53325	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 41-17-4376	17	NE NE	756 FNL and 745 FEL	AP	1459
49-005-53326	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 43-17-4376	17	NE SE	2045 FSL and 667 FEL	AP	1339
49-019-22125	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR RANCH STATE 34-18-4376	18	SW SE	743 FSL and 2040 FEL	SI	1410
49-019-27666	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 21-18-4376	18	NE NW	763 FNL and 2268 FWL	SI	1573
49-019-24954	WILLIAMS PRODUCTION RMT COMPANY	PAYNE 23-18-4376	18	NE SW	2080 FSL and 2097 FWL	AP	1461
49-019-24955	WILLIAMS PRODUCTION RMT COMPANY	PAYNE 32-18-4376	18	SW NE	2084 FNL and 2145 FEL	AP	1507
49-019-24956	WILLIAMS PRODUCTION RMT COMPANY	PAYNE 41-18-4376	18	NE NE	797 FNL and 854 FEL	AP	1525
49-019-25007	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 21-19-4376	19	NE NW	491 FNL and 1918 FWL	AP	1397
49-019-25008	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 32-19-4376	19	SW NE	2022 FNL and 2184 FEL	AP	1379
49-019-25009	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 41-19-4376	19	NE NE	489 FNL and 633 FEL	AP	1367
49-019-24916	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 43-19-4376	19	NE SE	2230 FSL and 802 FEL	EP	1445
49-019-24850	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 23-20-4376	20	NE SW	2072 FSL and 2068 FWL	AP	1455
49-019-25010	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 12-20-4376	20	SW NW	1910 FNL and 493 FWL	AP	1402
49-019-25011	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 21-20-4376	20	NE NW	755 FNL and 1912 FWL	AP	1333
49-005-53733	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 41-20-4376	20	NE NE	707 FNL and 791 FEL	AP	1310
49-005-53734	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 21-21-4376	21	NE NW	708 FNL and 2102 FWL	AP	1302

*** Wyo. Oil and Gas Conservation Commission
Abbreviations found in Table 2A-6

Table 2A-3 NICHOLS RANCH UNIT COAL BED METHANE WELLS 3 MILE RADIUS

API	Company	Well Name	Section	Qtr/Qtr	Footage	Status
Township 42 Range 76						
49-019-26851	BLACK DIAMOND ENERGY INC	IBERLIN FEDERAL 21-5-4276	5	NE NW	603 FNL and 1837 FWL	WP
49-019-26855	BLACK DIAMOND ENERGY INC	IBERLIN FEDERAL 21-6-4276	6	NE NW	494 FNL and 2038 FWL	WP
49-019-26859	BLACK DIAMOND ENERGY INC	IBERLIN FEDERAL 41-6-4276	6	NE NE	657 FNL and 717 FEL	WP
Township 43 Range 76						
49-005-58019	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 2-21	2	NE NW	836 FNL and 1792 FWL	AP
49-005-47629	ANADARKO PETROLEUM CORPORATION	T-C RANCH 2S-15	2	SW SE	576 FSL and 1927 FEL	SI
49-005-47630	ANADARKO PETROLEUM CORPORATION	T-C RANCH 2S-13	2	SW SW	567 FSL and 507 FWL	SI
49-005-47632	ANADARKO PETROLEUM CORPORATION	T-C RANCH 2S-5	2	SW NW	2108 FNL and 694 FWL	SI
49-005-59109	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 2-23	2	NE SW	2046 FSL and 1920 FEL	AP
49-005-58024	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 3-12	3	SW NW	2213 FNL and 478 FWL	SP
49-005-58025	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 3-14	3	SW SW	940 FSL and 622 FWL	SP
49-005-58026	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 3-22	3	SE NW	2428 FNL and 2133 FWL	SP
49-005-58027	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 3-23	3	NE SW	1918 FSL and 2030 FWL	SP
49-005-58028	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 3-32	3	SW NE	1859 FNL and 1939 FEL	SP
49-005-58029	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 3-34	3	SW SE	472 FSL and 2347 FEL	SP
49-005-58030	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 3-41	3	NE NE	841 FNL and 618 FEL	SP
49-005-58031	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 3-43	3	NE SE	1960 FSL and 770 FEL	SP
49-005-58032	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 4-12	4	SW NW	2039 FNL and 516 FWL	SI
49-005-58033	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 4-14	4	SW SW	680 FSL and 666 FWL	SI
49-005-58034	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 4-21	4	NE NW	784 FNL and 2113 FWL	SI
49-005-58035	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 4-23	4	NE SW	2048 FSL and 2061 FWL	SI
49-005-58036	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 4-32	4	SW NE	1933 FNL and 2010 FEL	SI
49-005-58037	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 4-34	4	SW SE	784 FSL and 1989 FEL	SI
49-005-58038	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 4-41	4	NE NE	560 FNL and 527 FEL	SP
49-005-58039	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 4-43	4	NE SE	2260 FSL and 771 FEL	SI
49-019-26474	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR FED 12-5-4376	5	SW NW	1887 FNL and 587 FWL	SI
49-019-23123	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 34-7-4376	7	SW SE	553 FSL and 1960 FEL	SI
49-019-23124	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 43-7-4376	7	NE SE	2139 FSL and 618 FEL	SI
49-005-28157	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 23-8-4376	8	NESW	1657 FSL and 2246 FWL	AP
49-005-53319	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 34-8-4376	8	SW SE	682 FSL and 1993 FEL	AP
49-005-53320	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 43-8-4376	8	NE SE	2154 FSL and 851 FEL	AP
49-005-53321	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 12-10-4376	10	SW NW	2183 FNL and 856 FWL	AP
49-005-53322	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 14-10-4376	10	SW SW	842 FSL and 852 FWL	AP
49-005-53323	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 21-10-4376	10	NE NW	716 FNL and 2141 FWL	AP
49-005-53324	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 23-10-4376	10	NE SW	1957 FSL and 2059 FWL	AP
49-005-58080	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 10-43	10	NE SE	1838 FSL and 839 FEL	SP
49-005-58081	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 10-41	10	NE NE	552 FNL and 790 FEL	SP

*** *Wyo. Oil and Gas Conservation Commission*
Abbreviations found in Table 2A-6

Table 2A-3 NICHOLS RANCH UNIT COAL BED METHANE WELLS 3 MILE RADIUS

API	Company	Well Name	Section	Qtr/Qtr	Footage	Status
Township 43 Range 76						
49-005-58082	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 10-34	10	SW SE	548 FSL and 1762 FEL	SI
49-005-58083	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 10-32	10	SW NE	1888 FNL and 2183 FEL	AP
49-005-58077	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 11-21	11	NE NW	598 FNL and 2134 FWL	AP
49-005-58078	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 11-14	11	SW SW	739 FSL and 603 FWL	SI
49-005-58079	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 11-12	11	SW NW	1741 FNL and 766 FWL	AP
49-005-58072	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 11-43	11	NE SE	1996 FSL and 701 FEL	SP
49-005-58073	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 11-41	11	NE NE	811 FNL and 652 FEL	SP
49-005-58074	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 11-34	11	SW SE	753 FSL and 1561 FEL	SP
49-005-58075	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 11-32	11	SW NE	1726 FNL and 1649 FEL	SI
49-005-58076	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 11-23	11	NE SW	2180 FSL and 1916 FWL	SI
49-005-58045	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4376 14-43	14	NE SE	2210 FSL and 701 FEL	AP
49-005-58062	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 14-41	14	NE NE	749 FNL and 484 FEL	SI
49-005-58065	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 14-32	14	SW NE	1886 FNL and 1822 FEL	SI
49-005-58067	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 14-23	14	NE SW	2089 FSL and 1885 FWL	SI
49-005-58069	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 14-21	14	NE NW	561 FNL and 1833 FWL	SP
49-005-58070	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 14-14	14	SW SW	863 FSL and 657 FWL	SP
49-005-58071	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 14-12	14	SW NW	2114 FNL and 543 FWL	SI
49-005-58040	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 15-34	15	SW SE	479 FSL and 1800 FEL	AP
49-005-58041	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 15-14	15	SW SW	497 FSL and 808 FWL	AP
49-005-58042	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 15-43	15	NESE	1990 FSL and 697 FEL	SP
49-005-40940	YATES PETROLEUM CORPORATION	ROLLING PIN CS STATE 2	16	NW SE	2033 FSL and 2127 FEL	SI
49-005-53900	YATES PETROLEUM CORPORATION	SPATULA CS STATE 2	16	NE NW	712 FNL and 1889 FWL	SI
49-005-47350	YATES PETROLEUM CORPORATION	SPATULA CS STATE 5	16	NE SW	1876 FSL and 2017 FWL	SI
49-005-58232	YATES PETROLEUM CORPORATION	SPATULA CS STATE 1	16	NE NE	723 FNL and 561 FEL	WP
49-005-58233	YATES PETROLEUM CORPORATION	SPATULA CS STATE 3	16	SW NW	1956 FNL and 715 FWL	WP
49-005-58234	YATES PETROLEUM CORPORATION	SPATULA CS STATE 4	16	SW NE	1936 FNL and 1951 FEL	WP
49-005-58235	YATES PETROLEUM CORPORATION	SPATULA CS STATE 6	16	SW SW	867 FSL and 712 FWL	WP
49-005-58387	YATES PETROLEUM CORPORATION	ROLLING PIN CS STATE 1	16	SE SE	565 FSL and 745 FEL	AP
49-005-53325	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 41-17-4376	17	NE NE	756 FNL and 745 FEL	AP
49-005-53326	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 43-17-4376	17	NE SE	2045 FSL and 667 FEL	AP
49-019-22125	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR RANCH STATE 34-18-4376	18	SW SE	743 FSL and 2040 FEL	FL
49-019-24953	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 12-18-4376	18	SW NW	2111 FNL and 755 FWL	SI
49-019-24954	WILLIAMS PRODUCTION RMT COMPANY	PAYNE 23-18-4376	18	NE SW	2080 FSL and 2097 FWL	SI
49-019-24955	WILLIAMS PRODUCTION RMT COMPANY	PAYNE 32-18-4376	18	SW NE	2084 FNL and 2145 FEL	SI
49-019-24956	WILLIAMS PRODUCTION RMT COMPANY	PAYNE 41-18-4376	18	NE NE	797 FNL and 854 FEL	SI
49-019-27666	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 21-18-4376	18	NE NW	763 FNL and 2268 FWL	SI
49-019-24852	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 34-19-4376	19	SW SE	714 FSL and 2022 FEL	SI

*** Wyo. Oil and Gas Conservation Commission
Abbreviations found in Table 2A-6

Table 2A-3 NICHOLS RANCH UNIT COAL BED METHANE WELLS 3 MILE RADIUS

API	Company	Well Name	Section	Qtr/Qtr	Footage	Status
Township 43 Range 76						
49-019-24853	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 14-19-4376	19	SW SW	744 FSL and 689 FWL	EP
49-019-24854	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 12-19-4376	19	SW NW	1911 FNL and 737 FWL	SI
49-019-24916	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 43-19-4376	19	NE SE	2230 FSL and 802 FEL	SI
49-019-25007	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 21-19-4376	19	NE NW	491 FNL and 1918 FWL	AP
49-019-25008	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 32-19-4376	19	SW NE	2022 FNL and 2184 FEL	AP
49-019-25009	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 41-19-4376	19	NE NE	489 FNL and 633 FEL	SI
49-019-25010	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 12-20-4376	20	SW NW	1910 FNL and 493 FWL	SP
49-019-25011	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 21-20-4376	20	NE NW	755 FNL and 1912 FWL	AP
49-019-24850	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 23-20-4376	20	NE SW	2072 FSL and 2068 FWL	SP
49-019-24851	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 14-20-4376	20	SW SW	717 FSL and 514 FWL	AP
49-005-53733	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 41-20-4376	20	NE NE	707 FNL and 791 FEL	AP
49-005-57549	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FED 34-20-4376	20	SW SE	620 FSL and 2116 FEL	AP
49-005-53734	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 21-21-4376	21	NE NW	708 FNL and 2102 FWL	SP
49-005-53735	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 41-21-4376	21	NE NE	830 FNL and 836 FEL	AP
49-005-53736	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 12-22-4376	22	SW NW	1836 FNL and 745 FWL	SP
49-005-53737	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 21-22-4376	22	NE NW	490 FNL and 1798 FWL	SP
49-005-53738	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 23-22-4376	22	NE SW	1935 FSL and 1924 FWL	AP
49-005-53739	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 33-22-4376	22	NWSE	1476 FSL and 2022 FEL	SP
49-005-53740	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 43-22-4376	22	NE SE	2185 FSL and 520 FEL	SP
49-005-58047	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4376 23-14	23	SW SW	981 FSL and 1294 FWL	AP
49-005-58099	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 23-12	23	SW NW	2047 FNL and 1169 FWL	SI
49-005-58100	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 23-23	23	NE SW	2052 FSL and 2195 FWL	EP
49-005-58101	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 23-32	23	SW NE	2031 FNL and 2181 FEL	SI
49-005-58102	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 23-34	23	SW SE	387 FSL and 1831 FEL	SI
49-005-58103	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 23-41	23	NE NE	490 FNL and 472 FEL	SI
49-005-58104	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 23-43	23	NE SE	1678 FSL and 633 FEL	SI
49-005-58105	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 23-21	23	NE NW	1078 FNL and 2276 FWL	SI
49-005-58043	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 26-41	26	NE NE	714 FNL and 712 FEL	SI
49-005-58044	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4376 26-32	26	SW NE	2096 FNL and 1835 FEL	AP
49-005-53213	WILLIAMS PRODUCTION RMT COMPANY	IBERLIN RANCH 23-28-4376	28	NE SW	2062 FSL and 1887 FWL	SI
49-005-53214	WILLIAMS PRODUCTION RMT COMPANY	IBERLIN RANCH 14-28-4376	28	SW SW	563 FSL and 701 FWL	SI
49-005-50644	WILLIAMS PRODUCTION RMT COMPANY	IBERLIN RANCH 34-28-4376	28	SW SE	509 FSL and 1888 FEL	SI
49-005-58433	WILLIAMS PRODUCTION RMT COMPANY	IBERLIN RANCH 43-28-4376	28	NE SE	2132 FSL and 934 FEL	SI
49-019-24846	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 23-29-4376	29	NE SW	1862 FSL and 2049 FWL	PS
49-019-24847	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 21-29-4376	29	NE NW	776 FNL and 2114 FWL	PS
49-019-24848	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 14-29-4376	29	SW SW	546 FSL and 813 FWL	PS
49-019-24849	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 12-29-4376	29	SW NW	1846 FNL and 705 FWL	PS

*** Wyo. Oil and Gas Conservation Commission
Abbreviations found in Table 2A-6

Table 2A-3 NICHOLS RANCH UNIT COAL BED METHANE WELLS 3 MILE RADIUS

API	Company	Well Name	Section	Qtr/Qtr	Footage	Status
Township 43 Range 76						
49-019-24843	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 23-30-4376	30	NE SW	2000 FSL and 1966 FWL	PS
49-019-24844	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 14-30-4376	30	SW SW	519 FSL and 746 FWL	PS
49-019-24845	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 12-30-4376	30	SW NW	2115 FNL and 843 FWL	PS
49-019-26475	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FED 32-30-4376	30	SW NE	1849 FNL and 1908 FEL	PS
49-019-27496	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FED 21-30-4376	30	NE NW	616 FNL and 1834 FWL	PS
49-019-27497	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FED 34-30-4376	30	SW SE	664 FSL and 2024 FEL	PS
49-019-27498	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FED 41-30-4376	30	NE NE	622 FNL and 852 FEL	PS
49-019-27499	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FED 43-30-4376	30	NE SE	2054 FSL and 487 FEL	PS
49-019-27500	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FED 41-31-4376	31	NE NE	812 FNL and 656 FEL	PS
49-019-24917	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 23-31-4376	31	NE SW	2225 FSL and 2224 FWL	PS
49-019-27724	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FED 43-31-4376	31	NE SE	2129 FSL and 976 FEL	PS
49-019-24838	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 34-31-4376	31	SW SE	661 FSL and 2024 FEL	PS
49-019-24839	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 32-31-4376	31	SW NE	2627 FNL and 2146 FEL	PS
49-019-24840	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 21-31-4376	31	NE NW	506 FNL and 1896 FWL	PS
49-019-24841	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 14-31-4376	31	SW SW	786 FSL and 672 FWL	PS
49-019-24842	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 12-31-4376	31	SW NW	1999 FNL and 770 FWL	PS
49-019-24836	WILLIAMS PRODUCTION RMT COMPANY	IBERLIN RANCH 21-32-4376	32	NE NW	842 FNL and 1967 FWL	SI
49-019-24837	WILLIAMS PRODUCTION RMT COMPANY	IBERLIN RANCH 12-32-4376	32	SW NW	1798 FNL and 684 FWL	SI
49-005-53212	WILLIAMS PRODUCTION RMT COMPANY	IBERLIN RANCH 32-32-4376	32	SW NE	1806 FNL and 1975 FEL	SI
49-005-53248	WILLIAMS PRODUCTION RMT COMPANY	IBERLIN RANCH 41-32-4376	32	NE NE	945 FNL and 550 FEL	SI
49-005-50643	WILLIAMS PRODUCTION RMT COMPANY	IBERLIN RANCH 23-33-4376	33	NE SW	2060 FSL and 2151 FWL	SI
49-005-53210	WILLIAMS PRODUCTION RMT COMPANY	IBERLIN RANCH 43-33-4376	33	NE SE	2084 FSL and 571 FEL	AP
49-005-53211	WILLIAMS PRODUCTION RMT COMPANY	IBERLIN RANCH 14-33-4376	33	SW SW	501 FSL and 559 FWL	SP
49-005-58860	WILLIAMS PRODUCTION RMT COMPANY	IBERLIN RANCH 34-33-4376	33	SW SE	1057 FSL and 2081 FEL	SP
49-005-50646	WILLIAMS PRODUCTION RMT COMPANY	IBERLIN RANCH 23-34-4376	34	NE SW	2108 FSL and 1892 FWL	SI
49-005-53232	WILLIAMS PRODUCTION RMT COMPANY	IBERLIN RANCH 43-34-4376	34	NE SE	2073 FSL and 818 FEL	SP
49-005-53233	WILLIAMS PRODUCTION RMT COMPANY	IBERLIN RANCH 34-34-4376	34	SW SE	489 FSL and 1818 FEL	AP
49-005-53234	WILLIAMS PRODUCTION RMT COMPANY	IBERLIN RANCH 14-34-4376	34	SW SW	800 FSL and 578 FWL	SP
Township 43 Range 77						
49-019-24201	WILLIAMS PRODUCTION RMT COMPANY	MURRAY 12-1-4377	1	SW NW	1982 FNL and 643 FWL	PS
49-019-24202	WILLIAMS PRODUCTION RMT COMPANY	MURRAY 14-1-4377	1	SW SW	669 FSL and 653 FWL	PS
49-019-24203	WILLIAMS PRODUCTION RMT COMPANY	MURRAY 21-1-4377	1	NE NW	710 FNL and 2142 FWL	PS
49-019-24204	WILLIAMS PRODUCTION RMT COMPANY	MURRAY 23-1-4377	1	NE SW	2041 FSL and 2065 FWL	PS
49-019-22993	WILLIAMS PRODUCTION RMT COMPANY	JOHNSON 14-2-4377	2	SW SW	532 FSL and 532 FSL	PS
49-019-23339	WILLIAMS PRODUCTION RMT COMPANY	JOHNSON 23-2-4377	2	NE SW	2159 FSL and 1882 FWL	PS
49-019-23340	WILLIAMS PRODUCTION RMT COMPANY	JOHNSON 21-2-4377	2	NE NW	809 FNL and 2069 FWL	PS
49-019-23341	WILLIAMS PRODUCTION RMT COMPANY	JOHNSON 12-2-4377	2	SW NW	1967 FNL and 655 FWL	PS

*** *Wyo. Oil and Gas Conservation Commission*
Abbreviations found in Table 2A-6

Table 2A-3 NICHOLS RANCH UNIT COAL BED METHANE WELLS 3 MILE RADIUS

API	Company	Well Name	Section	Qtr/Qtr	Footage	Status
Township 43 Range 77						
49-019-23343	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 43-2-4377	2	NE SE	2184 FSL and 641 FEL	PS
49-019-23344	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 32-2-4377	2	SW NE	1982 FNL and 1964 FEL	PS
49-019-23348	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 41-2-4377	2	NE NE	798 FNL and 489 FEL	PS
49-019-23359	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 34-2-4377	2	SW SE	667 FSL and 1975 FEL	PS
49-019-23405	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 41-10-4377	10	NE NE	662 FNL and 658 FEL	PS
49-019-23531	WILLIAMS PRODUCTION RMT COMPANY	JOHNSON 21-11-4377	11	NE NW	544 FNL and 1897 FWL	FL
49-019-23089	WILLIAMS PRODUCTION RMT COMPANY	JOHNSON 32-11-4377	11	SW NE	2002 FNL and 2167 FEL	PS
49-019-23337	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 43-11-4377	11	NE SE	2000 FSL and 659 FEL	PS
49-019-23338	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 41-11-4377	11	NE NE	493 FNL and 583 FEL	PS
49-019-27126	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FED 12-11-4377	11	SW NW	2118 FNL and 468 FWL	EP
49-019-23401	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 43-12-4377	12	NE SE	2483 FSL and 771 FEL	PS
49-019-23353	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 41-12-4377	12	NE NE	574 FNL and 607 FEL	PS
49-019-23354	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 34-12-4377	12	SW SE	1142 FSL and 2143 FEL	SI
49-019-23355	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 23-12-4377	12	NE SW	2201 FSL and 1789 FWL	PS
49-019-23356	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 21-12-4377	12	NE NW	736 FNL and 1819 FWL	PS
49-019-23357	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 14-12-4377	12	SW SW	855 FSL and 735 FWL	PS
49-019-23358	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 12-12-4377	12	SW NW	2184 FNL and 410 FWL	PS
49-019-23403	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 32-12-4377	12	SW NE	2164 FNL and 1979 FEL	PS
49-019-23351	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 23-13-4377	13	NE SW	2159 FSL and 2012 FWL	PS
49-019-23352	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 14-13-4377	13	SW SW	663 FSL and 842 FWL	PS
49-019-26644	WILLIAMS PRODUCTION RMT COMPANY	STEPANEK 34-13-4377	13	SW SE	436 FSL and 2535 FEL	PS
49-019-25170	WILLIAMS PRODUCTION RMT COMPANY	STEPANEK 12-13-4377	13	SW NW	2079 FNL and 462 FWL	PS
49-019-25171	WILLIAMS PRODUCTION RMT COMPANY	STEPANEK 32-13-4377	13	SW NE	2190 FNL and 2133 FEL	PS
49-019-25172	WILLIAMS PRODUCTION RMT COMPANY	STEPANEK 41-14-4377	14	NE NE	736 FNL and 779 FEL	PS
49-019-26272	WILLIAMS PRODUCTION RMT COMPANY	BCU 12-14-4377	14	SW NW	2095 FNL and 515 FWL	PS
49-019-26273	WILLIAMS PRODUCTION RMT COMPANY	BCU 14-14-4377	14	SW SW	854 FSL and 855 FWL	PS
49-019-26276	WILLIAMS PRODUCTION RMT COMPANY	BCU 21-14-4377	14	NE NW	714 FNL and 1948 FWL	PS
49-019-26277	WILLIAMS PRODUCTION RMT COMPANY	BCU 23-14-4377	14	NE SW	2031 FSL and 1915 FWL	PS
49-019-26476	WILLIAMS PRODUCTION RMT COMPANY	STEPANEK FED 32-14-4377	14	SW NE	2176 FNL and 1808 FEL	PS
49-019-23349	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 43-14-4377	14	NE SE	1908 FSL and 718 FEL	PS
49-019-23350	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 34-14-4377	14	SW SE	506 FSL and 2168 FEL	PS
49-019-26235	WILLIAMS PRODUCTION RMT COMPANY	BCU 41-15-4377	15	NE NE	668 FNL and 787 FEL	PS
49-019-26236	WILLIAMS PRODUCTION RMT COMPANY	BCU 43-15-4377	15	NE SE	1895 FSL and 714 FEL	PS
49-019-26301	WILLIAMS PRODUCTION RMT COMPANY	BCU 41-22-4377	22	NE NE	810 FNL and 555 FEL	PS
49-019-26302	WILLIAMS PRODUCTION RMT COMPANY	BCU 43-22-4377	22	NE SE	1791 FSL and 523 FEL	PS
49-019-26303	WILLIAMS PRODUCTION RMT COMPANY	BCU 12-23-4377	23	SW NW	1943 FNL and 779 FWL	PS
49-019-26304	WILLIAMS PRODUCTION RMT COMPANY	BCU 14-23-4377	23	SW SW	950 FSL and 413 FWL	PS

*** Wyo. Oil and Gas Conservation Commission
Abbreviations found in Table 2A-6

Table 2A-3 NICHOLS RANCH UNIT COAL BED METHANE WELLS 3 MILE RADIUS

API	Company	Well Name	Section	Qtr/Qtr	Footage	Status
Township 43 Range 77						
49-019-26305	WILLIAMS PRODUCTION RMT COMPANY	BCU 21-23-4377	23	NE NW	776 FNL and 2103 FWL	PS
49-019-26306	WILLIAMS PRODUCTION RMT COMPANY	BCU 23-23-4377	23	NE SW	2083 FSL and 1977 FWL	PS
49-019-23336	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 34-23-4377	23	SW SE	785 FSL and 2058 FEL	PS
49-019-23329	WILLIAMS PRODUCTION RMT COMPANY	FEDERAL 43-23-4377	23	NE SE	2004 FSL and 663 FEL	PS
49-019-23330	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 41-23-4377	23	NE NE	651 FNL and 804 FEL	PS
49-019-23331	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 32-23-4377	23	SW NE	1837 FNL and 2168 FEL	PS
49-019-23333	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 34-24-4377	24	SW SE	816 FSL and 2097 FEL	PS
49-019-23334	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 32-24-4377	24	SW NE	2044 FNL and 2026 FEL	PS
49-019-23335	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 23-24-4377	24	NE SW	2078 FSL and 1842 FWL	PS
49-019-23399	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 43-24-4377	24	NE SE	2178 FSL and 388 FEL	PS
49-019-23407	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 41-24-4377	24	NE NE	609 FNL and 1089 FEL	SI
49-019-23090	WILLIAMS PRODUCTION RMT COMPANY	JOHNSON 14-24-4377	24	SW SW	605 FSL and 528 FWL	PS
49-019-23402	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 41-25-4377	25	NE NE	637 FNL and 602 FEL	PS
49-019-23332	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK 43-25-4377	25	NE SE	2182 FSL and 800 FEL	PS
49-019-23323	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 21-25-4377	25	NE NW	836 FNL and 2175 FWL	PS
49-019-23324	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 34-25-4377	25	SW SE	818 FSL and 1867 FEL	PS
49-019-23325	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 32-25-4377	25	SW NE	1839 FNL and 1896 FEL	PS
49-019-23326	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 23-25-4377	25	NE SW	1941 FSL and 1967 FWL	PS
49-019-23327	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 14-25-4377	25	SW SW	542 FSL and 604 FWL	PS
49-019-23328	WILLIAMS PRODUCTION RMT COMPANY	DRY FORK FEDERAL 12-25-4377	25	SW NW	2070 FNL and 739 FWL	PS
49-019-26829	BLACK DIAMOND ENERGY INC	FEDERAL (JOHNSON) 14-26-4377	26	SW SW	696 FSL and 1036 FWL	WP
49-019-26841	BLACK DIAMOND ENERGY INC	JOHNSON FEDERAL 43-26-4377	26	NE SE	1956 FSL and 490 FEL	AP
49-019-26842	BLACK DIAMOND ENERGY INC	JOHNSON FEDERAL 41-26-4377	26	NE NE	668 FNL and 664 FEL	AP
49-019-26843	BLACK DIAMOND ENERGY INC	JOHNSON FEDERAL 34-26-4377	26	SW SE	626 FSL and 2079 FEL	AP
49-019-26844	BLACK DIAMOND ENERGY INC	JOHNSON FEDERAL 32-26-4377	26	SW NE	1819 FNL and 2040 FEL	AP
49-019-26845	BLACK DIAMOND ENERGY INC	JOHNSON FEDERAL 23-26-4377	26	NE SW	1994 FSL and 1987 FWL	AP
49-019-24913	WILLIAMS PRODUCTION RMT COMPANY	BCU DRY FORK 21-26-4377	26	NE NW	663 FNL and 1990 FWL	PS
49-019-24197	WILLIAMS PRODUCTION RMT COMPANY	BCU DRY FORK 41-27-4377	27	NE NE	665 FNL and 1146 FEL	PS
49-019-26831	BLACK DIAMOND ENERGY INC	JOHNSON FEDERAL 43-35-4377	35	NE SE	2001 FSL and 668 FEL	WP
49-019-26832	BLACK DIAMOND ENERGY INC	JOHNSON FEDERAL 41-35-4377	35	NE NE	616 FNL and 663 FEL	AP
49-019-26834	BLACK DIAMOND ENERGY INC	JOHNSON FEDERAL 32-35-4377	35	SW NE	1996 FNL and 1997 FEL	AP
49-019-26835	BLACK DIAMOND ENERGY INC	JOHNSON FEDERAL 21-35-4377	35	NE NW	661 FNL and 1991 FWL	AP
49-019-24509	BLACK DIAMOND ENERGY INC	JOHNSON STATE 12-36-4377	36	SW NW	2180 FNL and 534 FWL	SI
49-019-24511	BLACK DIAMOND ENERGY INC	JOHNSON STATE 23-36-4377	36	NE SW	1878 FSL and 1829 FWL	SI
49-019-24512	BLACK DIAMOND ENERGY INC	JOHNSON STATE 34-36-4377	36	SW SE	687 FSL and 2039 FEL	SI
49-019-24513	BLACK DIAMOND ENERGY INC	JOHNSON STATE 41-36-4377	36	NE NE	807 FNL and 722 FEL	SI
49-019-24514	BLACK DIAMOND ENERGY INC	JOHNSON STATE 43-36-4377	36	NE SE	2434 FSL and 778 FEL	SI

*** Wyo. Oil and Gas Conservation Commission
Abbreviations found in Table 2A-6

Table 2A-3 NICHOLS RANCH UNIT COAL BED METHANE WELLS 3 MILE RADIUS

API	Company	Well Name	Section	Qtr/Qtr	Footage	Status
Township 44 Range 76						
49-019-22681	BLACK DIAMOND ENERGY INC	JOHNSON 32-4377	36	SW NE	1931 FNL and 2065 FEL	SI
49-019-22682	BLACK DIAMOND ENERGY INC	JOHNSON 21-4377	36	NE NW	647 FNL and 1979 FWL	SI
49-019-27962	BLACK DIAMOND ENERGY INC	CHRISTENSEN - FED 34-30-4476	30	SW SE	624 FSL and 1803 FEL	AP
49-005-57494	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4476 35-14	35	SW SW	772 FSL and 743 FWL	SI
Township 44 Range 77						
49-019-21908	WINDSOR ENERGY GROUP LLC	JOHNSON 43-35-44-77	35	NE SE	1958 FSL and 651 FEL	SI
49-019-21904	WINDSOR ENERGY GROUP LLC	JOHNSON-BG 34-35-44-77	35	SW SE	654 FSL and 1955 FEL	SI
49-019-22027	YATES PETROLEUM CORPORATION	BEECHER DRAW CS ST 8	36	SW SE	556 FSL and 2079 FEL	AP
49-019-22028	YATES PETROLEUM CORPORATION	BEECHER DRAW CS ST. 7	36	SW SW	753 FSL and 549 FWL	SI
49-019-22029	YATES PETROLEUM CORPORATION	BEECHER DRAW CS ST 6	36	NE SW	1813 FSL and 1950 FWL	AP
49-019-22030	YATES PETROLEUM CORPORATION	BEECHER DRAW CS ST 5	36	NE SE	1853 FSL and 790 FEL	AP
49-019-22031	YATES PETROLEUM CORPORATION	BEECHER DRAW CS ST 4	36	SW NE	2128 FNL and 1951 FEL	AP
49-019-22032	YATES PETROLEUM CORPORATION	BEECHER DRAW CS 3	36	SW NW	2000 FNL and 765 FWL	SI
49-019-22033	YATES PETROLEUM CORPORATION	BEECHER DRAW CS ST 2	36	NE NW	534 FNL and 1852 FWL	AP
49-019-22034	YATES PETROLEUM CORPORATION	BEECHER DRAW CS ST 1	36	NE NE	657 FNL and 676 FEL	AP

*** Wyo. Oil and Gas Conservation Commission
Abbreviations found in Table 2A-6

Table 2A-4 Hank Unit Coal Bed Methane Wells Permit Area and Adjacent

Api	Company	Well Name	Section	Qtr/Qtr	Footage	Status	Depth
Township 43 Range 75							
49-005-53173	ANADARKO PETROLEUM CORPORATION	SOUTH BUTTE 23-8-4375BG	8	NE SW	1830 FSL and 2074 FWL	AP	1476
49-005-53725	ANADARKO PETROLEUM CORPORATION	SOUTH BUTTE FEDERAL 21-18-4375BG	18	NE NW	614 FNL and 2262 FWL	AP	1674
49-005-53726	ANADARKO PETROLEUM CORPORATION	SOUTH BUTTE FEDERAL 12-18-4375BG	18	SW NW	2080 FNL and 556 FWL	AP	1644
49-005-58385	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4375 18-32	18	SW NE	2000 FNL and 2026 FEL	AP	1588
49-005-58386	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4375 18-41	18	NE NE	480 FNL and 484 FEL	AP	1627
Township 44 Range 75							
49-005-49064	ANADARKO PETROLEUM CORPORATION	T CHAIR LAND 29S-5	29	SW NW	2003 FNL and 673 FWL	SI	1663
49-005-58090	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 29-23	29	NE SW	1923 FSL and 2184 FWL	AP	1692
49-005-57476	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 29-14	29	SW SW	861 FSL and 632 FWL	AP	1693
49-005-57477	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 30-14	30	SW SW	601 FSL and 636 FWL	SP	1655
49-005-57483	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 30-34	30	SW SE	623 FSL and 1877 FEL	AP	1692
49-005-57480	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 30-21	30	NE NW	725 FNL and 2098 FWL	SP	1545
49-005-57481	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 30-23	30	NE SW	1820 FSL and 2264 FWL	AP	1615
49-005-57482	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 30-32	30	SW NE	2062 FNL and 2172 FEL	SP	1665
49-005-49063	ANADARKO PETROLEUM CORPORATION	T CHAIR LAND 30S-9	30	NE SE	2005 FSL and 688 FEL	SI	1620
49-005-45418	ANADARKO PETROLEUM CORPORATION	T CHAIR LAND 30S-5	30	SW NW	2165 FNL and 533 FWL	SI	1455
49-005-49061	ANADARKO PETROLEUM CORPORATION	T CHAIR LAND 30S-1	30	NE NE	718 FNL and 802 FEL	SI	1607
49-005-57484	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 31-12	31	SW NW	2154 FNL and 705 FWL	SP	1760
49-005-57485	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 31-14	31	SW SW	518 FSL and 922 FWL	SP	1668
49-005-57486	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 31-41	31	NE NE	648 FNL and 854 FEL	AP	1755
49-005-58094	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 31-21	31	NE NW	798 FNL and 1980 FWL	AP	1741
49-005-58095	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 31-23	31	NE SW	1977 FSL and 2137 FWL	AP	1746
49-005-58096	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 31-32	31	SW NE	1979 FNL and 2097 FEL	AP	1844
49-005-58097	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 31-34	31	SW SE	716 FSL and 2216 FEL	AP	1792
49-005-58098	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 31-43	31	NE SE	2532 FSL and 938 FEL	AP	1818
Township 44 Range 76							
49-005-45417	ANADARKO PETROLEUM CORPORATION	T CHAIR RANCH 25S-7	25	SW NE	1826 FNL and 1860 FEL	SI	1550
49-005-45419	ANADARKO PETROLEUM CORPORATION	T CHAIR RANCH 25S-1	25	NE NE	741 FNL and 593 FEL	SI	1481
49-005-40865	ANADARKO PETROLEUM CORPORATION	T CHAIR RANCH 25S-10	25	NW SE	2044 FSL and 2032 FEL	SI	1588
49-005-40867	ANADARKO PETROLEUM CORPORATION	T CHAIR RANCH 25S-16	25	SE SE	662 FSL and 655 FEL	SI	1487
49-005-56638	ANADARKO PETROLEUM CORPORATION	DRY WILLOW 34-36	36	SW SE	709 FSL and 1888 FEL	SI	2483
49-005-35182	ANADARKO PETROLEUM CORPORATION	STATE (T CHAIR) 36S-16	36	SE SE	680 FSL and 724 FEL	SI	1601
49-005-35183	ANADARKO PETROLEUM CORPORATION	STATE (T-CHAIR) 36S-10	36	NW SE	1996 FSL and 1982 FEL	SI	1340
49-005-35187	ANADARKO PETROLEUM CORPORATION	STATE (T CHAIR) 36S-8	36	SE NE	1996 FNL and 655 FEL	SI	1632
49-005-35188	ANADARKO PETROLEUM CORPORATION	STATE (T CHAIR) 36S-2	36	NW NE	665 FNL and 1964 FEL	SI	1530

*** Wyo. Oil and Gas Conservation Commission
Abbreviations found in Table 2A-6

Table 2A-5 HANK UNIT COAL BED METHANE WELLS 3 MILE RADIUS

API	Company	Well Name	Section	Qtr/Qtr	Footage	Status
Township 43 Range 75						
49-005-55704	WILLIAMS PRODUCTION RMT COMPANY	VAN BUGGENUM FED 12-2-4375	2	SW NW	1834 FNL and 723 FWL	AP
49-005-51101	WILLIAMS PRODUCTION RMT COMPANY	RUBY 14-2-4375	2	SW SW	562 FSL and 782 FWL	PS
49-005-51102	WILLIAMS PRODUCTION RMT COMPANY	RUBY 43-3-4375	3	NE SE	1804 FSL and 606 FEL	PS
49-005-51103	WILLIAMS PRODUCTION RMT COMPANY	PUMPKIN BUTTES RANCH 41-3-4375	3	NE NE	545 FNL and 588 FEL	PS
49-005-51104	WILLIAMS PRODUCTION RMT COMPANY	PUMPKIN BUTTES RANCH 34-3-4375	3	SW SE	721 FSL and 2133 FEL	PS
49-005-51105	WILLIAMS PRODUCTION RMT COMPANY	PUMPKIN BUTTES RANCH 32-3-4375	3	SW NE	1909 FNL and 1950 FEL	PS
49-005-51106	WILLIAMS PRODUCTION RMT COMPANY	PUMPKIN BUTTES RANCH 23-3-4375	3	NE SW	2156 FSL and 1966 FWL	PS
49-005-49219	WILLIAMS PRODUCTION RMT COMPANY	PUMPKIN BUTTES RANCH 21-3-4375	3	NE NW	859 FNL and 1903 FWL	PS
49-005-49220	WILLIAMS PRODUCTION RMT COMPANY	PUMPKIN BUTTES RANCH 14-3-4375	3	SW SW	588 FSL and 551 FWL	PS
49-005-49218	LANCE OIL & GAS COMPANY INC	PUMPKIN BUTTES RANCH 32-4-4375	4	SW NE	1872 FNL and 2166 FEL	PS
49-005-53219	LANCE OIL & GAS COMPANY INC	PUMPKIN BUTTES RANCH 21-4-4375	4	NE NW	83 FNL and 2466 FWL	PS
49-005-53218	LANCE OIL & GAS COMPANY INC	PUMPKIN BUTTES RANCH 41-4-4375	4	NE NE	639 FNL and 864 FEL	PS
49-005-53173	ANADARKO PETROLEUM CORPORATION	SOUTH BUTTE 23-8-4375BG	8	NE SW	1830 FSL and 2074 FWL	AP
49-005-53216	WILLIAMS PRODUCTION RMT COMPANY	PUMPKIN BUTTES RANCH 23-10-4375	10	NE SW	1989 FSL and 1988 FWL	AP
49-005-53217	WILLIAMS PRODUCTION RMT COMPANY	PUMPKIN BUTTES RANCH 21-10-4375	10	NE NW	839 FNL and 1826 FWL	PS
49-005-52118	BILL BARRETT CORPORATION	STATE 41-16-4375BG	16	NE NE	487 FNL and 642 FEL	SI
49-005-52119	BILL BARRETT CORPORATION	STATE 23-16-4375BG	16	NE SW	1983 FSL and 2050 FWL	SI
49-005-52120	BILL BARRETT CORPORATION	STATE 21-16-4375BG	16	NE NW	671 FNL and 2126 FWL	SI
49-005-52121	BILL BARRETT CORPORATION	STATE 14-16-4375BG	16	SW SW	644 FSL and 675 FWL	SI
49-005-52122	BILL BARRETT CORPORATION	STATE 34-16-4375BG	16	SW SE	582 FSL and 1981 FEL	SI
49-005-52291	BILL BARRETT CORPORATION	STATE 43-16-4375BG	16	NE SE	1796 FSL and 1265 FEL	SI
49-005-52123	BILL BARRETT CORPORATION	STATE 32-16-4375BG	16	SW NE	1957 FNL and 2098 FEL	SI
49-005-52124	BILL BARRETT CORPORATION	STATE 12-16-4375BG	16	SW NW	1999 FNL and 596 FWL	SI
49-005-53725	ANADARKO PETROLEUM CORPORATION	SOUTH BUTTE FEDERAL 21-18-4375BG	18	NE NW	614 FNL and 2262 FWL	AP
49-005-53726	ANADARKO PETROLEUM CORPORATION	SOUTH BUTTE FEDERAL 12-18-4375BG	18	SW NW	2080 FNL and 556 FWL	AP
49-005-58385	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4375 18-32	18	SW NE	2000 FNL and 2026 FEL	AP
49-005-58386	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4375 18-41	18	NE NE	480 FNL and 484 FEL	AP
49-005-53723	ANADARKO PETROLEUM CORPORATION	SOUTH BUTTE FEDERAL 14-19-4375BG	19	SW SW	814 FSL and 867 FWL	AP
49-005-53724	ANADARKO PETROLEUM CORPORATION	SOUTH BUTTE FEDERAL 12-19-4375BG	19	SW NW	1837 FNL and 550 FWL	AP
49-005-49647	ANADARKO PETROLEUM CORPORATION	RUBY 41-20-4375	20	NE NE	666 FNL and 643 FEL	SI
49-005-53183	ANADARKO PETROLEUM CORPORATION	SOUTH BUTTE FEDERAL 34-20-4375BG	20	SW SE	864 FSL and 2178 FEL	EP
49-005-53184	ANADARKO PETROLEUM CORPORATION	SOUTH BUTTE FEDERAL 43-20-4375BG	20	NE SE	2014 FSL and 477 FEL	EP
49-005-53185	ANADARKO PETROLEUM CORPORATION	SOUTH BUTTE FEDERAL 23-20-4375BG	20	NE SW	2287 FSL and 2053 FWL	EP
49-005-53186	ANADARKO PETROLEUM CORPORATION	SOUTH BUTTE FEDERAL 21-20-4375BG	20	NE NW	826 FNL and 2122 FWL	EP
49-005-49644	WILLIAMS PRODUCTION RMT COMPANY	RUBY 23-21-4375	21	NE SW	2090 FSL and 2097 FWL	PS
49-005-49645	WILLIAMS PRODUCTION RMT COMPANY	RUBY 21-21-4375	21	NE NW	536 FNL and 2100 FWL	PS

*** *Wyo. Oil Gas Conservation Commission*
Abbreviations found in Table 2A-6

Table 2A-5 HANK UNIT COAL BED METHANE WELLS 3 MILE RADIUS

API	Company	Well Name	Section	Qtr/Qtr	Footage	Status
Township 43 Range 75						
49-005-49646	WILLIAMS PRODUCTION RMT COMPANY	RUBY 12-21-4375	21	SW NW	2335 FNL and 834 FWL	PS
49-005-57502	BILL BARRETT CORPORATION	SOUTH BUTTE FEDERAL 32-21-4375BG	21	SW NE	2213 FNL and 2104 FEL	AP
49-005-57503	BILL BARRETT CORPORATION	SOUTH BUTTE FEDERAL 14-21-4375BG	21	SW SW	863 FSL and 824 FWL	AP
49-005-57504	BILL BARRETT CORPORATION	SOUTH BUTTE FEDERAL 34-21-4375BG	21	SW SE	825 FSL and 2152 FEL	AP
49-005-57505	BILL BARRETT CORPORATION	SOUTH BUTTE FEDERAL 43-21-4375BG	21	NE SE	1995 FSL and 752 FEL	AP
49-005-57506	BILL BARRETT CORPORATION	SOUTH BUTTE FEDERAL 12-22-4375BG	22	SW NW	2188 FNL and 844 FWL	AP
49-005-57507	BILL BARRETT CORPORATION	SOUTH BUTTE FEDERAL 14-22-4375BG	22	SW SW	745 FSL and 504 FWL	AP
49-005-57508	BILL BARRETT CORPORATION	SOUTH BUTTE FEDERAL 23-22-4375BG	22	NE SW	1900 FSL and 1952 FWL	AP
49-005-53698	BILL BARRETT CORPORATION	SOUTH BUTTE FEDERAL 21-28-4375BG	28	NE NW	640 FSL and 1918 FWL	AP
49-005-53700	BILL BARRETT CORPORATION	SOUTH BUTTE FEDERAL 12-28-4375BG	28	SW NW	2103 FNL and 825 FWL	AP
49-005-53178	BILL BARRETT CORPORATION	SOUTH BUTTE FEDERAL 41-28-4375BG	28	NE NE	705 FNL and 482 FEL	AP
49-005-53181	BILL BARRETT CORPORATION	SOUTH BUTTE FEDERAL 23-28-4375BG	28	NE SW	1997 FSL and 2003 FWL	AP
49-005-53182	BILL BARRETT CORPORATION	SOUTH BUTTE FEDERAL 32-28-4375BG	28	SW NE	2042 FNL and 2128 FEL	AP
49-005-53714	BILL BARRETT CORPORATION	SOUTH BUTTE FEDERAL 43-30-4375BG	30	NE SE	2205 FSL and 475 FEL	AP
49-005-53717	BILL BARRETT CORPORATION	SOUTH BUTTE FEDERAL 41-30-4375BG	30	NE NE	867 FNL and 848 FEL	AP
49-005-53718	BILL BARRETT CORPORATION	SOUTH BUTTE FEDERAL 34-30-4375BG	30	SW SE	607 FSL and 1918 FEL	AP
49-005-53719	BILL BARRETT CORPORATION	SOUTH BUTTE FEDERAL 32-30-4375BG	30	SW NE	2075 FNL and 1820 FEL	AP
49-005-53722	BILL BARRETT CORPORATION	SOUTH BUTTE FEDERAL 21-30-4375BG	30	NE NW	479 FNL and 2292 FWL	AP
Township 43 Range 76						
49-005-47629	ANADARKO PETROLEUM CORPORATION	T-C RANCH 2S-15	2	SW SE	576 FSL and 1927 FEL	SI
49-005-47630	ANADARKO PETROLEUM CORPORATION	T-C RANCH 2S-13	2	SW SW	567 FSL and 507 FWL	SI
49-005-47631	ANADARKO PETROLEUM CORPORATION	T-C RANCH 2S-9	2	NE SE	2049 FSL and 729 FEL	SI
49-005-47632	ANADARKO PETROLEUM CORPORATION	T-C RANCH 2S-5	2	SW NW	2108 FNL and 694 FWL	SI
49-005-58022	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 2-32	2	SW NE	2062 FNL and 1573 FEL	AP
49-005-58023	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 2-41	2	NE NE	501 FNL and 492 FEL	AP
49-005-58019	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 2-21	2	NE NW	836 FNL and 1792 FWL	AP
49-005-59109	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 2-23	2	NE SW	2046 FSL and 1920 FWL	AP
49-005-58024	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 3-12	3	SW NW	2213 FNL and 478 FWL	SP
49-005-58025	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 3-14	3	SW SW	940 FSL and 622 FWL	SP
49-005-58026	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 3-22	3	SE NW	2428 FNL and 2133 FWL	SP
49-005-58027	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 3-23	3	NE SW	1918 FSL and 2030 FWL	SP
49-005-58028	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 3-32	3	SW NE	1859 FNL and 1939 FEL	SP
49-005-58029	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 3-34	3	SW SE	472 FSL and 2347 FEL	AP
49-005-58030	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 3-41	3	NE NE	841 FNL and 618 FEL	SP
49-005-58031	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 3-43	3	NE SE	1960 FSL and 770 FEL	SP
49-005-53321	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 12-10-4376	10	SW NW	2183 FNL and 856 FWL	AP

*** Wyo. Oil Gas Conservation Commission
Abbreviations found in Table 2A-6

Table 2A-5 HANK UNIT COAL BED METHANE WELLS 3 MILE RADIUS

API	Company	Well Name	Section	Qtr/Qtr	Footage	Status
Township 43 Range 76						
49-005-53322	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 14-10-4376	10	SW SW	868 FSL and 672 FWL	AP
49-005-53323	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 21-10-4376	10	NE NW	716 FNL and 2141 FWL	AP
49-005-53324	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 23-10-4376	10	NE SW	1957 FSL and 2059 FWL	AP
49-005-58080	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 10-43	10	NE SE	1838 FSL and 839 FEL	SP
49-005-58081	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 10-41	10	NE NE	552 FNL and 790 FEL	SP
49-005-58082	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 10-34	10	SW SE	548 FSL and 1762 FEL	SI
49-005-58083	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 10-32	10	SW NE	1888 FNL and 2183 FEL	AP
49-005-58072	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 11-43	11	NE SE	1996 FSL and 701 FEL	SP
49-005-58073	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 11-41	11	NE NE	811 FNL and 652 FEL	SP
49-005-58074	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 11-34	11	SW SE	753 FSL and 1561 FEL	SP
49-005-58075	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 11-32	11	SW NE	1726 FNL and 1649 FEL	SI
49-005-58076	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 11-23	11	NE SW	2180 FSL and 1916 FWL	SI
49-005-58077	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 11-21	11	NE NW	598 FNL and 2134 FWL	AP
49-005-58078	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 11-14	11	SW SW	739 FSL and 603 FWL	SI
49-005-58079	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 11-12	11	SW NW	1741 FNL and 766 FWL	AP
49-005-58045	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4376 14-43	14	NE SE	2210 FSL and 701 FEL	AP
49-005-58069	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 14-21	14	NE NW	561 FNL and 1833 FWL	SP
49-005-58070	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 14-14	14	SW SW	863 FSL and 657 FWL	SP
49-005-58071	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 14-12	14	SW NW	2114 FNL and 543 FWL	SI
49-005-58065	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 14-32	14	SW NE	1886 FNL and 1822 FEL	SI
49-005-58067	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 14-23	14	NE SW	2089 FSL and 1885 FWL	SI
49-005-58062	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 14-41	14	NE NE	749 FNL and 484 FEL	SI
49-005-58040	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 15-34	15	SW SE	479 FSL and 1800 FEL	AP
49-005-58041	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 15-14	15	SW SW	497 FSL and 808 FWL	AP
49-005-58042	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 15-43	15	NESE	1990 FSL and 697 FEL	SP
49-005-53737	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 21-22-4376	22	NE NW	490 FNL and 1798 FWL	AP
49-005-53739	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 34-22-4676	22	NW SE	1476 FSL and 2022 FEL	AP
49-005-53740	WILLIAMS PRODUCTION RMT COMPANY	T-CHAIR 43-22-4376	22	NE SE	2371 FSL and 434 FEL	AP
49-005-58099	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 23-12	23	SW NW	2047 FNL and 1169 FWL	SI
49-005-58100	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 23-23	23	NE SW	2052 FSL and 2195 FWL	AP
49-005-58101	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 23-32	23	SW NE	2031 FNL and 2181 FEL	SI
49-005-58102	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 23-34	23	SW SE	387 FSL and 1831 FEL	SP
49-005-58103	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 23-41	23	NE NE	490 FNL and 472 FEL	SI
49-005-58104	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 23-43	23	NE SE	1678 FSL and 633 FEL	SI
49-005-58105	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 23-21	23	NE NW	1078 FNL and 2276 FWL	SI
49-005-58047	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4376 23-14	23	SW SW	981 FSL and 1294 FWL	AP

*** Wyo. Oil Gas Conservation Commission
Abbreviations found in Table 2A-6

Table 2A-5 HANK UNIT COAL BED METHANE WELLS 3 MILE RADIUS

API	Company	Well Name	Section	Qtr/Qtr	Footage	Status
Township 43 Range 76						
49-005-58043	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4376 26-41	26	NE NE	714 FNL and 712 FEL	SI
49-005-58044	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4376 26-32	26	SW NE	2096 FNL and 1835 FEL	AP
Township 44 Range 75						
49-005-56918	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 34-7-4475BG	7	SW SE	740 FSL and 1849 FEL	AP
49-005-54701	LANCE OIL & GAS COMPANY INC	T CHAIR 14-7-4475BG	7	SW SW	773 FSL and 584 FWL	PS
49-005-56919	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 14-8-4475BG	8	SW SW	450 FSL and 912 FWL	AP
49-005-52424	XTO ENERGY INC	HARTZOG FEDERAL 34-8-4475BG	8	SW SE	658 FSL and 1995 FEL	FL
49-005-52426	XTO ENERGY INC	HARTZOG FEDERAL 43-8-4475BG	8	NE SE	1926 FSL and 871 FEL	FL
49-005-52434	XTO ENERGY INC	HARTZOG 23-8-4475BG	8	NE SW	2103 FSL and 1876 FWL	FL
49-005-52428	CH4 ENERGY LLC	HARTZOG FEDERAL 14-9-4475BG	9	SW SW	720 FSL and 627 FWL	FL
49-005-52346	XTO ENERGY INC	HARTZOG FEDERAL 34-9-4475BG	9	SW SE	823 FSL and 2032 FEL	FL
49-005-57168	XTO ENERGY INC	HARTZOG FEDERAL 14-9-4475BGR	9	SW SW	731 FSL and 622 FWL	FL
49-005-52341	XTO ENERGY INC	HARTZOG FEDERAL 34-15-4475BG	15	SW SE	551 FSL and 2312 FEL	FL
49-005-52421	XTO ENERGY INC	HARTZOG FEDERAL 12-15-4475BG	15	SW NW	2060 FNL and 852 FWL	FL
49-005-52422	XTO ENERGY INC	HARTZOG FEDERAL 14-15-4475BG	15	SW SW	695 FSL and 570 FWL	FL
49-005-52431	XTO ENERGY INC	HARTZOG FEDERAL 23-15-4475BG	15	NE SW	2014 FSL and 2236 FWL	FL
49-005-57397	LANCE OIL & GAS COMPANY INC	STATE 23-16-4475	16	NE SW	2007 FSL and 2344 FWL	SI
49-005-53157	LANCE OIL & GAS COMPANY INC	STATE 14-16-4475	16	SW SW	486 FSL and 786 FWL	SI
49-005-52361	XTO ENERGY INC	HARTZOG STATE 43-16-4475BG	16	NE SE	1959 FSL and 762 FEL	FL
49-005-52362	XTO ENERGY INC	HARTZOG STATE 41-16-4475BG	16	NE NE	763 FNL and 788 FEL	FL
49-005-52363	XTO ENERGY INC	HARTZOG STATE 34-16-4475BG	16	SW SE	720 FSL and 2178 FEL	FL
49-005-52364	XTO ENERGY INC	HARTZOG STATE 32-16-4475BG	16	SW NE	2099 FNL and 2206 FEL	FL
49-005-52365	XTO ENERGY INC	HARTZOG STATE 21-16-4475BG	16	NE NW	561 FNL and 1972 FWL	FL
49-005-52366	XTO ENERGY INC	HARTZOG STATE 12-16-4475BG	16	SW NW	2195 FNL and 881 FWL	FL
49-005-53781	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 21-17-4475BG	17	NE NW	1198 FNL and 2200 FWL	AP
49-005-53790	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 41-17-4475BG	17	NE NE	666 FNL and 662 FEL	EP
49-005-53787	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 32-17-4475BG	17	SW NE	1821 FNL and 1818 FEL	EP
49-005-56043	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 34-17-4475BG	17	SW SE	667 FSL and 1986 FEL	AP
49-005-56044	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 23-17-4475BG	17	NE SW	1870 FSL and 2161 FWL	AP
49-005-56045	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 14-17-4475BG	17	SW SW	722 FSL and 444 FWL	EP
49-005-56046	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 12-17-4475BG	17	SW NW	1835 FNL and 839 FWL	AP
49-005-53814	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 43-17-4475	17	NE SE	1945 FSL and 623 FEL	AP
49-005-53777	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 12-18-4475BG	18	SW NW	2085 FNL and 878 FWL	EP
49-005-53788	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 32-18-4475BG	18	SW NE	1835 FNL and 2040 FEL	EP
49-005-53789	LANCE OIL & GAS COMPANY INC	T CHAIR FED 34-18-4475BG	18	SW SE	540 FSL and 2215 FEL	EP
49-005-53791	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 41-18-4475BG	18	NE NE	780 FNL and 547 FEL	EP

*** Wyo. Oil Gas Conservation Commission
Abbreviations found in Table 2A-6

Table 2A-5 HANK UNIT COAL BED METHANE WELLS 3 MILE RADIUS

API	Company	Well Name	Section	Qtr/Qtr	Footage	Status
Township 44 Range 75						
49-005-53785	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 23-18-4475BG	18	NE SW	2114 FSL and 2293 FWL	EP
49-005-53782	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 21-18-4475BG	18	NE NW	629 FNL and 2019 FWL	EP
49-005-53779	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 14-18-4475BG	18	SW SW	649 FSL and 721 FWL	EP
49-005-50246	LANCE OIL & GAS COMPANY INC	T-CHAIR RANCH 43-18-4475	18	NE SE	1946 FSL and 675 FEL	PS
49-005-57468	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 19-21	19	NE NW	603 FNL and 2284 FWL	AP
49-005-57469	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 19-32	19	SWNE	2168 FNL and 1879 FEL	AP
49-005-57470	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 19-41	19	NE NE	477 FNL and 715 FEL	AP
49-005-57471	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 19-43	19	NE SE	2005 FSL and 684 FEL	SI
49-005-58063	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 19-12	19	SW NW	1874 FNL and 894 FWL	AP
49-005-58046	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 19-14	19	SW SW	497 FSL and 672 FWL	AP
49-005-58087	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 20-32	20	SW NE	1988 FNL and 2172 FEL	AP
49-005-58088	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 20-41	20	NE NE	630 FNL and 700 FEL	AP
49-005-58089	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 20-43	20	NE SE	2152 FSL and 704 FEL	AP
49-005-57472	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 20-23	20	NE SW	1895 FSL and 2059 FWL	AP
49-005-57473	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 20-12	20	SW NW	2186 FNL and 783 FWL	SI
49-005-57474	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 20-14	20	SW SW	859 FSL and 717 FWL	AP
49-005-57475	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 20-34	20	SW SE	497 FSL and 1992 FEL	AP
49-005-52430	BILL BARRETT CORPORATION	HARTZOG FED 41-21-4475BG	21	NE NE	627 FNL and 714 FEL	FL
49-005-53812	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 41-22-4475BG	22	NE NE	669 FNL and 543 FEL	PS
49-005-53808	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 12-22-4475BG	22	SW NW	1878 FNL and 728 FWL	PS
49-005-53809	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 21-22-4475BG	22	NE NW	873 FNL and 2048 FWL	PS
49-005-53810	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 32-22-4475BG	22	SW NE	1556 FNL and 2464 FEL	FL
49-005-52339	BILL BARRETT CORPORATION	HARTZOG FEDERAL 43-22-4475BG	22	NE SE	1861 FSL and 620 FEL	FL
49-005-52418	BILL BARRETT CORPORATION	HARTZOG FEDERAL 23-22-4475BG	22	NE SW	1971 FSL and 1895 FWL	FL
49-005-52472	BILL BARRETT CORPORATION	HARTZOG FEDERAL 34-22-4475BG	22	SW SE	706 FSL and 2025 FEL	FL
49-005-55528	LANCE OIL & GAS COMPANY INC	JORDAN 14-22-4475	22	SW SW	603 FSL and 600 FWL	PS
49-005-52338	BILL BARRETT CORPORATION	HARTZOG FED 14-23-4475BG	23	SW SW	537 FSL and 798 FWL	FL
49-005-52359	BILL BARRETT CORPORATION	HARTZOG 12-26-4475BG	26	SW NW	2166 FNL and 863 FWL	FL
49-005-54791	LANCE OIL & GAS COMPANY INC	VANBUGGENUM FED 14-26-4475BG	26	SW SW	860 FSL and 807 FWL	AP
49-005-49215	LANCE OIL & GAS COMPANY INC	PUMPKIN BUTTES RANCH 23-27-4475	27	NE SW	1954 FSL and 2138 FWL	PS
49-005-52771	LANCE OIL & GAS COMPANY INC	PUMPKIN BUTTES 12-27-4475	27	SW NW	2237 FNL and 674 FWL	PS
49-005-52772	LANCE OIL & GAS COMPANY INC	PUMPKIN BUTTES 14-27-4475	27	SW SW	580 FSL and 670 FWL	PS
49-005-52773	LANCE OIL & GAS COMPANY INC	JORDAN 21-27-4475	27	NE NW	714 FNL and 1867 FWL	PG
49-005-52774	LANCE OIL & GAS COMPANY INC	PUMPKIN BUTTES 32-27-4475	27	SW NE	1853 FNL and 1963 FEL	PS
49-005-52775	LANCE OIL & GAS COMPANY INC	PUMPKIN BUTTES 34-27-4475	27	SW SE	824 FSL and 1988 FEL	PS
49-005-52776	LANCE OIL & GAS COMPANY INC	PUMPKIN BUTTES 43-27-4475	27	NE SE	2030 FSL and 493 FEL	PS

*** Wyo. Oil Gas Conservation Commission
Abbreviations found in Table 2A-6

Table 2A-5 HANK UNIT COAL BED METHANE WELLS 3 MILE RADIUS

API	Company	Well Name	Section	Qtr/Qtr	Footage	Status
Township 44 Range 75						
49-005-53807	LANCE OIL & GAS COMPANY INC	PUMPKIN BUTTES FED 41-27-4475BG	27	NE NE	692 FNL and 838 FEL	PS
49-005-49064	ANADARKO PETROLEUM CORPORATION	T CHAIR LAND 29S-5	29	SW NW	2003 FNL and 673 FWL	SI
49-005-49065	ANADARKO PETROLEUM CORPORATION	T CHAIR LAND 29S-1	29	NE NE	477 FNL and 495 FEL	SI
49-005-49062	ANADARKO PETROLEUM CORPORATION	T CHAIR LAND 29S-3	29	NE NW	665 FNL and 2032 FWL	SI
49-005-58090	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 29-23	29	NE SW	1923 FSL and 2184 FWL	AP
49-005-58091	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 29-32	29	SW NE	1813 FNL and 1813 FEL	AP
49-005-58092	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 29-34	29	SW SE	637 FSL and 1846 FEL	AP
49-005-58093	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 29-43	29	NE SE	2408 FSL and 244 FEL	AP
49-005-57476	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 29-14	29	SW SW	861 FSL and 632 FWL	AP
49-005-57477	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 30-14	30	SW SW	601 FSL and 636 FWL	SI
49-005-57483	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 30-34	30	SW SE	623 FSL and 1877 FEL	SI
49-005-57480	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 30-21	30	NE NW	725 FNL and 2098 FWL	SI
49-005-57481	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 30-23	30	NE SW	1820 FSL and 2264 FWL	SI
49-005-57482	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 30-32	30	SW NE	2062 FNL and 2172 FEL	PG
49-005-49063	ANADARKO PETROLEUM CORPORATION	T CHAIR LAND 30S-9	30	NE SE	2005 FSL and 688 FEL	SI
49-005-45418	ANADARKO PETROLEUM CORPORATION	T CHAIR LAND 30S-5	30	SW NW	2165 FNL and 533 FWL	SI
49-005-49061	ANADARKO PETROLEUM CORPORATION	T CHAIR LAND 30S-1	30	NE NE	718 FNL and 802 FEL	SI
49-005-57484	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 31-12	31	SW NW	2154 FNL and 705 FWL	SR
49-005-57485	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 31-14	31	SW SW	518 FSL and 922 FWL	SI
49-005-57486	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4475 31-41	31	NE NE	648 FNL and 854 FEL	SI
49-005-58094	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 31-21	31	NE NW	798 FNL and 1980 FWL	AP
49-005-58095	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 31-23	31	NE SW	1977 FSL and 2137 FWL	AP
49-005-58096	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 31-32	31	SW NE	1979 FNL and 2097 FEL	AP
49-005-58097	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 31-34	31	SW SE	716 FSL and 2216 FEL	AP
49-005-58098	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4475 31-43	31	NE SE	2532 FSL and 938 FEL	AP
49-005-49217	LANCE OIL & GAS COMPANY INC	PUMPKIN BUTTES RANCH 34-33-4475	33	SW SE	621 FSL and 1955 FEL	FL
49-005-52756	LANCE OIL & GAS COMPANY INC	PUMPKIN BUTTES FED 23-33-4475BG	33	NE SW	1968 FSL and 2001 FWL	AP
49-005-52757	LANCE OIL & GAS COMPANY INC	PUMPKIN BUTTES FED 43-33-4475BG	33	NE SE	2019 FSL and 683 FEL	AP
49-005-53158	LANCE OIL & GAS COMPANY INC	CAMBLIN 14-33-4475	33	SW SW	704 FSL and 690 FWL	PS
49-005-53159	LANCE OIL & GAS COMPANY INC	LUKES 34-34-4475	34	SW SE	684 FSL and 1981 FEL	PS
49-005-52921	LANCE OIL & GAS COMPANY INC	LUKES TRUST 23-34-4475	34	NE SW	2053 FSL and 1982 FWL	PS
49-005-52758	LANCE OIL & GAS COMPANY INC	PUMPKIN BUTTES FED 12-34-4475BG	34	SW NW	2206 FNL and 660 FWL	AP
49-005-51096	LANCE OIL & GAS COMPANY INC	PUMPKIN BUTTES RANCH 14-34-4475	34	SW SW	672 FSL and 661 FWL	PS
49-005-49216	LANCE OIL & GAS COMPANY INC	PUMPKIN BUTTES RANCH 21-34-4475	34	NE NW	600 FNL and 2062 FWL	PS
49-005-55093	LANCE OIL & GAS COMPANY INC	LUKES TRUST 32-34-4475	34	SW NE	2046 FNL and 1989 FEL	PS
49-005-55142	LANCE OIL & GAS COMPANY INC	PUMPKIN BUTTES RANCH 41-34-4475BG	34	NE NE	533 FNL and 853 FEL	PS

*** Wyo. Oil Gas Conservation Commission
Abbreviations found in Table 2A-6

Table 2A-5 HANK UNIT COAL BED METHANE WELLS 3 MILE RADIUS

API	Company	Well Name	Section	Qtr/Qtr	Footage	Status
Township 44 Range 75						
49-005-54560	LANCE OIL & GAS COMPANY INC	LUKES 43-34-4475BG	34	NE SE	2171 FSL and 484 FEL	PS
49-005-56619	LANCE OIL & GAS COMPANY INC	SAVAGETON FED 12-35-4475BG	35	SW NW	2059 FNL and 699 FWL	AP
49-005-51777	LANCE OIL & GAS COMPANY INC	VAN BUGGENUM FED 14-35-4475BG	35	SW SW	553 FSL and 650 FWL	AP
Township 44 Range 76						
49-005-45416	ANADARKO PETROLEUM CORPORATION	T CHAIR RANCH 24S-15	24	SW SE	585 FSL and 2033 FEL	SI
49-005-57487	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4476 24-43	24	NE SE	2121 FSL and 488 FEL	AP
49-005-58048	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4476 24-12	24	SW NW	1901 FNL and 622 FWL	AP
49-005-58049	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4476 24-14	24	SW SW	563 FSL and 838 FWL	AP
49-005-58050	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4476 24-21	24	NE NW	465 FNL and 2156 FWL	AP
49-005-58051	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4476 24-23	24	NE SW	1767 FSL and 1736 FWL	AP
49-005-58052	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4476 24-32	24	SW NE	2152 FNL and 1917 FEL	AP
49-005-58053	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4476 24-41	24	NE NE	802 FNL and 889 FEL	AP
49-005-45417	ANADARKO PETROLEUM CORPORATION	T CHAIR RANCH 25S-7	25	SW NE	1826 FNL and 1860 FEL	SI
49-005-45419	ANADARKO PETROLEUM CORPORATION	T CHAIR RANCH 25S-1	25	NE NE	741 FNL and 593 FEL	SI
49-005-40865	ANADARKO PETROLEUM CORPORATION	T CHAIR RANCH 25S-10	25	NW SE	2044 FSL and 2032 FEL	SI
49-005-40867	ANADARKO PETROLEUM CORPORATION	T CHAIR RANCH 25S-16	25	SE SE	662 FSL and 655 FEL	SI
49-005-57488	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4476 25-23	25	NE SW	2062 FSL and 2091 FEL	AP
49-005-58056	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4476 25-21	25	NE NW	672 FNL and 1955 FWL	AP
49-005-58060	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4476 26-41	26	NE NE	746 FNL and 777 FEL	AP
49-005-57489	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4476 26-23	26	NE SW	2057 FSL and 1784 FWL	SI
49-005-57490	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4476 26-12	26	SW NW	2044 FNL and 461 FWL	AP
49-005-57491	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4476 26-21	26	NE NW	655 FNL and 1771 FWL	SI
49-005-57492	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4476 26-43	26	NE SE	2106 FSL and 670 FEL	SP
49-005-58057	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4476 26-14	26	SW SW	840 FSL and 826 FWL	AP
49-005-58061	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4476 35-41	35	NE NE	560 FNL and 971 FEL	SI
49-005-58064	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4476 35-21	35	NE NW	574 FNL and 1809 FWL	AP
49-005-58066	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4476 35-23	35	NE SW	2054 FSL and 2097 FWL	AP
49-005-58068	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4476 35-32	35	SW NE	2042 FNL and 1864 FEL	AP
49-005-58084	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4476 35-34	35	SW SE	939 FSL and 1694 FEL	AP
49-005-58085	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FED 4476 35-43	35	NE SE	2045 FSL and 661 FEL	AP
49-005-57493	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4476 35-12	35	SW NW	1864 FNL and 615 FWL	SI
49-005-57494	ANADARKO PETROLEUM CORPORATION	DRY WILLOW FEE 4476 35-14	35	SW SW	772 FSL and 743 FWL	SI
49-005-56638	ANADARKO PETROLEUM CORPORATION	DRY WILLOW 34-36	36	SW SE	709 FSL and 1888 FEL	SI
49-005-35182	ANADARKO PETROLEUM CORPORATION	STATE (T CHAIR) 36S-16	36	SE SE	680 FSL and 724 FEL	SI
49-005-35183	ANADARKO PETROLEUM CORPORATION	STATE (T-CHAIR) 36S-10	36	NW SE	1996 FSL and 1982 FEL	SI
49-005-35184	ANADARKO PETROLEUM CORPORATION	STATE (T-CHAIR) 36S-14	36	SE SW	730 FSL and 2010 FWL	SI

*** Wyo. Oil Gas Conservation Commission
Abbreviations found in Table 2A-6

Table 2A-5 HANK UNIT COAL BED METHANE WELLS 3 MILE RADIUS

API	Company	Well Name	Section	Qtr/Qtr	Footage	Status
Township 44 Range 76						
49-005-35185	ANADARKO PETROLEUM CORPORATION	STATE (T-CHAIR) 36S-6	36	SE NW	2048 FNL and 2004 FWL	SI
49-005-35186	ANADARKO PETROLEUM CORPORATION	STATE (T-CHAIR) 36S-4	36	NW NW	718 FNL and 679 FWL	SI
49-005-35187	ANADARKO PETROLEUM CORPORATION	STATE (T CHAIR) 36S-8	36	SE NE	1996 FNL and 655 FEL	SI
49-005-35188	ANADARKO PETROLEUM CORPORATION	STATE (T CHAIR) 36S-2	36	NW NE	665 FNL and 1964 FEL	SI
49-005-35189	ANADARKO PETROLEUM CORPORATION	STATE (T-CHAIR) 36S-12	36	NW SW	2073 FSL and 791 FWL	SI

*** Wyo. Oil Gas Conservation Commission
Abbreviations found in Table 2A-6

Table 2A-6 Status Abbreviations Used In Tables 2A-1 Through 2A-5

Status Codes for Well Files

PO = Producing Oil Well
PG = Producing Gas Well
DH = Dry Hole
SI = Shut - In
TA = Temporarily Abandoned
PA = Permanently Abandoned
AI = Active Injector
DR = Dormant
NI = Notice of Intent to Abandon
SR = Subsequent Report of Abandonment
EP = Expired Permit
AP = Permit to Drill
SP = Well Spudded
WP = Waiting on Approval
UNK = Unknown
NR = No Report

Classification Codes:

0 = Oil Well
G = Gas Well
C = Condensate
I = Injector Well
S = Source Well
AP = Active Permit
D = Disposal
M = Monitor Well
MW = Monitor Well (Not for Form 2 Reporting)
ST = Strat Test

Form 2 Reporting Classification Codes:

0 = Oil Well
G = Gas Well
C = Condensate
I = Injector Well
S = Source Well
D = Disposal
M = Monitor Well

Status Codes for APD Files:

AP = Active Permit
EP = Expired Permit
DP = Drilling or Drilled Permit
NO = Denied or Cancelled
WP Waiting on Approval

Status Codes for Form 2's:

FL = Flowing
GL = Gas Lift
PR = Pumping Rods
PS = Pumping Submersible
PH = Pumping Hydraulic
PL = Plunger Lift
TA = Temporarily Abandoned
PA = Permanently Abandoned
AI = Active Injector
DR = Dormant
SI = Shut-In

ADDENDUM 2B:

CLASS III CULTURAL RESOURCE INVENTORY OF THE URANERZ ENERGY CORPORATION, HANK IN SITU URANIUM PROJECT

(Refer to Confidential Binder)

November 2007

ADDENDUM 2C:

PALEONTOLOGICAL SURVEY
HANK AND NICHOLS RANCH UNIT,
PUMPKIN BUTTES, WYOMING
(Refer to Confidential Binder)

November 2007

ADDENDUM 2D:

BASIC SEIMOLOGICAL CHARACTERIZATION OF CAMPBELL COUNTY, WYOMING AND BASIC SEIMOLOGICAL CHARACTERIZATION OF JOHNSON COUNTY, WYOMING

November 2007

Basic Seismological Characterization for Campbell County, Wyoming

by

James C. Case, Rachel N. Toner, and Robert Kirkwood
Wyoming State Geological Survey
September 2002

BACKGROUND

Seismological characterizations of an area can range from an analysis of historic seismicity to a long-term probabilistic seismic hazard assessment. A complete characterization usually includes a summary of historic seismicity, an analysis of the Seismic Zone Map of the Uniform Building Code, deterministic analyses on active faults, "floating earthquake" analyses, and short- or long-term probabilistic seismic hazard analyses.

Presented below, for Campbell County, Wyoming, are an analysis of historic seismicity, an analysis of the Uniform Building Code, deterministic analyses of nearby active faults, an analysis of the maximum credible "floating earthquake", and current short- and long-term probabilistic seismic hazard analyses.

Historic Seismicity in Campbell County

The enclosed map of "Earthquake Epicenters and Suspected Active Faults with Surficial Expression in Wyoming" (Case and others, 1997) shows the historic distribution of earthquakes in Wyoming. Five magnitude 2.5 and greater earthquakes have been recorded in Campbell County. These earthquakes are discussed below.

The first earthquake recorded in the county occurred on May 11, 1967. This magnitude 4.8 earthquake was centered in southwestern Campbell County approximately 7 miles west-northwest of Pine Tree Junction. The second event took place on February 18,1972, when a magnitude 4.3 earthquake occurred approximately 18 miles east of Gillette. No damage was reported for either event.

Two earthquakes were recorded in Campbell County during the 1980s. On May 29, 1984, a magnitude 5.0, intensity V earthquake occurred approximately 24 miles west-southwest of Gillette. The earthquake was felt in Gillette, Sheridan, Buffalo, Casper, Douglas, Thermopolis,

and Sundance. A rancher, living 35 miles west of Gillette, reported that he could see the ground shaking, and he heard a loud noise similar to a sonic boom. Pictures were shaken from the walls of the ranch house, but no other damage occurred at the ranch (Casper Star-Tribune, May 30, 1984). Surprisingly, all other reports only indicated that dishes rattled. On October 29, 1984, a magnitude 2.5 earthquake occurred approximately 25 miles west-northwest of Gillette. No damage was reported.

Most recently, on February 24, 1993, a magnitude 3.6 earthquake occurred in southeastern Campbell County approximately 10 miles east-southeast of Reno Junction. No damage was reported.

Regional Historic Seismicity

Earthquakes have also occurred near the Campbell County-Johnson County border. On September 2, 1976, a magnitude 4.8, intensity IV-V earthquake occurred approximately 33 miles northeast of Kaycee and 38 miles west-southwest of Gillette. Although the event was felt in Kaycee, no damage was reported. A magnitude 5.1, intensity V earthquake was reported on September 7, 1984, approximately 27 miles west of Gillette. The earthquake was felt throughout northeastern Wyoming, including Buffalo, Casper, Kaycee, Linch, and Midwest, and parts of southeastern Montana. No significant damage was reported (Laramie Daily Boomerang, September 8, 1984).

Uniform Building Code

The Uniform Building Code (UBC) is a document prepared by the International Conference of Building Officials. Its stated intent is to "provide minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location and maintenance of all buildings and structures within this jurisdiction and certain equipment specifically regulated herein."

The UBC contains information and guidance on designing buildings and structures to withstand seismic events. With safety in mind, the UBC provides Seismic Zone Maps to help identify which design factors are critical to specific areas of the country. In addition, depending upon the type of building, there is also an "importance factor". The "importance factor" can, in effect, raise the standards that are applied to a building.

The current UBC Seismic Zone Map (Figure 1) (1997) has five seismic zones, ranging from Zone 0 to Zone 4, as can be seen on the enclosed map. The seismic zones are in part defined by the probability of having a certain level of ground shaking (horizontal acceleration) in 50 years. The criteria used for defining boundaries on the Seismic Zone Map were established by the Seismology Committee of the Structural Engineers Association of California (Building Standards, September-October, 1986). The criteria they developed are as follows:

Zone	Effective Peak Acceleration, % gravity (g)
4	30% and greater
3	20% to less than 30%
2	10% to less than 20%
1	5% to less than 10%
0	less than 5%

The committee assumed that there was a 90% probability that the above values would not be exceeded in 50 years, or a 100% probability that the values would be exceeded in 475 to 500 years.

Campbell County is in Seismic Zones 0 and 1 of the UBC. The seismic history of the area, however, does not support a Zone 0 classification. Since effective peak accelerations (90% chance of non-exceedance in 50 years) can range from 0%-10%g in these two zones, and there has been some significant historic seismicity in the county, it may be reasonable to assume that an average peak acceleration of 10.0%g could be applied to the design of a non-critical facility located in the county if only the UBC were used. Such an acceleration is significantly less than would be suggested through newer building codes.

Recently, the UBC has been replaced by the International Building Code (IBC). The IBC is based upon probabilistic analyses, which are described in a following section. Campbell County still uses the UBC, however, as do most Wyoming counties as of October 2002.

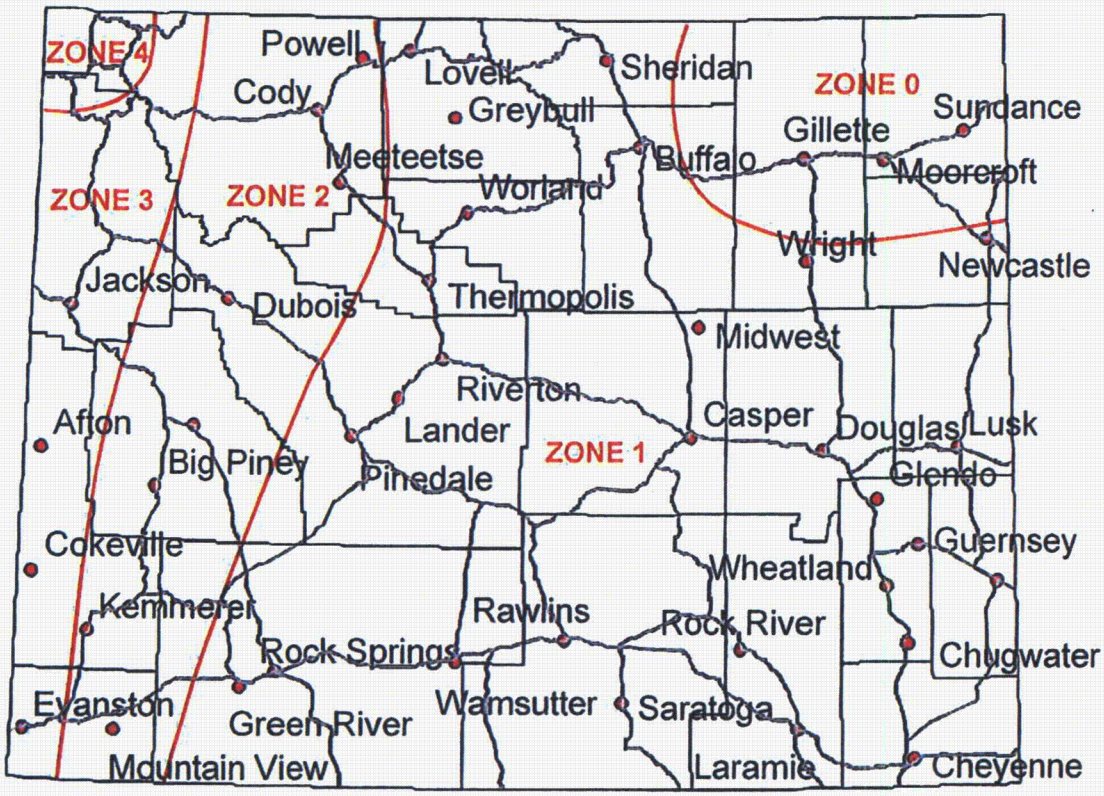

Figure 1. UBC Seismic Zone Map.

Deterministic Analysis Of Regional Active Faults With A Surficial Expression

There are no known exposed active faults with a surficial expression in Campbell County. As a result, no fault-specific analysis can be generated for Campbell County.

Floating or Random Earthquake Sources

Many federal regulations require an analysis of the earthquake potential in areas where active faults are not exposed, and where earthquakes are tied to buried faults with no surface expression. Regions with a uniform potential for the occurrence of such earthquakes are called tectonic provinces. Within a tectonic province, earthquakes associated with buried faults are assumed to occur randomly, and as a result can theoretically occur anywhere within that area of uniform earthquake potential. In reality, that random distribution may not be the case, as all earthquakes are associated with specific faults. If all buried faults have not been identified, however, the distribution has to be considered random. "Floating earthquakes" are earthquakes that are considered to occur randomly in a tectonic province.

It is difficult to accurately define tectonic provinces when there is a limited historic earthquake record. When there are no nearby seismic stations that can detect small-magnitude earthquakes, which occur more frequently than larger events, the problem is compounded. Under these conditions, it is common to delineate larger, rather than smaller, tectonic provinces.

The U.S. Geological Survey identified tectonic provinces in a report titled "Probabilistic Estimates of Maximum Acceleration and Velocity in Rock in the Contiguous United States" (Algermissen and others, 1982). In that report, Campbell County was classified as being in a tectonic province with a "floating earthquake" maximum magnitude of 6.1. Geomatrix (1988b) suggested using a more extensive regional tectonic province, called the "Wyoming Foreland Structural Province", which is approximately defined by the Idaho-Wyoming Thrust Belt on the west, 104° West longitude on the east, 40° North latitude on the south, and 45° North latitude on the north. Geomatrix (1988b) estimated that the largest "floating" earthquake in the "Wyoming Foreland Structural Province" would have a magnitude in the 6.0 – 6.5 range, with an average value of magnitude 6.25.

Federal or state regulations usually specify if a "floating earthquake" or tectonic province analysis is required for a facility. Usually, those regulations also specify at what distance a floating earthquake is to be placed from a facility. For example, for uranium mill tailings sites, the Nuclear Regulatory Commission requires that a floating earthquake be placed 15 kilometers from the site. That earthquake is then used to determine what horizontal accelerations may occur at the site. A magnitude 6.25 "floating" earthquake, placed 15 kilometers from any structure in Campbell County, would generate horizontal accelerations of approximately 15%g at the site. Critical facilities, such as dams, usually require a more detailed probabilistic analysis of random earthquakes. Based upon probabilistic analyses of random earthquakes in an area distant from exposed active faults (Geomatrix, 1988b), however, placing a magnitude 6.25 earthquake at 15 kilometers from a site will provide a fairly reasonable estimate of design ground accelerations in

the northeastern and eastern parts of Campbell County, but will be inadequate in the southwestern part of the county.

Probabilistic Seismic Hazard Analyses

The U.S. Geological Survey (USGS) publishes probabilistic acceleration maps for 500-, 1000-, and 2,500-year time frames. The maps show what accelerations may be met or exceeded in those time frames by expressing the probability that the accelerations will be met or exceeded in a shorter time frame. For example, a 10% probability that acceleration may be met or exceeded in 50 years is roughly equivalent to a 100% probability of exceedance in 500 years.

The USGS has recently generated new probabilistic acceleration maps for Wyoming (Case, 2000). Copies of the 500-year (10% probability of exceedance in 50 years), 1000-year (5% probability of exceedance in 50 years), and 2,500-year (2% probability of exceedance in 50 years) maps are attached. Until recently, the 500-year map was often used for planning purposes for average structures, and was the basis of the most current Uniform Building Code. The new International Building Code, however, uses a 2,500-year map as the basis for building design. The maps reflect current perceptions on seismicity in Wyoming. In many areas of Wyoming, ground accelerations shown on the USGS maps can be increased due to local soil conditions. For example, if fairly soft, saturated sediments are present at the surface, and seismic waves are passed through them, surface ground accelerations will usually be greater than would be experienced if only bedrock was present. In this case, the ground accelerations shown on the USGS maps would underestimate the local hazard, as they are based upon accelerations that would be expected if firm soil or rock were present at the surface. Intensity values can be found in Table 1.

Based upon the 500-year map (10% probability of exceedance in 50 years) (Figure 2), the estimated peak horizontal acceleration in Campbell County ranges from approximately 3%g in the northeastern corner of the county to greater than 6%g in the southwestern corner of the county. These accelerations are roughly comparable to intensity IV earthquakes (1.4%g – 3.9%g) to intensity V earthquakes (3.9%g – 9.2%g). These accelerations are comparable to the accelerations to be expected in Seismic Zones 0 and 1 of the Uniform Building Code. Intensity IV earthquakes cause little damage. Intensity V earthquakes can result in cracked plaster and broken dishes. Gillette would be subjected to an acceleration of approximately 5%g or intensity V.

Based upon the 1000-year map (5% probability of exceedance in 50 years) (Figure 3), the estimated peak horizontal acceleration in Campbell County ranges from 4%g in the northeastern corner of the county to greater than 10%g in the southwestern quarter of the county. These accelerations are roughly comparable to intensity V earthquakes (3.9%g – 9.2%g) to intensity VI earthquakes (9.2%g – 18%g). Intensity V earthquakes can result in cracked plaster and broken dishes. Intensity VI earthquakes can result in fallen plaster and damaged chimneys. Depending upon local ground conditions, Gillette would be subjected to an acceleration of approximately 9%g or greater and intensity V or VI.

Based upon the 2500-year map (2% probability of exceedance in 50 years) (Figure 4), the estimated peak horizontal acceleration in Campbell County ranges from 8%g in the northeastern corner of the county to greater than 20%g in the southwestern corner of the county. These accelerations are roughly comparable to intensity V earthquakes (3.9%g – 9.2%g), intensity VI earthquakes (9.2%g – 18%g), and intensity VII earthquakes (18%g – 34%g). Intensity V earthquakes can result in cracked plaster and broken dishes. Intensity VI earthquakes can result in fallen plaster and damaged chimneys. Intensity VII earthquakes can result in slight to moderate damage in well-built ordinary structures, and considerable damage in poorly built or badly designed structures, such as unreinforced masonry. Chimneys may be broken. Gillette would be subjected to an acceleration of approximately 18%g or intensity VI to VII.

As the historic record is limited, it is nearly impossible to determine when a 2,500-year event last occurred in the county. Because of the uncertainty involved, and based upon the fact that the new International Building Code utilizes 2,500-year events for building design, it is suggested that the 2,500-year probabilistic maps be used for Campbell County analyses. This conservative approach is in the interest of public safety.

Table 1:

Modified Mercalli Intensity	Acceleration (%g) (PGA)	Perceived Shaking	Potential Damage
I	<0.17	Not felt	None
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III	0.17 – 1.4	Weak	None
IV	1.4 – 3.9	Light	None
V	3.9 – 9.2	Moderate	Very Light
VI	9.2 – 18	Strong	Light
VII	18 – 34	Very Strong	Moderate
VIII	34 – 65	Severe	Moderate to Heavy
IX	65 – 124	Violent	Heavy
X	>124	Extreme	Very Heavy
XI	>124	Extreme	Very Heavy
XII	>124	Extreme	Very Heavy

Modified Mercalli Intensity and peak ground acceleration (PGA) (Wald, et al 1999).

Abridged Modified Mercalli Intensity Scale

Intensity value and description:

I Not felt except by a very few under especially favorable circumstances.

II Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing.

III Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing automobiles may rock slightly. Vibration like passing of truck. Duration estimated.

IV During the day felt indoors by many, outdoors by few. At night some awakened. Dishes, windows, doors disturbed; walls make creaking sound. Sensation like heavy truck striking building. Standing automobiles rocked noticeably.

V Felt by nearly everyone, many awakened. Some dishes, windows, and so on broken; cracked plaster in a few places; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.

VI Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster and damaged chimneys. Damage slight.

VII Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving cars.

VIII Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving cars disturbed.

IX Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.

X Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from river banks and steep slopes. Shifted sand and mud. Water splashed, slopped over banks.

XI Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.

XII Damage total. Waves seen on ground surface. Lines of sight and level distorted. Objects thrown into the air.

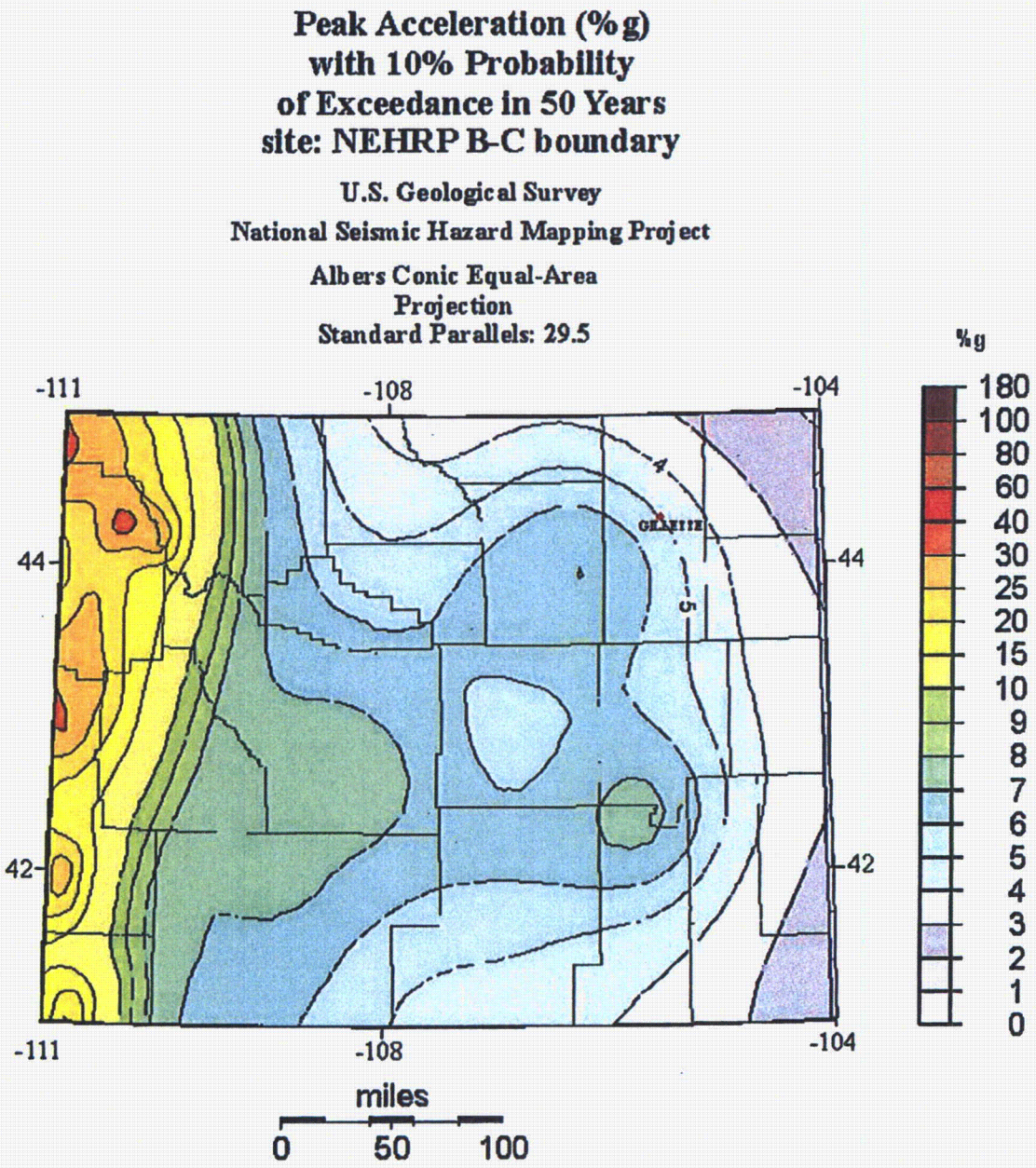

Figure 2. 500-year probabilistic acceleration map (10% probability of exceedance in 50 years).

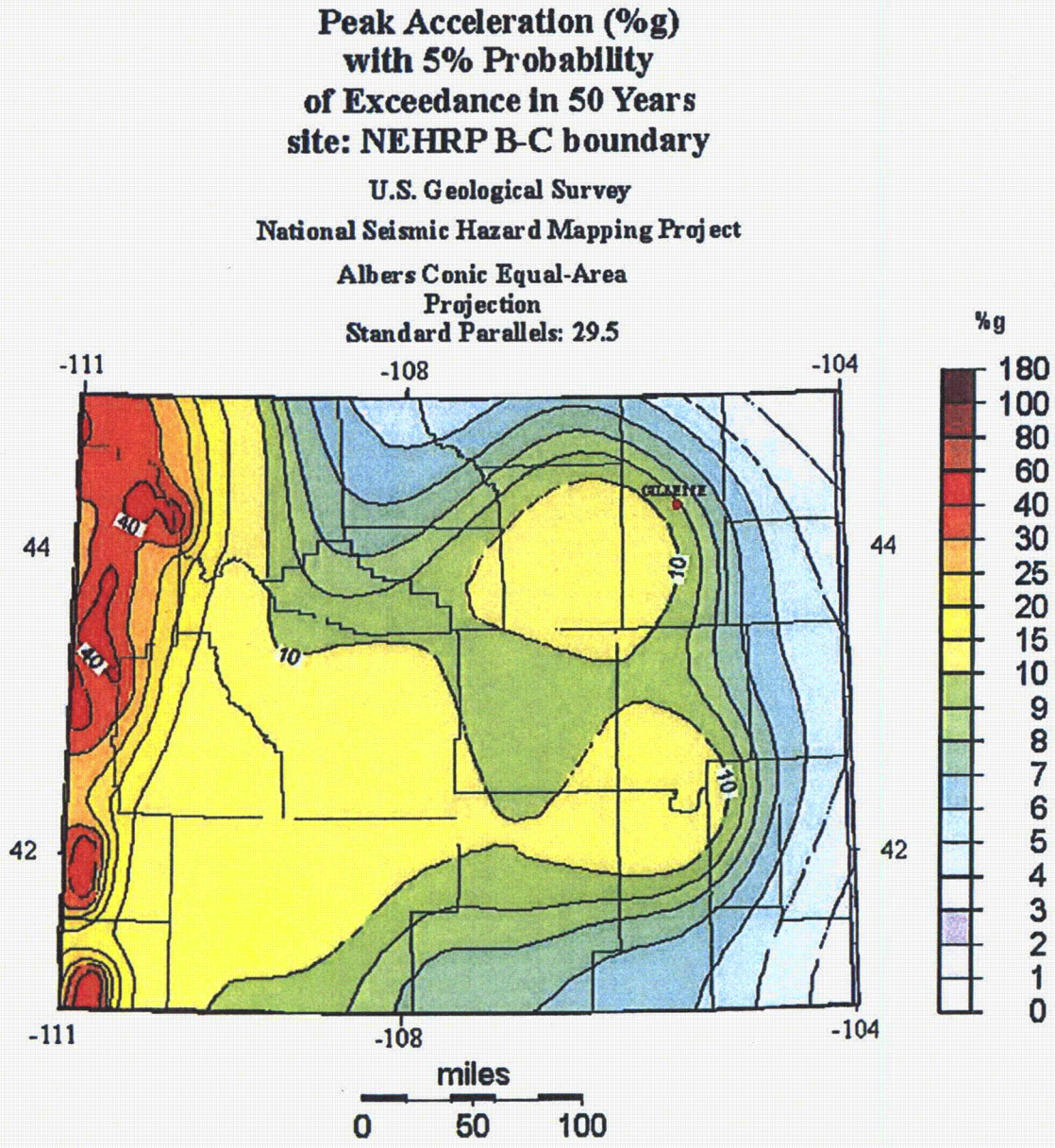

Figure 3. 1000-year probabilistic acceleration map (5% probability of exceedance in 50 years).

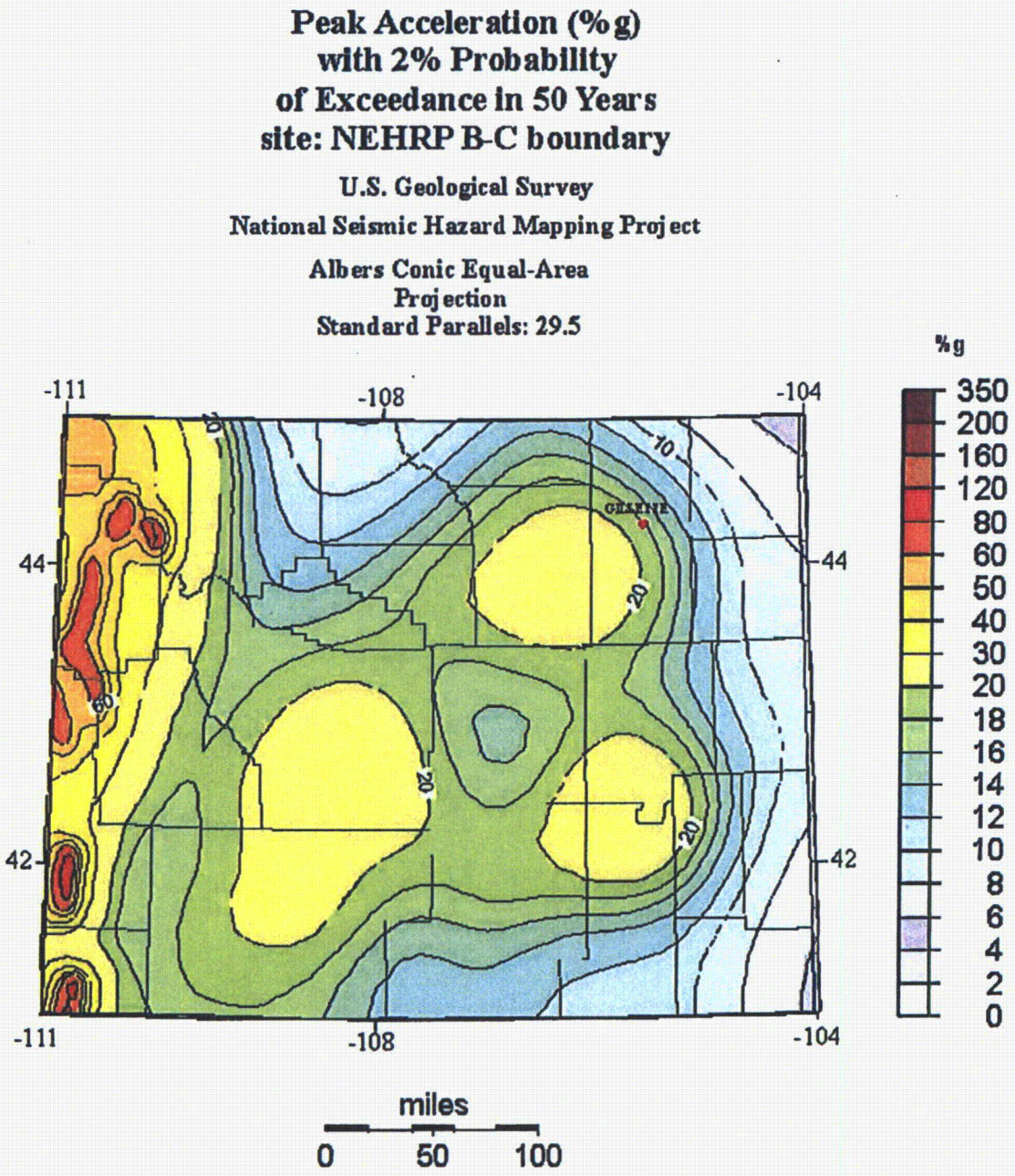

Figure 4. 2500-year probabilistic acceleration map (2% probability of exceedance in 50 years).

Summary

There have been seven historic earthquakes with a magnitude greater than 2.5 recorded in or near Campbell County. Because of the limited historic record, it is possible to underestimate the seismic hazard in Campbell County if historic earthquakes are used as the sole basis for analysis. Earthquake and ground motion probability maps give a more reasonable estimate of damage potential in areas without exposed active faults at the surface, such as Campbell County.

Current earthquake probability maps that are used in the newest building codes (2500 year maps) suggest a scenario that would result in moderate damage to buildings and their contents, with damage increasing from the northeast to the southwest. More specifically, the probability-based worst-case scenario could result in the following damage at points throughout the county:

Intensity VII Earthquake Areas

Gillette
Savageton
Wright

In intensity VII earthquakes, damage is negligible in buildings of good design and construction, slight-to-moderate in well-built ordinary structures, considerable in poorly built or badly designed structures such as unreinforced masonry buildings. Some chimneys will be broken.

Intensity VI Earthquake Areas

Recluse
Rozet
Spotted Horse
Weston

In intensity VI earthquakes, some heavy furniture can be moved. There may be some instances of fallen plaster and damaged chimneys.

Intensity V Earthquake Areas

Rockypoint

In intensity V earthquakes, dishes and windows can break and plaster can crack. Unstable objects may overturn. Tall objects such as trees and power poles can be disturbed.

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Basic Seismological Characterization for Johnson County, Wyoming

by

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Wyoming State Geological Survey
September 2002

BACKGROUND

Seismological characterizations of an area can range from an analysis of historic seismicity to a long-term probabilistic seismic hazard assessment. A complete characterization usually includes a summary of historic seismicity, an analysis of the Seismic Zone Map of the Uniform Building Code, deterministic analyses on active faults, "floating earthquake" analyses, and short- or long-term probabilistic seismic hazard analyses.

Presented below, for Johnson County, Wyoming, are an analysis of historic seismicity, an analysis of the Uniform Building Code, deterministic analyses of nearby active faults, an analysis of the maximum credible "floating earthquake", and current short- and long-term probabilistic seismic hazard analyses.

Historic Seismicity in Johnson County

The enclosed map of "Earthquake Epicenters and Suspected Active Faults with Surficial Expression in Wyoming" (Case and others, 1997) shows the historic distribution of earthquakes in Wyoming. Eight magnitude 2.5 and greater earthquakes have been recorded in Johnson County. These earthquakes are discussed below.

The first earthquake recorded in the county occurred on October 24, 1922. Reagor, Stover, and Algermissen (1985) located the earthquake near Buffalo, and classified the event as an intensity II earthquake. Based upon a description of the earthquake in the October 27, 1922 edition of the Sheridan Post, however, the location and assigned intensity may be in error. The Sheridan Post reported that at Cat Creek, 8 miles east of Sheridan, houses were shaken and dishes were rattled. In addition, the October 26, 1922 edition of the Sheridan Post reports that only a slight earthquake shock was felt in Sheridan. Based upon this information, it seems reasonable to locate the earthquake 8 miles east of Sheridan, and to assign an intensity of IV-V to the event.
On September 6, 1943, an intensity IV earthquake was felt in the Sheridan area, although Reagor, Stover, and Algermissen (1985) located the epicenter approximately 3-4 miles south-southwest of

Buffalo. Beds and chairs were reported "to sway" in the Sheridan area (The Casper Tribune-Herald, September 7, 1943).

Two earthquakes were recorded in Johnson County in the 1960s. A magnitude 4.7 earthquake occurred on June 3, 1965. This event was centered approximately 12 miles south of Kaycee. On April 12, 1966, an earthquake of no specified magnitude or intensity was detected approximately 25 miles southwest of Buffalo. No one reported feeling these events (U.S.G.S. National Earthquake Information Center).

On September 2, 1976, a magnitude 4.8, intensity IV-V earthquake was felt in Kaycee. The event was located approximately 33 miles northeast of Kaycee. No damage was reported.

A magnitude 5.1, intensity V earthquake occurred on September 7, 1984, approximately 33 miles east-southeast of Buffalo. The earthquake was felt throughout northeastern Wyoming, including Buffalo, Casper, Kaycee, Linch, and Midwest, and in parts of southeastern Montana. No significant damage was reported (Laramie Daily Boomerang, September 8, 1984).

Two earthquakes were detected in Johnson County in 1992. The first occurred on February 22, 1992. This magnitude 2.9 event was recorded approximately 18 miles east of Buffalo. As expected with such a small earthquake, no damage was reported. Most recently, a magnitude 3.6, intensity IV earthquake occurred on August 30, 1992. The earthquake was centered near Mayoworth, approximately 22 miles west-northwest of Kaycee. It was felt in Barnum and Kaycee, but no damage was reported.

Regional Historic Seismicity

Several earthquakes have also occurred near Johnson County. The first occurred on May 11, 1967, in southwestern Campbell County. This magnitude 4.8 earthquake was centered approximately 13 miles east of Linch. No damage was reported. On March 24, 1977, a magnitude 3.6, intensity IV earthquake was reported in south-central Sheridan County approximately 22 miles northwest of Buffalo. Again, no damage was reported.

Two earthquakes occurred near the Johnson County-Campbell County border in 1984. On May 29, 1984, a magnitude 5.0, intensity V earthquake occurred approximately 38 miles east-southeast of Buffalo. The earthquake was felt in Gillette, Sheridan, Buffalo, Casper, Douglas, Thermopolis, and Sundance. A rancher, living 35 miles west of Gillette, reported that he could see the ground shaking, and he heard a loud noise similar to a sonic boom. Pictures were shaken from the walls of the ranch house, but no other damage occurred at the ranch (Casper Star-Tribune, May 30, 1984). All other reports only indicated that dishes rattled. On October 29, 1984, a magnitude 2.5 earthquake occurred approximately 35 miles east of Buffalo. No damage was reported.

Finally, on March 10, 1993, a magnitude 3.2 earthquake was recorded in northern Natrona County approximately 20 miles southeast of Barnum. No damage was reported.

Uniform Building Code

The Uniform Building Code (UBC) is a document prepared by the International Conference of Building Officials. Its stated intent is to "provide minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location and maintenance of all buildings and structures within this jurisdiction and certain equipment specifically regulated herein."

The UBC contains information and guidance on designing buildings and structures to withstand seismic events. With safety in mind, the UBC provides Seismic Zone Maps to help identify which design factors are critical to specific areas of the country. In addition, depending upon the type of building, there is also an "importance factor". The "importance factor" can, in effect, raise the standards that are applied to a building.

The current UBC Seismic Zone Map (Figure 1) (1997) has five seismic zones, ranging from Zone 0 to Zone 4, as can be seen on the enclosed map. The seismic zones are in part defined by the probability of having a certain level of ground shaking (horizontal acceleration) in 50 years. The criteria used for defining boundaries on the Seismic Zone Map were established by the Seismology Committee of the Structural Engineers Association of California (Building Standards, September-October, 1986). The criteria they developed are as follows:

Zone	Effective Peak Acceleration, % gravity (g)
4	30% and greater
3	20% to less than 30%
2	10% to less than 20%
1	5% to less than 10%
0	less than 5%

The committee assumed that there was a 90% probability that the above values would not be exceeded in 50 years, or a 100% probability that the values would be exceeded in 475 to 500 years.

Johnson County is in Seismic Zones 0 and 1 of the UBC. The seismic history of the area, however, does not support a Zone 0 classification. Since effective peak accelerations (90% chance of non-exceedance in 50 years) can range from 0%-10%g in these two zones, and there has been some significant historic seismicity in the county, it may be reasonable to assume that an average peak acceleration of 5.0%g could be applied to the design of a non-critical facility located in the county if only the UBC were used. Such an acceleration is significantly less than would be suggested through newer building codes.

Recently, the UBC has been replaced by the International Building Code (IBC). The IBC is based upon probabilistic analyses, which are described in a following section. Johnson County still uses the UBC, however, as do most Wyoming counties as of October 2002.

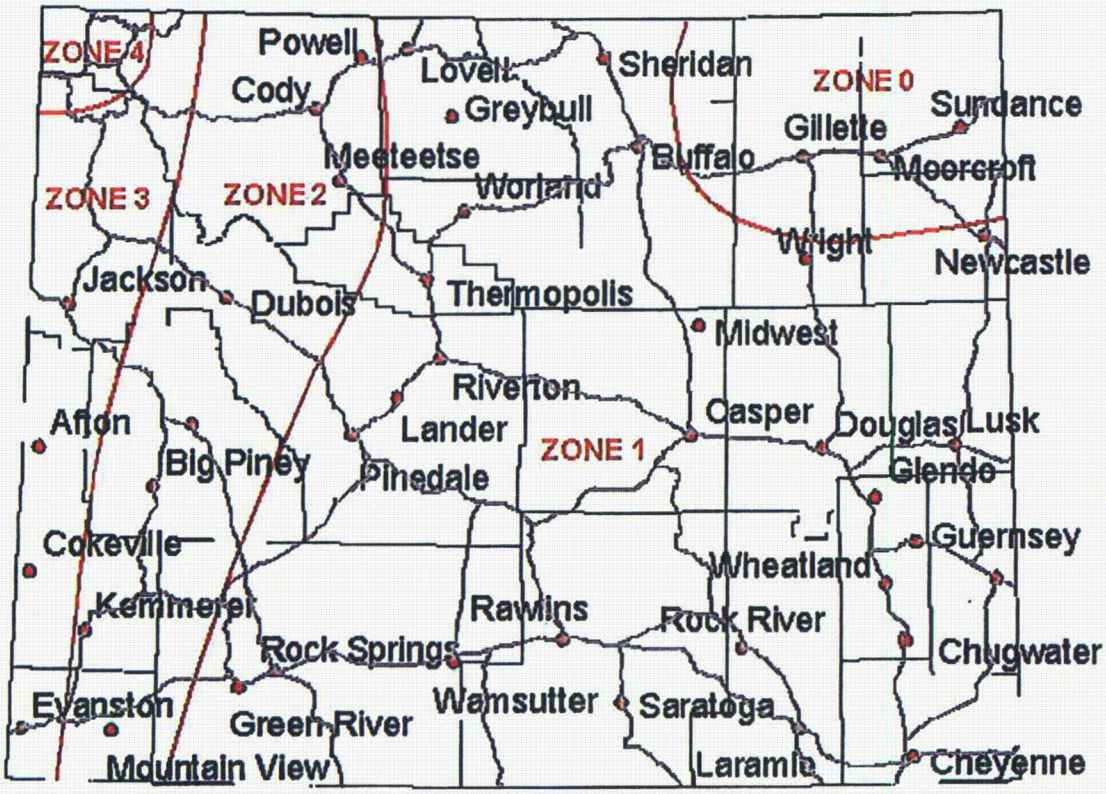

Figure 1. UBC Seismic Zone Map.

Deterministic Analysis Of Regional Active Faults With A Surficial Expression

An active fault system called the Cedar Ridge/Dry Fork fault system is present near the southwestern border of Johnson County in Natrona and Fremont Counties. The 35-mile long Cedar Ridge fault comprises the western portion of the fault system, and the 15-mile long Dry Fork fault makes up the eastern portion. The only Pleistocene-age movement on the fault system was found in northeastern Fremont County (T39N R92W NE ¼ Section 10). A short scarp on the Cedar Ridge fault, approximately 0.8 miles long, was identified at that location. Since the entire fault system is approximately 50 miles long, and only one small active segment was discovered, Geomatrix (1988a) stated that the "age of this scarp and the absence of evidence for late Quaternary faulting elsewhere along the Cedar Ridge/Dry Creek fault suggest that this fault is inactive." As a result of this assessment, it is not possible to conduct a reliable deterministic analysis on the fault system; however general estimates can be made.

The Dry Fork fault system is closest to Johnson County. Although there is no compelling reason to believe that the Dry Fork fault system is active, if it did activate as an isolated system, it could potentially generate a magnitude 6.7 earthquake. This is based upon a postulated fault rupture length of 15 miles (Wong et al., 2001). A magnitude 6.7 earthquake on the fault system could generate a peak horizontal acceleration of up to 12%g at the southwestern corner of Johnson County, approximately 5%g at Barnum, and approximately 3.3%g at Kaycee (Campbell, 1987). Those accelerations would be roughly equivalent to an intensity VI earthquake at the southwestern corner of the county, an intensity V earthquake at Barnum, and an intensity IV earthquake at Kaycee. Minor damage could occur in the southwestern portion of the county. Again, there is no compelling reason to believe that the Dry Fork fault system is active.

There is also no compelling reason to believe that the Cedar Ridge fault system is active. If the fault did activate, it could potentially generate a magnitude 7.1 earthquake. Because of its distance from Johnson County, however, any activation of the Cedar Ridge fault would probably not affect the county.

Floating or Random Earthquake Sources

Many federal regulations require an analysis of the earthquake potential in areas where active faults are not exposed, and where earthquakes are tied to buried faults with no surface expression. Regions with a uniform potential for the occurrence of such earthquakes are called tectonic provinces. Within a tectonic province, earthquakes associated with buried faults are assumed to occur randomly, and as a result can theoretically occur anywhere within that area of uniform earthquake potential. In reality, that random distribution may not be the case, as all earthquakes are associated with specific faults. If all buried faults have not been identified, however, the distribution has to be considered random. "Floating earthquakes" are earthquakes that are considered to occur randomly in a tectonic province.

It is difficult to accurately define tectonic provinces when there is a limited historic earthquake record. When there are no nearby seismic stations that can detect small-magnitude earthquakes, which occur more frequently than larger events, the problem is compounded. Under these conditions, it is common to delineate larger, rather than smaller, tectonic provinces.

The U.S. Geological Survey identified tectonic provinces in a report titled "Probabilistic Estimates of Maximum Acceleration and Velocity in Rock in the Contiguous United States" (Algermissen and others, 1982). In that report, Johnson County was classified as being in a tectonic province with a "floating earthquake" maximum magnitude of 6.1. Geomatrix (1988b) suggested using a more extensive regional tectonic province, called the "Wyoming Foreland Structural Province", which is approximately defined by the Idaho-Wyoming Thrust Belt on the west, 104° West longitude on the east, 40° North latitude on the south, and 45° North latitude on the north. Geomatrix (1988b) estimated that the largest "floating" earthquake in the "Wyoming Foreland Structural Province" would have a magnitude in the 6.0 – 6.5 range, with an average value of magnitude 6.25.

Federal or state regulations usually specify if a "floating earthquake" or tectonic province analysis is required for a facility. Usually, those regulations also specify at what distance a floating earthquake is to be placed from a facility. For example, for uranium mill tailings sites, the Nuclear Regulatory Commission requires that a floating earthquake be placed 15 kilometers from the site. That earthquake is then used to determine what horizontal accelerations may occur at the site. A magnitude 6.25 "floating" earthquake, placed 15 kilometers from any structure in Johnson County, would generate horizontal accelerations of approximately 15%g at the site. Critical facilities, such as dams, usually require a more detailed probabilistic analysis of random earthquakes. Based upon probabilistic analyses of random earthquakes in an area distant from exposed active faults (Geomatrix, 1988b), however, placing a magnitude 6.25 earthquake at 15 kilometers from a site will provide a fairly conservative estimate of design ground accelerations.

Probabilistic Seismic Hazard Analyses

The U.S. Geological Survey (USGS) publishes probabilistic acceleration maps for 500-, 1000-, and 2,500-year time frames. The maps show what accelerations may be met or exceeded in those time frames by expressing the probability that the accelerations will be met or exceeded in a shorter time frame. For example, a 10% probability that acceleration may be met or exceeded in 50 years is roughly equivalent to a 100% probability of exceedance in 500 years.

The USGS has recently generated new probabilistic acceleration maps for Wyoming (Case, 2000). Copies of the 500-year (10% probability of exceedance in 50 years), 1000-year (5% probability of exceedance in 50 years), and 2,500-year (2% probability of exceedance in 50 years) maps are included. Until recently, the 500-year map was often used for planning purposes for average structures, and was the basis of the most current Uniform Building Code. The new International Building Code, however, uses a 2,500-year map as the basis for building design. The maps reflect current perceptions on seismicity in Wyoming. In many areas of Wyoming, ground accelerations shown on the USGS maps can be increased due to local soil conditions. For example, if fairly soft, saturated sediments are present at the surface, and seismic waves are passed through them, surface ground accelerations will usually be greater than would be experienced if only bedrock was present. In this case, the ground accelerations shown on the USGS maps would underestimate the local hazard, as they are based upon accelerations that would be expected if firm soil or rock were present at the surface. Intensity values can be found in Table 1.

Based upon the 500-year map (10% probability of exceedance in 50 years) (Figure 2), the estimated peak horizontal acceleration in Johnson County ranges from approximately 4%g in the northwestern corner of the county to greater than 6%g in the central and southern portions of the county. These accelerations are roughly comparable to intensity V earthquakes (3.9%g – 9.2%g). These accelerations are comparable to the accelerations to be expected in Seismic Zones 0 and 1 of the Uniform Building Code. Intensity V earthquakes can result in cracked plaster and broken dishes. Buffalo and Kaycee would be subjected to accelerations of 6%g and greater, or intensity V.

Based upon the 1000-year map (5% probability of exceedance in 50 years) (Figure 3), the estimated peak horizontal acceleration in Johnson County ranges from 7%g in the northwestern corner of the county to greater than 10%g in the central and southern portions of the county. These accelerations are roughly comparable to intensity V earthquakes (3.9%g – 9.2%g) to intensity VI earthquakes (9.2%g – 18%g). Intensity V earthquakes can result in cracked plaster and broken dishes. Intensity VI earthquakes can result in fallen plaster and damaged chimneys. Buffalo and Kaycee would be subjected to accelerations of greater than 10%g or intensity VI.

Based upon the 2500-year map (2% probability of exceedance in 50 years) (Figure 4), the estimated peak horizontal acceleration in Johnson County ranges from approximately 14%g in the northwestern corner of the county to greater than 20%g in the central and southeastern portions of the county. These accelerations are roughly comparable to intensity VI earthquakes (9.2%g – 18%g) and intensity VII earthquakes (18%g – 34%g). Intensity VI earthquakes can result in fallen plaster and damaged chimneys. Intensity VII earthquakes can result in slight to moderate

damage in well-built ordinary structures, and considerable damage in poorly built or badly designed structures, such as unreinforced masonry. Chimneys may be broken. Buffalo and Kaycee would be subjected to accelerations of 20%g and greater or intensity VII.

As the historic record is limited, it is nearly impossible to determine when a 2,500-year event last occurred in the county. Because of the uncertainty involved, and based upon the fact that the new International Building Code utilizes 2,500-year events for building design, it is suggested that the 2,500-year probabilistic maps be used for Johnson County analyses. This conservative approach is in the interest of public safety.

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Modified Mercalli Intensity and peak ground acceleration (PGA) (Wald, et al 1999).

Abridged Modified Mercalli Intensity Scale

Intensity value and description:

I Not felt except by a very few under especially favorable circumstances.

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IV During the day felt indoors by many, outdoors by few. At night some awakened. Dishes, windows, doors disturbed; walls make creaking sound. Sensation like heavy truck striking building. Standing automobiles rocked noticeably.

V Felt by nearly everyone, many awakened. Some dishes, windows, and so on broken; cracked plaster in a few places; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.

VI Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster and damaged chimneys. Damage slight.

VII Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving cars.

VIII Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving cars disturbed.

IX Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.

X Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from river banks and steep slopes. Shifted sand and mud. Water splashed, slopped over banks.

XI Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.

XII Damage total. Waves seen on ground surface. Lines of sight and level distorted. Objects thrown into the air.

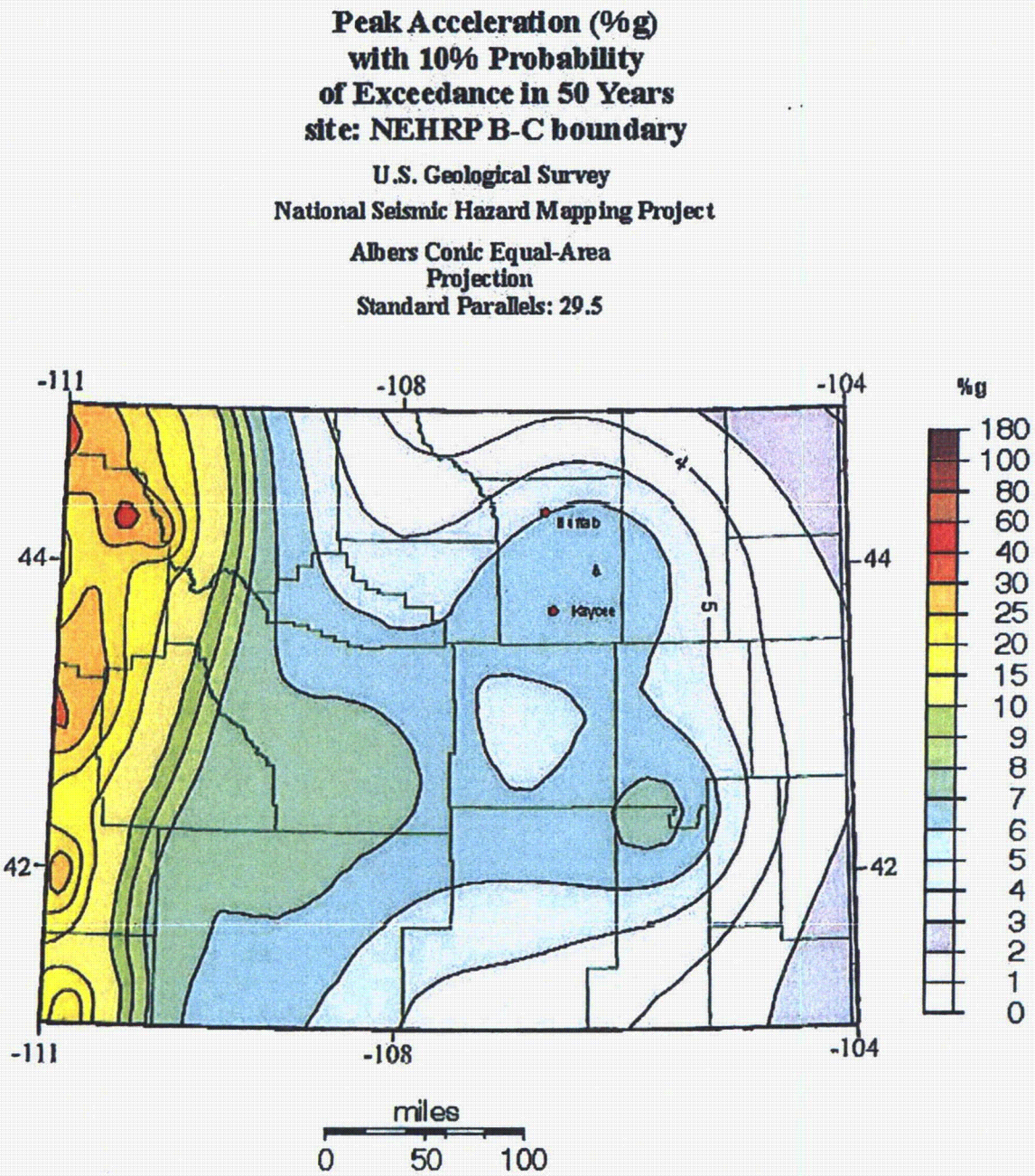

Figure 2. 500-year probabilistic acceleration map (10% probability of exceedance in 50 years).

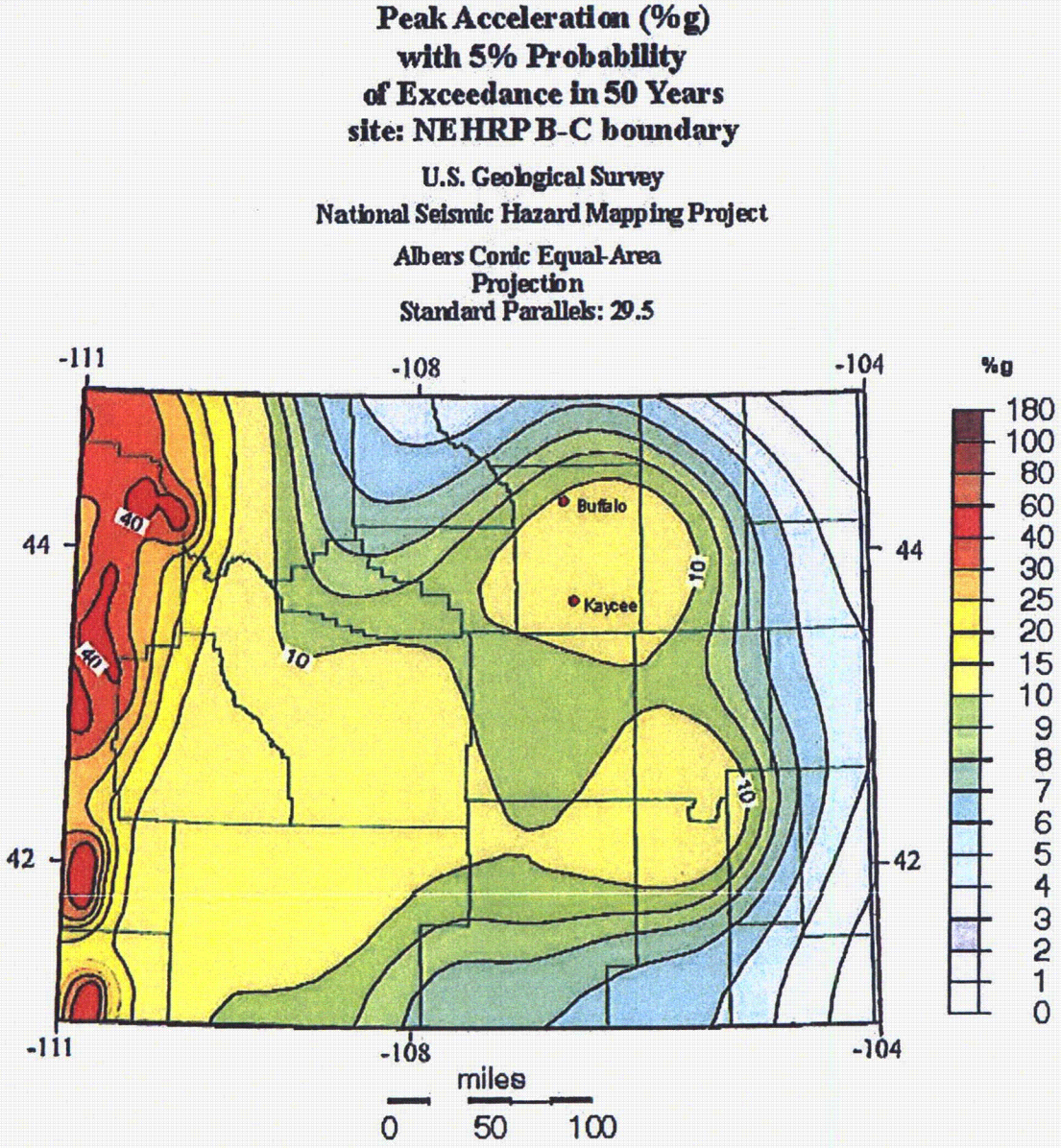

Figure 3. 1000-year probabilistic acceleration map (5% probability of exceedance in 50 years).

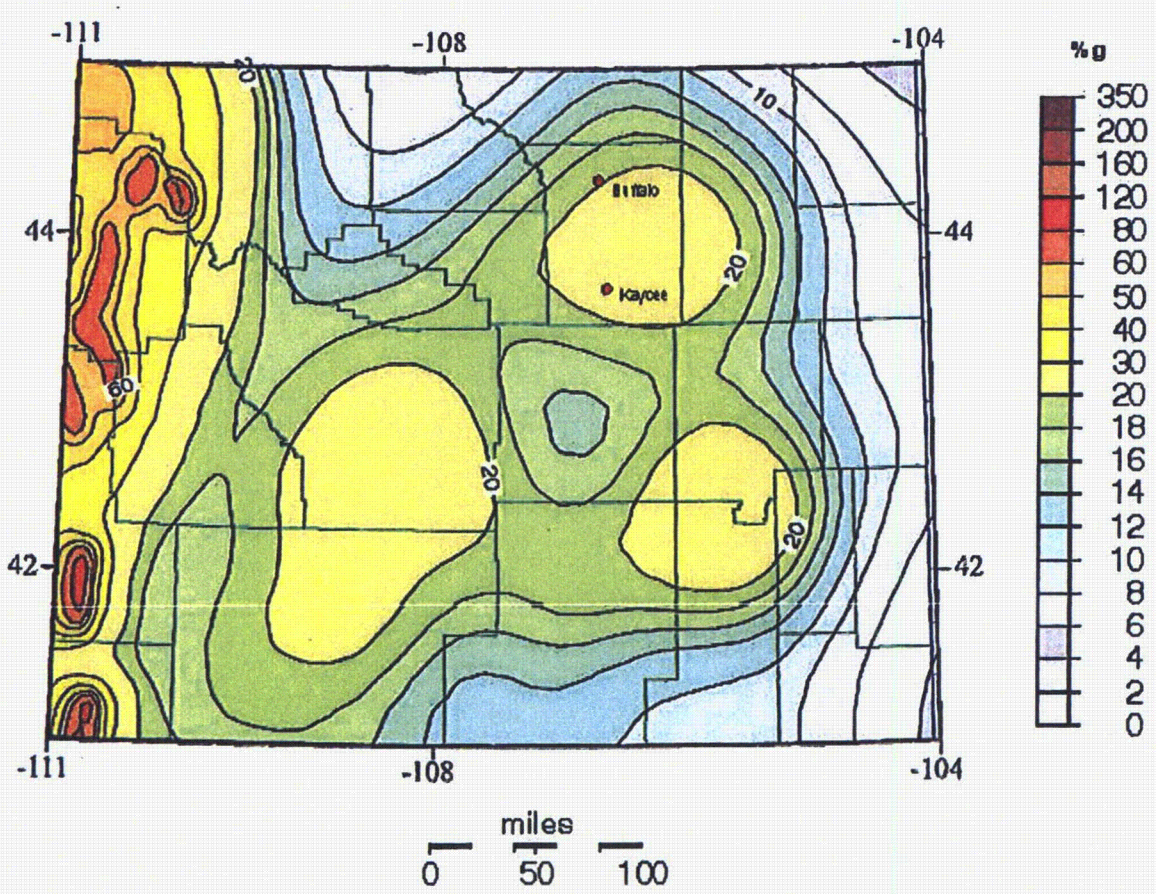

Figure 4. 2500-year probabilistic acceleration map (2% probability of exceedance in 50 years).

Summary

There have been thirteen historic earthquakes with a magnitude greater than 2.5 recorded in or near Johnson County. Because of the limited historic record, it is possible to underestimate the seismic hazard in Johnson County if historic earthquakes are used as the sole basis for analysis. Earthquake and ground motion probability maps give a more reasonable estimate of damage potential in areas without exposed active faults at the surface, such as Johnson County.

Current earthquake probability maps that are used in the newest building codes (2500 year maps) suggest a scenario that would result in moderate damage to buildings and their contents, with damage increasing from the northwest to the central and southeast areas of the county. More specifically, the probability-based worst-case scenario could result in the following damage at points throughout the county:

Intensity VII Earthquake Areas

Barnum
Buffalo
Kaycee
Linch
Mayoworth
Sussex

In intensity VII earthquakes, damage is negligible in buildings of good design and construction, slight-to-moderate in well-built ordinary structures, considerable in poorly built or badly designed structures such as unreinforced masonry buildings. Some chimneys will be broken.

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ADDENDUM 3A:

BLEED RATE REVERSAL PREDICTIONS

November 2007

NICHOLS UNIT PUMP TESTS ADDENDUM 3A

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3A.2-2 HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT 3A.2-20

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

NICHOLS UNIT 1% BLEED T=350 S=1.8E-4 Q= 35.0 GPM 1% BLEED
AO AND WO = 1 1

GENERAL DATABASE:

TS = 1
Number of simulation periods for which drawdown
or recovery is to be calculated 1
Simulation period number= 1
Duration of simulation period in days= 365.000
Number of grid columns= 19
Number of grid rows= 19
Grid spacing in ft= 100.00
X-coordinate of upper-left grid node in ft= -1000.00
Y-coordinate of upper-left grid node in ft= -1000.00
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 1
X-coordinate of well in ft= 127.13
Y-coordinate of well in ft= 553.50
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 2
X-coordinate of well in ft= 178.52
Y-coordinate of well in ft= 534.54
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 3
X-coordinate of well in ft= 160.40
Y-coordinate of well in ft= 456.38
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Number of production, injection, and image wells
active during simulation period= 88
Well number= 4
X-coordinate of well in ft= 143.79
Y-coordinate of well in ft= 453.57
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 5
X-coordinate of well in ft= 56.96
Y-coordinate of well in ft= 414.39
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 6
X-coordinate of well in ft= 34.86
Y-coordinate of well in ft= 413.57
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 7
X-coordinate of well in ft= -8.25
Y-coordinate of well in ft= 405.64
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 8
X-coordinate of well in ft= -78.32
Y-coordinate of well in ft= 334.61
Well discharge in gpm= 0.16

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 9
X-coordinate of well in ft= -18.67
Y-coordinate of well in ft= 287.09
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 10
X-coordinate of well in ft= -5.33
Y-coordinate of well in ft= 265.53
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 11
X-coordinate of well in ft= -53.01
Y-coordinate of well in ft= 192.57
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 12
X-coordinate of well in ft= -5.57
Y-coordinate of well in ft= 128.45
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Well number= 13
X-coordinate of well in ft= 55.40
Y-coordinate of well in ft= 128.60
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 14
X-coordinate of well in ft= 63.49
Y-coordinate of well in ft= 223.51
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 15
X-coordinate of well in ft= 97.55
Y-coordinate of well in ft= 254.92
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 16
X-coordinate of well in ft= 218.65
Y-coordinate of well in ft= 185.08
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 17
X-coordinate of well in ft= 312.58
Y-coordinate of well in ft= 282.08
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 18
X-coordinate of well in ft= 104.09
Y-coordinate of well in ft= 348.96
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 19
X-coordinate of well in ft= 169.54
Y-coordinate of well in ft= 363.30
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 20
X-coordinate of well in ft= 281.71
Y-coordinate of well in ft= 475.19
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 21
X-coordinate of well in ft= 350.60
Y-coordinate of well in ft= 453.05
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 22
X-coordinate of well in ft= 391.20

Y-coordinate of well in ft= 364.50
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 23
X-coordinate of well in ft= 421.82
Y-coordinate of well in ft= 339.22
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 24
X-coordinate of well in ft= 448.65
Y-coordinate of well in ft= 278.28
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 25
X-coordinate of well in ft= 354.60
Y-coordinate of well in ft= 234.89
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 26
X-coordinate of well in ft= 399.45
Y-coordinate of well in ft= 144.49
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Number of production, injection, and image wells
active during simulation period= 88
Well number= 27
X-coordinate of well in ft= 462.39
Y-coordinate of well in ft= 158.23
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 28
X-coordinate of well in ft= 500.73
Y-coordinate of well in ft= 412.36
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 29
X-coordinate of well in ft= 446.21
Y-coordinate of well in ft= 438.17
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 30
X-coordinate of well in ft= 457.33
Y-coordinate of well in ft= 504.93
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 31
X-coordinate of well in ft= 462.68
Y-coordinate of well in ft= 508.58
Well discharge in gpm= 0.16

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 32
X-coordinate of well in ft= 400.40
Y-coordinate of well in ft= 578.76
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 33
X-coordinate of well in ft= 353.35
Y-coordinate of well in ft= 657.16
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 34
X-coordinate of well in ft= 205.56
Y-coordinate of well in ft= 610.39
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 35
X-coordinate of well in ft= 288.03
Y-coordinate of well in ft= 670.35
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Well number= 36
X-coordinate of well in ft= 440.17
Y-coordinate of well in ft= 698.75
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 37
X-coordinate of well in ft= 466.16
Y-coordinate of well in ft= 708.02
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 38
X-coordinate of well in ft= 495.69
Y-coordinate of well in ft= 601.39
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 39
X-coordinate of well in ft= 549.68
Y-coordinate of well in ft= 549.29
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 40
X-coordinate of well in ft= 549.68
Y-coordinate of well in ft= 543.27
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 41
X-coordinate of well in ft= 616.98
Y-coordinate of well in ft= 606.48
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 42
X-coordinate of well in ft= 594.58
Y-coordinate of well in ft= 652.19
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 43
X-coordinate of well in ft= 586.20
Y-coordinate of well in ft= 652.88
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 44
X-coordinate of well in ft= 534.29
Y-coordinate of well in ft= 663.05
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 45
X-coordinate of well in ft= 513.64

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Y-coordinate of well in ft= 639.38
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 46
X-coordinate of well in ft= 518.96
Y-coordinate of well in ft= 637.26
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 47
X-coordinate of well in ft= 593.86
Y-coordinate of well in ft= 741.51
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 48
X-coordinate of well in ft= 667.48
Y-coordinate of well in ft= 675.11
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 49
X-coordinate of well in ft= 683.42
Y-coordinate of well in ft= 688.00
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Number of production, injection, and image wells
active during simulation period= 88
Well number= 50
X-coordinate of well in ft= 677.11
Y-coordinate of well in ft= 693.52
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 51
X-coordinate of well in ft= 652.49
Y-coordinate of well in ft= 821.04
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 52
X-coordinate of well in ft= 731.55
Y-coordinate of well in ft= 818.15
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 53
X-coordinate of well in ft= 771.01
Y-coordinate of well in ft= 729.80
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 54
X-coordinate of well in ft= 806.37
Y-coordinate of well in ft= 636.43
Well discharge in gpm= 0.16

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 55
X-coordinate of well in ft= 722.73
Y-coordinate of well in ft= 598.57
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 56
X-coordinate of well in ft= 716.42
Y-coordinate of well in ft= 598.57
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 57
X-coordinate of well in ft= 810.32
Y-coordinate of well in ft= 640.38
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 58
X-coordinate of well in ft= 854.15
Y-coordinate of well in ft= 770.77
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Well number= 59
X-coordinate of well in ft= 814.41
Y-coordinate of well in ft= 861.54
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 60
X-coordinate of well in ft= 907.81
Y-coordinate of well in ft= 893.04
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 61
X-coordinate of well in ft= 947.27
Y-coordinate of well in ft= 811.00
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 62
X-coordinate of well in ft= 984.35
Y-coordinate of well in ft= 725.02
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 63
X-coordinate of well in ft= 1021.21
Y-coordinate of well in ft= 828.61
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 64
X-coordinate of well in ft= 1090.07
Y-coordinate of well in ft= 857.36
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 65
X-coordinate of well in ft= 1153.63
Y-coordinate of well in ft= 761.55
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 66
X-coordinate of well in ft= 1154.89
Y-coordinate of well in ft= 984.12
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 67
X-coordinate of well in ft= 1179.84
Y-coordinate of well in ft= 905.79
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 68
X-coordinate of well in ft= 1230.36

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Y-coordinate of well in ft= 817.41
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 69
X-coordinate of well in ft= 1495.79
Y-coordinate of well in ft= 987.29
Well discharge in gpm= 1.71
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 70
X-coordinate of well in ft= 1789.43
Y-coordinate of well in ft= 1283.88
Well discharge in gpm= 1.39
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 71
X-coordinate of well in ft= 1959.55
Y-coordinate of well in ft= 1559.99
Well discharge in gpm= 2.02
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 72
X-coordinate of well in ft= 1703.15
Y-coordinate of well in ft= 1627.01
Well discharge in gpm= 1.24
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Number of production, injection, and image wells
active during simulation period= 88
Well number= 73
X-coordinate of well in ft= 1215.77
Y-coordinate of well in ft= 1541.99
Well discharge in gpm= 2.33
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 74
X-coordinate of well in ft= 1525.52
Y-coordinate of well in ft= 2070.78
Well discharge in gpm= 1.09
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 75
X-coordinate of well in ft= 1974.59
Y-coordinate of well in ft= 1841.70
Well discharge in gpm= 2.02
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 76
X-coordinate of well in ft= 2336.89
Y-coordinate of well in ft= 2018.72
Well discharge in gpm= 2.48
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 77
X-coordinate of well in ft= 2540.72
Y-coordinate of well in ft= 2486.31
Well discharge in gpm= 1.86

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 78
X-coordinate of well in ft= 2933.45
Y-coordinate of well in ft= 2441.82
Well discharge in gpm= 0.93
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 79
X-coordinate of well in ft= 3085.99
Y-coordinate of well in ft= 2959.01
Well discharge in gpm= 1.39
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 80
X-coordinate of well in ft= 3544.47
Y-coordinate of well in ft= 3142.62
Well discharge in gpm= 1.39
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 81
X-coordinate of well in ft= 3536.47
Y-coordinate of well in ft= 3705.60
Well discharge in gpm= 1.24
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Well number= 82
X-coordinate of well in ft= 4120.56
Y-coordinate of well in ft= 3787.46
Well discharge in gpm= 1.55
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 83
X-coordinate of well in ft= 4102.39
Y-coordinate of well in ft= 4302.91
Well discharge in gpm= 1.09
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 84
X-coordinate of well in ft= 707.88
Y-coordinate of well in ft= 912.08
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 85
X-coordinate of well in ft= 752.15
Y-coordinate of well in ft= 996.63
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 86
X-coordinate of well in ft= 891.35
Y-coordinate of well in ft= 1011.77
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 87
X-coordinate of well in ft= 940.83
Y-coordinate of well in ft= 1073.59
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 88
Well number= 88
X-coordinate of well in ft= 930.52
Y-coordinate of well in ft= 1146.76
Well discharge in gpm= 0.16
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Number of observation wells for which time-
drawdown tables are desired 1
Observation well number= 1
I-coordinate of observation well= 1
J-coordinate of observation well= 1
Aquifer transmissivity in gpd/ft= 350.00
Aquifer storativity as a decimal= 0.000180

NODAL COMPUTATION RESULTS:

SIMULATION PERIOD DURATION IN DAYS: 365.000

VALUES OF DRAWDOWN OR RECOVERY (FT) AT NODES:

TABLE 3A.1-1. NICHOLS RANCH UNIT MODEL BLEED RATE REVERSAL PRINTOUT

I-COLUMN

J-ROW	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	32.74	33.22	33.69	34.16	34.62	35.07	35.51	35.94	36.34	36.73	37.09	37.42	37.71	37.98	38.21	38.41	38.57	38.7
2	33.22	33.72	34.22	34.72	35.21	35.7	36.17	36.63	37.06	37.47	37.86	38.21	38.53	38.82	39.06	39.27	39.43	39.56
3	33.7	34.23	34.76	35.29	35.82	36.34	36.84	37.34	37.81	38.25	38.67	39.05	39.39	39.69	39.95	40.17	40.34	40.47
4	34.18	34.74	35.31	35.87	36.43	36.99	37.54	38.07	38.58	39.06	39.51	39.92	40.29	40.61	40.88	41.11	41.28	41.41
5	34.66	35.25	35.85	36.45	37.05	37.65	38.24	38.82	39.38	39.9	40.39	40.84	41.24	41.58	41.87	42.1	42.28	42.41
6	35.13	35.75	36.39	37.03	37.68	38.33	38.97	39.6	40.21	40.78	41.32	41.81	42.24	42.61	42.91	43.15	43.33	43.45
7	35.59	36.25	36.92	37.61	38.3	39	39.7	40.4	41.07	41.71	42.3	42.84	43.3	43.7	44.02	44.26	44.44	44.54
8	36.03	36.73	37.44	38.18	38.93	39.69	40.45	41.21	41.96	42.68	43.34	43.93	44.45	44.87	45.2	45.45	45.61	45.7
9	36.46	37.19	37.95	38.73	39.54	40.36	41.2	42.05	42.89	43.7	44.45	45.11	45.68	46.13	46.48	46.72	46.86	46.92
10	36.87	37.64	38.43	39.26	40.13	41.02	41.94	42.89	43.85	44.78	45.65	46.4	47.02	47.5	47.86	48.09	48.19	48.21
11	37.25	38.05	38.89	39.76	40.68	41.65	42.66	43.72	44.83	45.94	46.98	47.82	48.48	49.01	49.39	49.57	49.61	49.56
12	37.6	38.43	39.3	40.22	41.2	42.23	43.33	44.51	45.79	47.16	48.54	49.41	50.07	50.66	51.13	51.22	51.11	50.97
13	37.91	38.77	39.68	40.63	41.65	42.74	43.92	45.21	46.65	48.31	49.89	50.95	51.72	52.34	52.86	52.87	52.63	52.41
14	38.18	39.07	40	40.98	42.04	43.17	44.4	45.77	47.31	49.14	50.96	52.13	52.93	53.82	54.41	54.42	54.15	53.87
15	38.42	39.32	40.26	41.27	42.35	43.5	44.76	46.15	47.71	49.49	51.55	52.91	53.92	54.79	55.69	56.04	55.66	55.35
16	38.61	39.52	40.47	41.49	42.57	43.74	44.99	46.36	47.87	49.52	51.28	53.03	54.42	55.51	56.55	57.29	57.19	56.88
17	38.75	39.67	40.63	41.64	42.73	43.88	45.11	46.44	47.87	49.41	51.03	52.73	54.42	55.6	57.01	58.38	58.62	58.55
18	38.86	39.77	40.73	41.74	42.8	43.94	45.14	46.42	47.78	49.21	50.71	52.24	53.78	55.33	56.75	58.07	58.86	59.21
19	38.92	39.83	40.78	41.77	42.82	43.93	45.09	46.32	47.61	48.95	50.34	51.75	53.17	54.56	55.9	57.12	58.16	58.86

I-COLUMN

J-ROW	19
1	38.79
2	39.65
3	40.56
4	41.5
5	42.48
6	43.51
7	44.59
8	45.73
9	46.92
10	48.16
11	49.46
12	50.8
13	52.17
14	53.57
15	54.99
16	56.46
17	57.98
18	58.83
19	59.04

OBSERVATION WELL COMPUTATION RESULTS WITH FULL WELL PENETRATION AND WITHOUT WELLBORE STORAGE:

TIME-DRAWDOWN OR RECOVERY TABLE

OBSERVATION WELL NUMBER: 1

TIME(DAYS)	DRAWDOWN OR RECOVERY(FT)
365.000	32.74

TABLE 3A.2-1. HANK UNIT MODEL BLEED RATE REVERSAL PRINTOUT

```
HANK UNIT 3 % BLEED WELLFIELD T=400 S=0.05 Q=75
 AO AND WO = 1            1

GENERAL DATA BASE:

 TS = 1
Number of simulation periods for which drawdown
or recovery is to be calculated 1
Simulation period number= 1
Duration of simulation period in days=  365.000
Number of grid columns= 15
Number of grid rows= 15
Grid spacing in ft=   100.00
X-coordinate of upper-left grid node in ft=   500.00
Y-coordinate of upper-left grid node in ft=  2500.00
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 1
X-coordinate of well in ft=   594.02
Y-coordinate of well in ft=    12.50
Well discharge in gpm=    7.24
Duration of pump operation during simulation period
in days=  365.000
Well radius in ft=  0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 2
X-coordinate of well in ft=   874.32
Y-coordinate of well in ft=   448.87
Well discharge in gpm=    6.39
Duration of pump operation during simulation period
in days=  365.000
Well radius in ft=  0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 3
X-coordinate of well in ft=   994.43
Y-coordinate of well in ft=   786.30
Well discharge in gpm=    5.12
Duration of pump operation during simulation period
in days=  365.000
Well radius in ft=  0.50
Simulation period number= 1
```

TABLE 3A.2-1. HANK UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Number of production, injection, and image wells
active during simulation period= 80
Well number= 4
X-coordinate of well in ft= 1279.26
Y-coordinate of well in ft= 865.50
Well discharge in gpm= 5.54
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 5
X-coordinate of well in ft= 1592.78
Y-coordinate of well in ft= 851.82
Well discharge in gpm= 5.96
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 6
X-coordinate of well in ft= 2262.24
Y-coordinate of well in ft= 520.58
Well discharge in gpm= 3.41
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 7
X-coordinate of well in ft= 2343.71
Y-coordinate of well in ft= 876.39
Well discharge in gpm= 5.12
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 8
X-coordinate of well in ft= 2096.80
Y-coordinate of well in ft= 886.38
Well discharge in gpm= 5.96

TABLE 3A.2-1. HANK UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 9
X-coordinate of well in ft= 1257.75
Y-coordinate of well in ft= 1187.65
Well discharge in gpm= 5.54
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 10
X-coordinate of well in ft= 1491.81
Y-coordinate of well in ft= 1427.70
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 11
X-coordinate of well in ft= 1536.19
Y-coordinate of well in ft= 1506.94
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 12
X-coordinate of well in ft= 1576.03
Y-coordinate of well in ft= 1604.57
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80

TABLE 3A.2-1. HANK UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Well number= 13
X-coordinate of well in ft= 1600.85
Y-coordinate of well in ft= 1691.23
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 14
X-coordinate of well in ft= 1676.01
Y-coordinate of well in ft= 1820.74
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 15
X-coordinate of well in ft= 1675.45
Y-coordinate of well in ft= 1922.40
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 16
X-coordinate of well in ft= 1684.90
Y-coordinate of well in ft= 2025.56
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 17
X-coordinate of well in ft= 1699.86
Y-coordinate of well in ft= 2120.48
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000

TABLE 3A.2-1. HANK UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 18
X-coordinate of well in ft= 1735.18
Y-coordinate of well in ft= 2289.13
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 19
X-coordinate of well in ft= 1801.86
Y-coordinate of well in ft= 2362.72
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 20
X-coordinate of well in ft= 1870.15
Y-coordinate of well in ft= 2432.08
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 21
X-coordinate of well in ft= 1885.59
Y-coordinate of well in ft= 2483.29
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 22
X-coordinate of well in ft= 1855.12

Y-coordinate of well in ft= 2612.23
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 23
X-coordinate of well in ft= 1793.77
Y-coordinate of well in ft= 2690.49
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 24
X-coordinate of well in ft= 1731.54
Y-coordinate of well in ft= 2774.18
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 25
X-coordinate of well in ft= 1694.68
Y-coordinate of well in ft= 2865.85
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 26
X-coordinate of well in ft= 1609.98
Y-coordinate of well in ft= 2991.32
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1

TABLE 3A.2-1. HANK UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Number of production, injection, and image wells
active during simulation period= 80
Well number= 27
X-coordinate of well in ft= 1579.67
Y-coordinate of well in ft= 3082.51
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 28
X-coordinate of well in ft= 1550.73
Y-coordinate of well in ft= 3187.18
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 29
X-coordinate of well in ft= 1527.38
Y-coordinate of well in ft= 3280.66
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 30
X-coordinate of well in ft= 1534.25
Y-coordinate of well in ft= 3449.13
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 31
X-coordinate of well in ft= 1488.42
Y-coordinate of well in ft= 3536.77
Well discharge in gpm= 0.43

TABLE 3A.2-1. HANK UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 32
X-coordinate of well in ft= 1446.55
Y-coordinate of well in ft= 3632.47
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 33
X-coordinate of well in ft= 1581.19
Y-coordinate of well in ft= 3742.27
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 34
X-coordinate of well in ft= 1597.83
Y-coordinate of well in ft= 3643.85
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 35
X-coordinate of well in ft= 1614.39
Y-coordinate of well in ft= 3544.78
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80

Well number= 36
X-coordinate of well in ft= 1632.77
Y-coordinate of well in ft= 3433.78
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 37
X-coordinate of well in ft= 1711.63
Y-coordinate of well in ft= 3299.01
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 38
X-coordinate of well in ft= 1740.21
Y-coordinate of well in ft= 3200.15
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 39
X-coordinate of well in ft= 1756.53
Y-coordinate of well in ft= 3110.10
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 40
X-coordinate of well in ft= 1781.40
Y-coordinate of well in ft= 3006.63
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000

TABLE 3A.2-1. HANK UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 41
X-coordinate of well in ft= 1777.54
Y-coordinate of well in ft= 2846.61
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 42
X-coordinate of well in ft= 1815.73
Y-coordinate of well in ft= 2752.34
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 43
X-coordinate of well in ft= 1833.30
Y-coordinate of well in ft= 2713.13
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 44
X-coordinate of well in ft= 1860.01
Y-coordinate of well in ft= 2657.45
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 45
X-coordinate of well in ft= 1913.13

Y-coordinate of well in ft= 2564.47
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 46
X-coordinate of well in ft= 2032.06
Y-coordinate of well in ft= 2479.22
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 47
X-coordinate of well in ft= 2041.59
Y-coordinate of well in ft= 2380.10
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 48
X-coordinate of well in ft= 2077.97
Y-coordinate of well in ft= 2291.13
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 49
X-coordinate of well in ft= 2092.97
Y-coordinate of well in ft= 2286.73
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1

TABLE 3A.2-1. HANK UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Number of production, injection, and image wells
active during simulation period= 80
Well number= 50
X-coordinate of well in ft= 2146.40
Y-coordinate of well in ft= 2239.30
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 51
X-coordinate of well in ft= 2147.02
Y-coordinate of well in ft= 2210.50
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 52
X-coordinate of well in ft= 2154.54
Y-coordinate of well in ft= 2141.64
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 53
X-coordinate of well in ft= 2061.98
Y-coordinate of well in ft= 2044.63
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 54
X-coordinate of well in ft= 2084.53
Y-coordinate of well in ft= 1976.52
Well discharge in gpm= 0.43

TABLE 3A.2-1. HANK UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 55
X-coordinate of well in ft= 2127.73
Y-coordinate of well in ft= 1884.79
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 56
X-coordinate of well in ft= 2175.12
Y-coordinate of well in ft= 1800.25
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 57
X-coordinate of well in ft= 2244.78
Y-coordinate of well in ft= 1675.96
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 58
X-coordinate of well in ft= 2212.88
Y-coordinate of well in ft= 1586.78
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80

Well number= 59
X-coordinate of well in ft= 2266.72
Y-coordinate of well in ft= 1502.42
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 60
X-coordinate of well in ft= 2318.09
Y-coordinate of well in ft= 1398.35
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 61
X-coordinate of well in ft= 2298.67
Y-coordinate of well in ft= 1588.04
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 62
X-coordinate of well in ft= 2263.57
Y-coordinate of well in ft= 1678.47
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 63
X-coordinate of well in ft= 2259.25
Y-coordinate of well in ft= 1792.03
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000

Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 64
X-coordinate of well in ft= 2226.67
Y-coordinate of well in ft= 1883.04
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 65
X-coordinate of well in ft= 2197.99
Y-coordinate of well in ft= 1980.90
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 66
X-coordinate of well in ft= 2180.64
Y-coordinate of well in ft= 2072.04
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 67
X-coordinate of well in ft= 2132.39
Y-coordinate of well in ft= 2336.68
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 68
X-coordinate of well in ft= 2108.13

Y-coordinate of well in ft= 2444.13
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 69
X-coordinate of well in ft= 2022.55
Y-coordinate of well in ft= 2570.34
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 70
X-coordinate of well in ft= 1975.16
Y-coordinate of well in ft= 2646.67
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 71
X-coordinate of well in ft= 1938.57
Y-coordinate of well in ft= 2739.26
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 72
X-coordinate of well in ft= 1904.00
Y-coordinate of well in ft= 2830.40
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1

TABLE 3A.2-1. HANK UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Number of production, injection, and image wells
active during simulation period= 80
Well number= 73
X-coordinate of well in ft= 1951.65
Y-coordinate of well in ft= 2982.63
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 74
X-coordinate of well in ft= 1955.59
Y-coordinate of well in ft= 3084.14
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 75
X-coordinate of well in ft= 1956.85
Y-coordinate of well in ft= 3180.47
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 76
X-coordinate of well in ft= 1960.80
Y-coordinate of well in ft= 3278.37
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 77
X-coordinate of well in ft= 1886.53
Y-coordinate of well in ft= 3427.11
Well discharge in gpm= 0.43

TABLE 3A.2-1. HANK UNIT MODEL BLEED RATE REVERSAL PRINTOUT

Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 78
X-coordinate of well in ft= 1858.10
Y-coordinate of well in ft= 3521.32
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 79
X-coordinate of well in ft= 1835.88
Y-coordinate of well in ft= 3624.43
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 80
X-coordinate of well in ft= 1810.23
Y-coordinate of well in ft= 3720.12
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Number of observation wells for which time-
drawdown tables are desired 1
Observation well number= 1
I-coordinate of observation well= 1
J-coordinate of observation well= 1
Aquifer transmissivity in gpd/ft= 400.00
Aquifer storativity as a decimal= 0.050000

NODAL COMPUTATION RESULTS:

SIMULATION PERIOD DURATION IN DAYS: 365.000

VALUES OF DRAWDOWN OR RECOVERY (FT) AT NODES:

TABLE 3A.2-1. HANK UNIT MODEL BLEED RATE REVERSAL PRINTOUT

		I-COLUMN														
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
J-ROW	**1**	1.4	1.74	2.15	2.63	3.2	3.86	4.63	5.51	6.52	7.66	8.94	10.36	11.87	13.4	14.59
	2	1.33	1.66	2.06	2.54	3.11	3.78	4.55	5.46	6.49	7.67	9	10.49	12.13	13.82	14.68
	3	1.27	1.6	2	2.48	3.05	3.72	4.51	5.43	6.49	7.71	9.09	10.67	12.48	14.64	14.36
	4	1.23	1.55	1.95	2.43	3	3.68	4.48	5.42	6.51	7.76	9.18	10.8	12.68	13.77	13.59
	5	1.19	1.51	1.91	2.38	2.96	3.65	4.46	5.41	6.52	7.8	9.26	10.84	12.31	12.8	12.47
	6	1.16	1.47	1.86	2.34	2.92	3.6	4.42	5.39	6.52	7.83	9.34	11.19	11.77	12.34	11.81
	7	1.12	1.43	1.82	2.29	2.86	3.55	4.36	5.33	6.47	7.81	9.36	10.85	11.42	11.63	11.19
	8	1.08	1.39	1.77	2.23	2.79	3.46	4.27	5.24	6.37	7.71	9.3	10.38	11.01	10.92	10.48
	9	1.04	1.34	1.7	2.15	2.69	3.35	4.14	5.09	6.21	7.51	9.06	9.88	10.66	10.12	9.67
	10	0.99	1.27	1.62	2.05	2.57	3.2	3.96	4.88	5.97	7.24	8.62	9.53	9.62	9.39	9.06
	11	0.93	1.2	1.52	1.92	2.41	3.01	3.73	4.6	5.65	6.95	8.4	9.06	8.91	8.72	8.24
	12	0.87	1.11	1.41	1.78	2.23	2.78	3.43	4.23	5.21	6.49	7.63	8.25	8.03	7.95	7.25
	13	0.8	1.02	1.29	1.63	2.03	2.51	3.09	3.78	4.6	5.59	6.49	7.13	6.94	7.03	6.18
	14	0.72	0.92	1.16	1.46	1.81	2.22	2.71	3.28	3.91	4.6	5.25	5.7	5.65	5.52	5.04
	15	0.64	0.82	1.03	1.28	1.58	1.93	2.33	2.77	3.25	3.73	4.15	4.41	4.46	4.33	4.04

OBSERVATION WELL COMPUTATION RESULTS WITH FULL WELL PENETRATION AND WITHOUT WELLBORE STORAGE:

TIME-DRAWDOWN OR RECOVERY TABLE

OBSERVATION WELL NUMBER: 1

TIME(DAYS)	DRAWDOWN OR RECOVERY(FT)
365.000	1.40

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

HANK 3 BLEED WELLFIELD T=400 S=0.05 Q=80+5gpm to s. 9
AO AND WO = 1 1

GENERAL DATA BASE:

TS = 1
Number of simulation periods for which drawdown
or recovery is to be calculated 1
Simulation period number= 1
Duration of simulation period in days= 365.000
Number of grid columns= 15
Number of grid rows= 15
Grid spacing in ft= 100.00
X-coordinate of upper-left grid node in ft= 500.00
Y-coordinate of upper-left grid node in ft= 2500.00
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 1
X-coordinate of well in ft= 594.02
Y-coordinate of well in ft= 12.50
Well discharge in gpm= 7.24
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 2
X-coordinate of well in ft= 874.32
Y-coordinate of well in ft= 448.87
Well discharge in gpm= 6.39
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 3
X-coordinate of well in ft= 994.43
Y-coordinate of well in ft= 786.30
Well discharge in gpm= 5.12
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

Number of production, injection, and image wells
active during simulation period= 80
Well number= 4
X-coordinate of well in ft= 1279.26
Y-coordinate of well in ft= 865.50
Well discharge in gpm= 5.54
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 5
X-coordinate of well in ft= 1592.78
Y-coordinate of well in ft= 851.82
Well discharge in gpm= 5.96
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 6
X-coordinate of well in ft= 2262.24
Y-coordinate of well in ft= 520.58
Well discharge in gpm= 3.41
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 7
X-coordinate of well in ft= 2343.71
Y-coordinate of well in ft= 876.39
Well discharge in gpm= 5.12
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 8
X-coordinate of well in ft= 2096.80
Y-coordinate of well in ft= 886.38
Well discharge in gpm= 5.96

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 9
X-coordinate of well in ft= 1257.75
Y-coordinate of well in ft= 1187.65
Well discharge in gpm= 5.54
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 10
X-coordinate of well in ft= 1491.81
Y-coordinate of well in ft= 1427.70
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 11
X-coordinate of well in ft= 1536.19
Y-coordinate of well in ft= 1506.94
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 12
X-coordinate of well in ft= 1576.03
Y-coordinate of well in ft= 1604.57
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

Well number= 13
X-coordinate of well in ft= 1600.85
Y-coordinate of well in ft= 1691.23
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 14
X-coordinate of well in ft= 1676.01
Y-coordinate of well in ft= 1820.74
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 15
X-coordinate of well in ft= 1675.45
Y-coordinate of well in ft= 1922.40
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 16
X-coordinate of well in ft= 1684.90
Y-coordinate of well in ft= 2025.56
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 17
X-coordinate of well in ft= 1699.86
Y-coordinate of well in ft= 2120.48
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 18
X-coordinate of well in ft= 1735.18
Y-coordinate of well in ft= 2289.13
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 19
X-coordinate of well in ft= 1801.86
Y-coordinate of well in ft= 2362.72
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 20
X-coordinate of well in ft= 1870.15
Y-coordinate of well in ft= 2432.08
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 21
X-coordinate of well in ft= 1885.59
Y-coordinate of well in ft= 2483.29
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 22
X-coordinate of well in ft= 1855.12

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

Y-coordinate of well in ft= 2612.23
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 23
X-coordinate of well in ft= 1793.77
Y-coordinate of well in ft= 2690.49
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 24
X-coordinate of well in ft= 1731.54
Y-coordinate of well in ft= 2774.18
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 25
X-coordinate of well in ft= 1694.68
Y-coordinate of well in ft= 2865.85
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 26
X-coordinate of well in ft= 1609.98
Y-coordinate of well in ft= 2991.32
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

Number of production, injection, and image wells
active during simulation period= 80
Well number= 27
X-coordinate of well in ft= 1579.67
Y-coordinate of well in ft= 3082.51
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 28
X-coordinate of well in ft= 1550.73
Y-coordinate of well in ft= 3187.18
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 29
X-coordinate of well in ft= 1527.38
Y-coordinate of well in ft= 3280.66
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 30
X-coordinate of well in ft= 1534.25
Y-coordinate of well in ft= 3449.13
Well discharge in gpm= 0.98
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 31
X-coordinate of well in ft= 1488.42
Y-coordinate of well in ft= 3536.77
Well discharge in gpm= 0.98

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 32
X-coordinate of well in ft= 1446.55
Y-coordinate of well in ft= 3632.47
Well discharge in gpm= 0.98
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 33
X-coordinate of well in ft= 1581.19
Y-coordinate of well in ft= 3742.27
Well discharge in gpm= 0.98
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 34
X-coordinate of well in ft= 1597.83
Y-coordinate of well in ft= 3643.85
Well discharge in gpm= 0.98
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 35
X-coordinate of well in ft= 1614.39
Y-coordinate of well in ft= 3544.78
Well discharge in gpm= 0.98
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

Well number= 36
X-coordinate of well in ft= 1632.77
Y-coordinate of well in ft= 3433.78
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 37
X-coordinate of well in ft= 1711.63
Y-coordinate of well in ft= 3299.01
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 38
X-coordinate of well in ft= 1740.21
Y-coordinate of well in ft= 3200.15
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 39
X-coordinate of well in ft= 1756.53
Y-coordinate of well in ft= 3110.10
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 40
X-coordinate of well in ft= 1781.40
Y-coordinate of well in ft= 3006.63
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 41
X-coordinate of well in ft= 1777.54
Y-coordinate of well in ft= 2846.61
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 42
X-coordinate of well in ft= 1815.73
Y-coordinate of well in ft= 2752.34
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 43
X-coordinate of well in ft= 1833.30
Y-coordinate of well in ft= 2713.13
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 44
X-coordinate of well in ft= 1860.01
Y-coordinate of well in ft= 2657.45
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 45
X-coordinate of well in ft= 1913.13

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

Y-coordinate of well in ft= 2564.47
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 46
X-coordinate of well in ft= 2032.06
Y-coordinate of well in ft= 2479.22
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 47
X-coordinate of well in ft= 2041.59
Y-coordinate of well in ft= 2380.10
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 48
X-coordinate of well in ft= 2077.97
Y-coordinate of well in ft= 2291.13
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 49
X-coordinate of well in ft= 2092.97
Y-coordinate of well in ft= 2286.73
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

Number of production, injection, and image wells
active during simulation period= 80
Well number= 50
X-coordinate of well in ft= 2146.40
Y-coordinate of well in ft= 2239.30
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 51
X-coordinate of well in ft= 2147.02
Y-coordinate of well in ft= 2210.50
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 52
X-coordinate of well in ft= 2154.54
Y-coordinate of well in ft= 2141.64
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 53
X-coordinate of well in ft= 2061.98
Y-coordinate of well in ft= 2044.63
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 54
X-coordinate of well in ft= 2084.53
Y-coordinate of well in ft= 1976.52
Well discharge in gpm= 0.43

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 55
X-coordinate of well in ft= 2127.73
Y-coordinate of well in ft= 1884.79
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 56
X-coordinate of well in ft= 2175.12
Y-coordinate of well in ft= 1800.25
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 57
X-coordinate of well in ft= 2244.78
Y-coordinate of well in ft= 1675.96
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 58
X-coordinate of well in ft= 2212.88
Y-coordinate of well in ft= 1586.78
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

Well number= 59
X-coordinate of well in ft= 2266.72
Y-coordinate of well in ft= 1502.42
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 60
X-coordinate of well in ft= 2318.09
Y-coordinate of well in ft= 1398.35
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 61
X-coordinate of well in ft= 2298.67
Y-coordinate of well in ft= 1588.04
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 62
X-coordinate of well in ft= 2263.57
Y-coordinate of well in ft= 1678.47
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 63
X-coordinate of well in ft= 2259.25
Y-coordinate of well in ft= 1792.03
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 64
X-coordinate of well in ft= 2226.67
Y-coordinate of well in ft= 1883.04
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 65
X-coordinate of well in ft= 2197.99
Y-coordinate of well in ft= 1980.90
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 66
X-coordinate of well in ft= 2180.64
Y-coordinate of well in ft= 2072.04
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 67
X-coordinate of well in ft= 2132.39
Y-coordinate of well in ft= 2336.68
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 68
X-coordinate of well in ft= 2108.13

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

Y-coordinate of well in ft= 2444.13
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 69
X-coordinate of well in ft= 2022.55
Y-coordinate of well in ft= 2570.34
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 70
X-coordinate of well in ft= 1975.16
Y-coordinate of well in ft= 2646.67
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 71
X-coordinate of well in ft= 1938.57
Y-coordinate of well in ft= 2739.26
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 72
X-coordinate of well in ft= 1904.00
Y-coordinate of well in ft= 2830.40
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

Number of production, injection, and image wells
active during simulation period= 80
Well number= 73
X-coordinate of well in ft= 1951.65
Y-coordinate of well in ft= 2982.63
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 74
X-coordinate of well in ft= 1955.59
Y-coordinate of well in ft= 3084.14
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 75
X-coordinate of well in ft= 1956.85
Y-coordinate of well in ft= 3180.47
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 76
X-coordinate of well in ft= 1960.80
Y-coordinate of well in ft= 3278.37
Well discharge in gpm= 0.43
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 77
X-coordinate of well in ft= 1886.53
Y-coordinate of well in ft= 3427.11
Well discharge in gpm= 0.43

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 78
X-coordinate of well in ft= 1858.10
Y-coordinate of well in ft= 3521.32
Well discharge in gpm= 0.98
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 79
X-coordinate of well in ft= 1835.88
Y-coordinate of well in ft= 3624.43
Well discharge in gpm= 0.98
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 80
Well number= 80
X-coordinate of well in ft= 1810.23
Y-coordinate of well in ft= 3720.12
Well discharge in gpm= 0.98
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Number of observation wells for which time-
drawdown tables are desired 1
Observation well number= 1
I-coordinate of observation well= 1
J-coordinate of observation well= 1
Aquifer transmissivity in gpd/ft= 400.00
Aquifer storativity as a decimal= 0.050000

NODAL COMPUTATION RESULTS:

SIMULATION PERIOD DURATION IN DAYS: 365.000

VALUES OF DRAWDOWN OR RECOVERY (FT) AT NODES:

TABLE 3A.2-2. HANK UNIT MODEL BLEED RATE REVERSAL PLUS 5 GPM PRINTOUT

		I-COLUMN														
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
J-ROW	**1**	1.53	1.9	2.34	2.85	3.46	4.16	4.97	5.89	6.93	8.1	9.4	10.82	12.34	13.85	15.02
	2	1.48	1.85	2.3	2.82	3.44	4.16	4.99	5.94	7.02	8.23	9.59	11.09	12.72	14.4	15.23
	3	1.46	1.83	2.28	2.82	3.45	4.19	5.05	6.04	7.16	8.42	9.84	11.43	13.24	15.38	15.05
	4	1.45	1.83	2.29	2.84	3.49	4.26	5.15	6.18	7.35	8.66	10.13	11.77	13.64	14.7	14.47
	5	1.45	1.84	2.31	2.88	3.55	4.35	5.28	6.35	7.57	8.94	10.46	12.07	13.53	13.97	13.57
	6	1.45	1.85	2.33	2.92	3.61	4.44	5.41	6.53	7.81	9.25	10.85	12.74	13.3	13.82	13.18
	7	1.46	1.86	2.35	2.95	3.67	4.53	5.54	6.72	8.06	9.58	11.26	12.81	13.36	13.47	12.88
	8	1.45	1.86	2.36	2.97	3.71	4.6	5.65	6.89	8.31	9.92	11.7	12.87	13.44	13.22	12.56
	9	1.44	1.85	2.35	2.97	3.72	4.63	5.72	7.01	8.53	10.25	12.13	13.04	13.72	12.97	12.21
	10	1.41	1.81	2.31	2.93	3.68	4.59	5.71	7.06	8.69	10.6	12.65	13.63	13.44	12.91	12.16
	11	1.37	1.76	2.24	2.84	3.58	4.48	5.59	6.97	8.7	10.89	13.44	14.16	13.49	13.04	12.08
	12	1.31	1.68	2.14	2.71	3.41	4.28	5.34	6.67	8.38	10.75	12.8	13.77	12.99	12.75	11.31
	13	1.23	1.58	2.01	2.54	3.19	3.98	4.95	6.13	7.61	9.45	11.14	12.29	11.66	11.84	9.99
	14	1.14	1.46	1.85	2.33	2.91	3.61	4.44	5.43	6.58	7.83	9.05	9.86	9.63	9.28	8.27
	15	1.04	1.33	1.67	2.1	2.6	3.19	3.88	4.67	5.53	6.39	7.15	7.59	7.61	7.29	6.68

OBSERVATION WELL COMPUTATION RESULTS WITH FULL WELL PENETRATION AND WITHOUT WELLBORE STORAGE:

TIME-DRAWDOWN OR RECOVERY TABLE

OBSERVATION WELL NUMBER: 1

TIME(DAYS)	DRAWDOWN OR RECOVERY(FT)
365.000	1.53

ADDENDUM 6A:

LANDOWNER ROAD DESIGN CONSTRUCTION LETTER

November 2007

T CHAIR LAND COMPANY
1024 BROWN ROAD
GILLETTE, WYOMING 82718

November 19, 2007

Land Quality Division
Department of Environmental Quality
Sheridan, Wyoming

To Whom It May Concern:

This letter is in reference to the mine access roads being proposed by Uranerz Energy Corporation for the Nichols Ranch and Hank uranium production units.

The T Chair Land Company has its own road construction method. This is the method we want Uranerz to use pertaining to uranium mining sites. We do not favor this method because Uranerz wants it, we favor it because we want it.

I have successfully used this method of road construction previously which involves removing the top layer of good topsoil (which I believe you call the A horizon) and temporarily windrowing it to each side. Then the barrow ditch is cut with the subsoil from the ditch going onto the road bed to elevate it. This helps to keep snow from drifting on the road. The topsoil is then placed in the drainage ditch on each side of the road and reseeded. This method has been used successfully in commercial oil and gas industry for many years

I believe in this method as far as keeping the good topsoil in its place – on top! Reseeding takes place quicker in the topsoil which reduces wind and water erosion. I have always had a problem with mixing the 2nd layer of topsoil (B horizon) in with the good topsoil as it slows down the reseeding and the more material you move the more you are going to lose. Also, we want the amount of soil placed in storage piles and windrows to be kept to an absolute minimum. These piles result in a loss of soil from erosion plus natural grass is covered up and not available for gazing.

As a reminder, final reclamation involves the windrowing of the A horizon soil in the ditch to the outside of the backslop, removing the gravel from the road bed, ripping the road bed and placing the subsoil (B horizon) back in the ditch, ripping the road surface and ditch area again, replacing the good topsoil on top of the subsoil and reseeding. We believe that this procedure will adequately reclaim the road.

If the method being proposed for access road construction is not acceptable we want to know why. If we were going to build a temporary ranch this the method we would use. As the Landowners who's livelihood depends on good range land, we are sure that the method we use to construct roads prevents topsoil loss and will make for good reclamations when the time comes.

Also, in the unlikely event of a spill of chemical compounds on the road or side ditches we would like Uranerz to clean the affected area including the affected top soil and then replace to top soil as needed.

T-Chair Land Company

Patricia Clark
for Gene Mankin
Gene Mankin

ADDENDUM 6B:

NICHOLS RANCH ISR PROJECT SURETY ESTIMATE

November 2007

Uranerz
ENERGY CORPORATION

Surety Estimate
First Year of Operation
Nichols Ranch ISR Project
Uranerz Energy Corporation

Total Restoration and Reclamation Cost Estimates

No.	Cost Item	Cost
1	GROUNDWATER RESTORATION COST	$1,663,961
2a	PLANT EQUIPMENT REMOVAL AND DISPOSAL COST	$193,550
2b	BUILDING DEMOLITION AND DISPOSAL COST	$875,924
3	SOIL REMOVAL & DISPOSAL COST	$221,497
4	TOTAL WELL ABANDONMENT COST	$555,939
5	WELLFIELD EQUIPMENT REMOVAL & DISPOSAL COST	$391,755
6	TOPSOIL REPLACEMENT & REVEGETATION COST	$442,366
7	MISCELLANEOUS RECLAMATION COST	$12,175
	Subtotal Restoration and Reclamation Cost Estimate	$4,357,167
	Subtotal	$4,357,167
	Administration,Overhead and Contingency (25%)	$1,089,292
	Total	$5,446,459
	TOTAL CALCULATED IN 2007 DOLLARS	$5,446,459

Surety Estimate
First Year of Operation
Nichols Ranch ISR Project
Uranerz Energy Corporation

Worksheet 1, No. I --
GROUNDWATER RESTORATION

Cost Item	Production Area		
	Nichols Ranch #1	Hank #1	Sub Total
Technical Assumptions			
Wellfield Area (Ft^2)	1,551,650	1,153,049	
Wellfield Area (Acres)	35.62	26.47036	
Affected Ore Zone Area (Ft^2)	1,551,650	1,153,049	
Avg Completed Thickness (Ft)	7.27	8.6	
Factor for Flare	1.3	1.3	
Affected Volume:	14,664,643	12,891,086	
Porosity	0.27	0.27	
Gallons per Cubic Foot	7.48	7.48	
Gallon per Pore Volume	29,616,713	26,034,636	
Number of Wells in Unit(s)			
Recovery Wells	233	186	
Injection Wells	259	232	
Monitor Wells	33	28	
Average Well Spacing (Ft)	100	100	
Average Well Depth (Ft)	550	390	
I Groundwater Sweep			
A. Plant & Office			
Operating Assumptions:			
Flowrate (gpm)	50	0	
PV's Required	2.47	0.00	
Total Gallons for Treatment	73,051,200	0	
Total Kgals for Treatment	73,051	0	
Cost Assumptions:			
Power			
Avg Connected Hp	15	0	
Kwh's/Hp	0.75	0.75	
$/Kwh	0.05	0.05	
Gallons per Minute	50	50	
Gallons per Hour	3000	3000	
Cost per Hour	$0.56	$0.00	
Cost per Kgal ($)	$0.188	$0.000	
Chemicals			
Barium Chloride ($/Kgals)	$0.041	$0.041	
Antiscalent ($/Kgals)	$0.000	$0.000	
Elution ($/Kgals)	$0.099	$0.099	
Repair & Maintenance ($/Kgals)	$0.061	$0.061	
Analysis ($/Kgals)	$0.164	$0.164	
Total Cost per Kgal	$0.65	$0.37	
Total Treatment Cost	$40,361	$0	
Utilities			
Power ($/Month)	$1,800	$0	
Propane ($/Month)	$800	$0	
Time for Treatment			
Minutes for Treatment	1,461,024	0	
Hours for Treatment	24,350	0	
Days for Treatment	1,015	0	
Average Days per Month	30	30	
Months for Treatment	33.8	0.0	
Years for Treatment	2.82	0.00	
Utilities Cost ($)	$87,932	$0	
TOTAL PLANT & OFFICE COST	**$128,293**	**$0**	**$128,293**
B. WELLFIELD			
Cost Assumptions:			
Power			
Avg Flow/Pump (gpm)	1	0	
Avg Hp/Pump	1.5	1.5	
Avg # of Pumps Required	50	0	
Avg Connected Hp	75	0	
Kwh's/Hp	0.75	0.75	
$/Kwh	0.05	0.05	
Gallons per Minute	50	0	
Gallons per Hour	3000	0	
Costs per Hour ($)	$2.81	$0.00	
Costs per Gallon ($)	$0.0009	0	
Costs per Kgal ($)	$0.94	$0.00	
Repair & Maintenance ($/Kgals)	$0.016	$0.016	
Total Cost per Kgal	$0.954	$0.016	
TOTAL WELLFIELD COST	**$69,654**	**$0**	**$69,654**
TOTAL GROUNDWATER SWEEP COST	**$197,947**	**$0**	**$197,947**

Surety Estimate
First Year of Operation
Nichols Ranch ISR Project
Uranerz Energy Corporation

Worksheet 1, No. II
GROUNDWATER RESTORATION

Cost Item	Production Area		
	Nichols Ranch #1	Hank #1	Sub Total
II REVERSE OSMOSIS			
A. PLANT & OFFICE			
Operating Assumptions:			
Flowrate (gpm)	50	0	
PV's Required	2.47	0.00	
Total Gallons for Treatment	73,051,200	0	
Total Kgals for Treatment	73,051	0	
Feed to RO (gpm)	50	0	
Permeate Flow (gpm)	40	0	
Brine Flow (gpm)	10	0	
Average RO Recovery	80%	80%	
Cost Assumptions:			
Power			
Avg Connected Hp	20	0	
kWh/Hp	0.75	0.75	
$/Kwh	0.05	0.05	
Gallons per Minute	50	0	
Gallons per Hour	3000	0	
Cost per Hour ($)	$0.75	$0.00	
Cost per Gallon ($)	$0.0003	$0.0000	
Cost per Kgal ($)	$0.25	$0.00	
Chemicals			
Sulfuric Acid ($/Kgals)	$0.076	$0.000	
Caustic Soda ($/Kgals)	$0.111	$0.000	
Hydrochloric Acid ($Kgals)	$0.009	$0.000	
Hydrochloric Sulfide ($Kgals)	$0.304	$0.000	
Repair & Maintenance ($Kgals)	$0.279	$0.000	
Sampling & Analysis ($/Kgals)	$0.164	$0.000	
Total Cost per Kgal ($)	$1.19	$0.000	
Total Pumping Cost ($)	$87,150	$0.000	
Utilities			
Power ($/Month)	1,800	0	
Propane ($/Month)	800	0	
Time for Treatment	0	0	
Minutes for Treatment	1,461,024	0	
Hours for Treatment	24,350	0	
Days for Treatment	1,015	0	
Average Days per Month	30	30	
Months for Treatment	34	0	
Utilities Cost ($)	$87,932	$0	
TOTAL PLANT & OFFICE COST	$175,082	$0	$175,082
B. WELLFIELD			
Cost Assumptions:			
Power			
Avg Flow/Pump (gpm)	1	0	
Avg Hp/Pump	1.5	1.5	
Avg # of Pumps Required	65	0	
Avg Connected Hp	97.5	0	
Kwh's/Hp	0.75	0.75	
$/Kwh	0.05	0.05	
Gallons per Minute	65	0	
Gallons per Hour	3900	0	
Costs per Hour ($)	3.65625	0	
Costs per Gallon ($)	$0.0009	$0.0000	
Costs per Kgal ($)	$0.94	$0.00	
Repair & Maintenance ($/Kgals)	$0.016	$0.016	
Total Cost per Kgal	$0.954	$0.016	
TOTAL WELLFIELD COST	$69,654	$0	$69,654
TOTAL REVERSE OSMOSIS COST	$244,736	$0	$244,736

Surety Estimate
First Year of Operation
Nichols Ranch ISR Project
Uranerz Energy Corporation

Worksheet 1, No III --
GROUNDWATER RESTORATION

	Production Area		
Cost Item	Nichols Ranch #1	**Hank #1**	**Sub Total**
III Deep Disposal Well			
Operating Assumptions:			
Total Disposal Requirement			
RO Brine Total Gallons	14,610,240	0	
RO Brine Total Kgallons	14,610	0	
Brine Concentration Factor	1	1	
Total Concentrated Brine (Gals)	14,610,240	0	
Months of RO Operation	33.8	0.0	
Average Monthly Reqm't (Gallons)	432,000	0	
Average Brine Flow (gpm)	10.0	0.0	
Total DDW Disposal (Gallons)	14,610,240	0	
Total DDW Disposal (Kgallons)	14,610	0	
Cost Assumptions:			
Avg Connected Hp	20	0	
Kwh's/Hp	0.75	0.75	
$/Kwh	0.05	0.05	
Gallons per Minute	10.0	0.0	
Gallons per Hour	600	0	
Cost per Hour ($)	$0.75	$0.00	
Cost per Gallon ($)	$0.0013	$0.0000	
Cost per Kgal ($)	$1.25	$0.00	
Chemicals			
RO Antiscalent ($/Kgals)	$0.192	$0.000	
WDW Antiscalent ($/Kgals)	$0.226	$0.000	
Sulfuric Acid ($/Kgals)	$0.280	$0.000	
Corrosion Inhibitor	$0.217	$0.000	
Algacide	$0.080	$0.000	
Other	$0.000	$0.000	
Repair & Maint. ($/Kgals)	$0.230	$0.000	
Total Cost per Kgal	$2.475	$0.000	
TOTAL DEEP DISPOSAL WELL COST	**$36,160**	**$0**	**$36,160**

Surety Estimate
First Year of Operation
Nichols Ranch ISR Project
Uranerz Energy Corporation

Worksheet 1, Nos. IV & V --
GROUNDWATER RESTORATION

Cost Item	Production Area			
	Nichols Ranch #1	Hank #1	Subtotal	
IV STABILIZATION MONITORING				
Operating Assumptions:				
Time of Stabilization (mos)	33.8	0.0		
Frequency of Analysis (mos)	3	3		
Total Sets of Analysis	12	0		
Cost Assumptions:				
Power ($/Month)	$0	$0		
Total Power Cost	$0	$0		
Sampling & Analysis (each set)	$3,960	$3,960		
Total Sampling & Analysis Cost ($)	$47,520	$0		
Utilities ($/Month)	$0	$0		
Total Utilities Cost ($)	$0	$0		
TOTAL STABILIZATION COST	**$47,520**	**$0**	**$47,520**	
V LABOR		**Labor Cost Factors**		
Cost Assumptions:	No.	Cost/Hour	Hours/Year	Cost
Crew:				
1. Supervisor	1	29	2080	$60,320
2. Operators	4	22	2080	$183,040
3. Maintenance	2	20	2080	$83,200
4. Vehicles	2	10	2080	$41,600
Cost per Year				**$368,160**
Time Required - Years	2.82			
TOTAL RESTORATION LABOR COST	**$1,037,598**			

Surety Estimate
First Year of Operation
Nichols Ranch ISR Project
Uranerz Energy Corporation

Worksheet 1, Nos. VI, VII & Summary --
GROUNDWATER RESTORATION

Cost Item	Production Area		
	Nichols Ranch #1	Hank #1	Sub Total
VI RESTORATION CAPITAL REQUIREMENTS			
I Deep Disposal Well(s)	1	1	
II Plug and Abandon DDW	$50,000	50,000	
III Reverse Osmosis Unit	$0		
TOTAL RESTORATION CAPITAL REQUIREMENTS	**$50,000**	**$50,000**	**$100,000**
VII RESTORATION OF EXCURSION WELLS			
I Shallow Sand Well(s)			
Total Wells in Excursion	0	0	
Cost of Clean-Up	$0	$0	
Total Shallow Sand Cleanup	$0	$0	
II Ore Zone Wells			
Total Wells in Excursion	0	0	
Cost of Clean-Up	$0	$0	
Total Ore Zone Cleanup	$0	$0	
III Deep Zone Wells			
Total Wells in Excursion	0	0	
Cost of Clean-Up	$0	$0	
Total Deep Zone Cleanup	$0	$0	
TOTAL WELLFIELD COST			
TOTAL EXCURSION CLEANUP COST	**$0**	**$0**	**$0**

Groundwater Restoration Cost Summary

SUMMARY:			
I GROUNDWATER SWEEP	$197,947		
II REVERSE OSMOSIS	$244,736		
III WASTE DISPOSAL WELL	$36,160		
IV STABILIZATION	$47,520		
SUB TOTAL	$526,364		
V LABOR	$1,037,598		
VI CAPITAL	$100,000		
VII EXCURSION CLEANUP	$0		
TOTAL GROUNDWATER RESTORATION COST	**$1,663,961**		

Surety Estimate
First Year of Operation
Nichols Ranch ISR Project
Uranerz Energy Corporation

Worksheet 2 a.1
PLANT EQUIPMENT REMOVAL AND DISPOSAL

Cost Item	Nichols Ranch Unit						
	Office & Laboratory	Main Process Building	Maintenance Building	Resin + Sand Filter Media	External Tanks	Header Houses	Sub Total
Volume (Yds^3)	40	200	45	110	25	240	
Quantity per Truck Load (Yds^3)	20	20	20	20	20	20	
Number of Truck Loads	2	10	2.25	5.5	1.25	12	
I Decontamination Cost							
Decontamination Cost ($/Load)	600	600	600	600	600	600	
Percent Requiring Decontamination	20%	100%	20%	0%	50%	100%	
Total Cost	$240	$6,000	$270	$0	$375	$7,200	
II Dismantle and Loading Cost							
Cost per Truck Load ($)	$800	$800	$800	$800	$800	$800	
Total Cost	$1,600	$8,000	$1,800	$4,400	$1,000	$9,600	
III Oversize Charges							
Percent Requiring Permits	40%	40%	40%	0%	50%	40%	
Cost per Truck Load ($)	$400	$400	$400	$400	$400	$400	
Total Cost	$320	$1,600	$360	$0	$250	$1,920	
IV Transportation & Disposal							
A. Landfill							
Percent to be Shipped	90%	80%	90%	0%	100%	80%	
Distance (Miles)	50	50	50	50	50	50	
Transport Cost ($/Ton-Mile)	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	
Transportation Cost	$292	$1,296	$328	$0	$203	$1,555	
Disposal Fee per Cubic Yard	$15	$15	$15	$15	$15	$15	
Disposal Cost ($)	$540	$2,400	$608	$0	$375	$2,880	
Total Cost	$832	$3,696	$936	$0	$578	$4,435	
B. Licensed Site							
Percent to be Shipped	10%	20%	10%	100%	0%	20%	
Distance (Miles)	160	160	160	160	160	160	
Transport Cost ($/Ton-Mile)	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	
Transport Cost	$691	$6,912	$778	$19,008	$0	$8,294	
Disposal Cost ($/Ton)	$350	$350	$350	$350	$350	$350	
Quantity per Truck Load (Yds^3)	20	20	20	20	20	20	
Quantity per Truck Load (Tons)	21.6	21.6	21.6	21.6	21.6	21.6	
Disposal Cost	$1,512	$15,120	$1,701	$41,580	$0	$18,144	
Total Cost	$2,344	$18,816	$2,637	$41,580	$578	$22,579	
Total Cost	$3,175	$22,512	$3,572	$41,580	$1,155	$27,014	
TOTAL COST NICHOLS RANCH UNIT	$5,335	$38,112	$6,002	$45,980	$2,780	$45,734	$143,944

Surety Estimate
First Year of Operation
Nichols Ranch ISR Project
Uranerz Energy Corporation

Worksheet 2 a.2
PLANT EQUIPMENT REMOVAL AND DISPOSAL

Cost Item	Hank Mine Unit				
	IX Building	Resin + Sand Filter Media	Maintenance Building	Header Houses	Sub Total
Volume (Yds^3)	100	110	25	220	
Quantity per Truck Load (Yds^3)	20	20	20	20	
Number of Truck Loads	5	5.5	1.25	11	
I Decontamination Cost					
Decontamination Cost ($/Load)	600	600	600	600	
Percent Requiring Decontamination	20%	0%	50%	100%	
Total Cost	$600	$0	$375	$6,600	
II Dismantle and Loading Cost					
Cost per Truck Load ($)	$800	$800	$800	$800	
Total Cost	$4,000	$4,400	$1,000	$8,800	
III Oversize Charges					
Percent Requiring Permits	40%	0%	50%	40%	
Cost per Truck Load ($)	$400	$400	$400	$400	
Total Cost	$800	$0	$250	$1,760	
IV Transportation & Disposal					
A. Landfill					
Percent to be Shipped	100%	100%	100%	100%	
Distance (Miles)	50	50	50	50	
Transport Cost ($/Ton-Mile)	$0.15	$0.15	$0.15	$0.15	
Transportation Cost	$810	$891	$203	$1,782	
Disposal Fee per Cubic Yard	$15	$15	$15	$15	
Disposal Cost ($)	$1,500	$1,650	$375	$3,300	
Total Cost	$2,310	$2,541	$578	$5,082	
B. Licensed Site					
Percent to be Shipped	0%	0%	0%	0%	
Distance (Miles)	160	160	160	160	
Transport Cost ($/Ton-Mile)	$0.15	$0.15	$0.15	$0.15	
Transport Cost	$0	$0	$0	$0	
Disposal Cost ($/Ton)	$350	$350	$350	$350	
Quantity per Truck Load (Yds^3)	20	20	20	20	
Quantity per Truck Load (Tons)	21.6	21.6	21.6	21.6	
Disposal Cost	$0	$0	$0	$0	
Total Cost	$2,310	$2,541	$578	$5,082	
Total Cost	$4,620	$5,082	$1,155	$10,164	
TOTAL COST HANK UNIT	$10,020	$9,482	$2,780	$27,324	$49,606

Worksheet 2 b.1 --
BUILDING DEMOLITION AND DISPOSAL

Cost Item	Nichols Ranch Unit				
	Office & Laboratory	Main Process Building	Maintenance Building	Header Houses	Sub Total
STRUCTURE DEMOLITION & DISPOSAL					
Structural Character					
Demolition Volume (Ft^3)	90,000	1,188,000	144,000	3,000	
Unit Cost of Demolition ($/ Ft^3)	$0.178	$0.178	$0.178	$0.178	
Total Demolition Cost	$16,020	$211,464	$25,632	$534	
Weight of Disposal Material in Tons	41	535	65	1	
Factor for Gutting	0.1	0.3	0.2	0.25	
Cost for Gutting ($)	$1,602	$63,439	$5,126	$134	
Quantity per Truck Load (Ton)	21.6	21.6	21.6	21.6	
Number of Truckloads	1.9	24.8	3.0	0.1	
Distance to Landfill	60	60	60	60	
Unit Cost (Ton-Mile)	$0.15	$0.15	$0.15	$0.15	
Transportation Cost	$364.50	$4,811.40	$583.20	$12.15	
Disposal Cost ($/ton)	$56.63	$56.63	$56.63	$56.63	
Disposal Cost ($)	$2,293.52	$30,274.40	$3,669.62	$76.45	
TOTAL STRUCTURE DEMO & DISPOSAL	$20,280	$309,989	$35,011	$758	$366,036
CONCRETE DECONTAMINATION, DEMO & DISPOSAL					
Area	9000	29700	8000	3000	
Average Thickness (Ft)	0.5	0.5	0.5	0.5	
Volume (Ft^3)	4500	14850	4000	11880	
Weight of Disposal Concrete Assuming 145lbs/cubic foot	652,500	2,153,250	580,000	1,722,600	
Weight of Disposal in Tons	326	1077	290	861	
Percent Requiring Decontamination	0%	100%	0%	10%	
Volume Decontaminated (Ft^2)	0	14,850	0	1,188	
Decontamination ($/$Ft^2$)	$0.2845	$0.2845	$0.2845	$0.2845	
Decontamination Cost	$0	$4,225	$0	$338	
Demolition ($/$Ft^2$)	$3.40	$3.40	$3.40	$3.40	
Demolition Cost	$30,600	$100,980	$27,200	$10,200	
Transportation & Disposal					
A. Onsite Disposal					
Percent to be Disposed Onsite	100%	75%	100%	100%	
Transportation Cost	$0	$0	$0	$0	
Disposal Cost per Cubic Yard ($)	$5.00	$5.00	$5.00	$5.00	
Disposal Cost ($)	$833	$2,750	$741	$2,200	
B. Licensed Site					
Percent to be Shipped	0%	25%	0%	0%	
Distance (Miles)	160	160	160	160	
Unit Cost (Ton-Mile)	$0.15	$0.15	$0.15	$0.15	
Transportation Cost ($)	$0	$6,460	$0	$0	
Disposal Cost ($/Ton)	$350	$350	$350	$350	
Disposal Cost ($)	$0	$94,205	$0	$0	
TOTAL TRANSPORT & DISPOSAL COST	$31,433	$208,619	$27,941	$12,738	$280,731
TOTAL BUILDING DEMO & DISPOSAL COST - NICHOLS RANCH UNIT	$51,713	$518,608	$62,952	$13,494	$646,768

Surety Estimate
First Year of Operation
Nichols Ranch ISR Project
Uranerz Energy Corporation

Worksheet 2 b.1 --
BUILDING DEMOLITION AND DISPOSAL

Cost Item	Hank Mine Unit			
	IX Building	Maintenance Building	Header Houses	Sub Total
STRUCTURE DEMOLITION & DISPOSAL				
Structural Character				
Demolition Volume (Ft^3)	358,400	180,000	2,750	
Unit Cost of Demolition ($/ Ft^3)	$0.178	$0.178	$0.178	
Total Demolition Cost	$63,795	$32,040	$490	
Weight of Disposal Material in Tons	161	81	1	
Factor for Gutting	0.3	0.2	0.25	
Cost for Gutting ($)	$19,139	$6,408	$122	
Quantity per Truck Load (Ton)	21.6	21.6	21.6	
Number of Truckloads	7.5	3.8	0.1	
Distance to Landfill	60	60	60	
Unit Cost (Ton-Mile)	$0.15	$0.15	$0.15	
Transportation Cost	$1,451.52	$729.00	$11.14	
Disposal Cost ($/ton)	$56.63	$56.63	$56.63	
Disposal Cost ($)	$9,133.29	$4,587.03	$70.08	
TOTAL STRUCTURE DEMO & DISPOSAL	$93,519	$43,764	$693	$137,976
CONCRETE DECONTAMINATION, DEMO & DISPOSAL				
Area	12,800	10,000	2,750	
Average Thickness (Ft)	0.5	0.5	0.5	
Volume (Ft^3)	6400	5000	11880	
Weight of Disposal Concrete Assuming 145lbs/cubic foot	928,000	725,000	1,722,600	
Weight of Disposal in Tons	464	363	861	
Percent Requiring Decontamination	0%	0%	0%	
Volume Decontaminated (Ft^2)	0	0	0	
Decontamination ($/$Ft^2$)	$0.2845	$0.2845	$0.2845	
Decontamination Cost	$0	$0	$0	
Demolition ($/$Ft^2$)	$3.40	$3.40	$3.40	
Demolition Cost	$43,520	$34,000	$9,350	
Transportation & Disposal				
A. Onsite Disposal				
Percent to be Disposed Onsite	100%	100%	100%	
Transportation Cost	$0	$0	$0	
Disposal Cost per Cubic Yard ($)	$5.00	$5.00	$5.00	
Disposal Cost ($)	$1,185	$926	$2,200	
B. Licensed Site				
Percent to be Shipped	0%	0%	0%	
Distance (Miles)	160	160	160	
Unit Cost (Ton-Mile)	$0.15	$0.15	$0.15	
Transportation Cost ($)	$0	$0	$0	
Disposal Cost ($/Ton)	$350	$350	$350	
Disposal Cost ($)	$0	$0	$0	
TOTAL TRANSPORT & DISPOSAL COST	$44,705	$34,926	$11,550	$91,181
TOTAL BUILDING DEMO & DISPOSAL COST - HANK UNIT	$138,224	$78,690	$12,243	$229,157

Surety Estimate
First Year of Operation
Nichols Ranch ISR Project
Uranerz Energy Corporation

Worksheet 3 a --
SOIL REMOVAL & DISPOSAL

Cost Item	Nichols Ranch Unit				
	Office & Laboratory	Main Process Building	Maintenance Building	Header Houses	Sub Total
SOIL EXCAVATION, TRANSPORT & DISPOSAL					
Removal Under Building Footprints					
Excavation, Front End Loader	$45	$150	$40	$15	
Quantity to be Shipped (Ft^3)	2,250	7,425	2,000	750	
Weight in Tons	112.5	371.25	100	37.5	
Distance (Miles)	160	160	160	160	
Transportation Unit Cost (Ton/Mile)	$0.150	$0.150	$0.150	$0.150	
Transportation Cost	$2,700	$8,910	$2,400	$900	
Disposal Fee ($/Ton)	$350	$350	$350	$350	
Disposal Cost ($)	$39,375	$129,938	$35,000	$13,125	$217,438
Removal NPDES Pts.					
Quantity to be Shipped (Ft^3)	0	0	0	0	
Weight in Tons	0	0	0	0	
Distance (Miles)	160	160	160	160	
Transportation Cost Ton/Mile ($)	$0.015	$0.015	$0.015	$0.015	
Transportation Cost	$0	$0	$0	$0	
Disposal Fee ($/Ton)	$350	$350	$350	$350	
Disposal Cost ($)	$0	$0	$0	$0	
Total NPDES Removal Cost	$0	$0	$0	$0	$0
TOTAL SOILS EXC., TRANSPORT & DISPOSAL	$39,375	$129,938	$35,000	$13,125	$217,438
RADIATION SURVEY					
Area Required (Acres)	0.21	0.68	0.18	0.07	
Survey Cost ($/Acre)	$600	$600	$600	$600	
Number of Structures	1	1	1	12	
Cost per Structure ($)	$225	$225	$225	$225	
TOTAL RAD SURVEY COST	$349	$634	$335	$2,741	$4,060
TOTAL SOIL REMOVAL & DISPOSAL COST	$39,724	$130,572	$35,335	$15,866	$221,497

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Worksheet 3 a --
SOIL REMOVAL & DISPOSAL

Cost Item	HANK UNIT			
	IX Building	Maintenance Building	Header Houses	Sub Total
SOIL EXCAVATION, TRANSPORT & DISPOSAL				
Removal Under Building Footprints				
Excavation, Front End Loader	$0	$0	$0	
Quantity to be Shipped (Ft^3)	0	0	0	
Weight in Tons	0	0	0	
Distance (Miles)	160	160	160	
Transportation Unit Cost (Ton/Mile)	$0.150	$0.150	$0.150	
Transportation Cost	$0	$0	$0	
Disposal Fee ($/Ton)	$350	$350	$350	
Disposal Cost ($)	$0	$0	$0	$0
Removal NPDES Pts.				
Quantity to be Shipped (Ft^3)	0	0	0	
Weight in Tons	0	0	0	
Distance (Miles)	160	160	160	
Transportation Cost Ton/Mile ($)	$0.015	$0.015	$0.015	
Transportation Cost	$0	$0	$0	
Disposal Fee ($/Ton)	$350	$350	$350	
Disposal Cost ($)	$0	$0	$0	
Total NPDES Removal Cost	$0	$0	$0	$0
TOTAL SOILS EXC., TRANSPORT & DISPOSAL	$0	$0	$0	$0
RADIATION SURVEY				
Area Required (Acres)	0.00	0.00	0.00	
Survey Cost ($/Acre)	$600	$600	$600	
Number of Structures	0	0	0	
Cost per Structure ($)	$225	$225	$225	
TOTAL RAD SURVEY COST	$0	$0	$0	$0
TOTAL SOIL REMOVAL & DISPOSAL COST	$0	$0	$0	$0

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Worksheet 4 --
Well Abandonment

Cost Item	Production Area		
	Nichols Ranch #1	Hank #1	Sub Total
Number of Wells	515	446	
Average Depth (ft)	550	390	
Average Diameter (inch)	5	5	
Area of Annulus (ft^2)	0.1364	0.1364	
Materials			
Bentonite Chips Required (Ft^3/Well)	40.9	40.9	
Bags of Chips Required/Well	55	55	
Cost per Bag ($)	$6.45	$6.45	
Cost/Well Bentonite Chips ($)	$355	$355	
Gravel Fill Required (Ft^3/Well)	34.1	12.3	
Cost of Gravel/Yd^3 ($)	$20	$20	
Cost/Well Gravel Fill ($)	$25	$9	
Cement Cone/Markers Req'd/Well	1	1	
Cost of Cement Cones Markers ($)	$6	$6	
Total Materials Cost per Well	$386	$370	
Labor			
Hours Required per Well	2	2	
Labor Cost per Hour	$70	$70	
Total Labor Cost per Well ($)	140	140	
Equipment Rental			
Hours Required per Well	1	1	
Backhoe w/Operator Cost/Hr ($)	$60	$60	
Total Equipment Cost per Well ($)	$60	$60	
Total Cost per Well ($)	$586	$570	
TOTAL WELL ABANDONMENT COST ($)	**$301,790**	**$254,149**	**$555,939**

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Worksheet 5, No. I --
WELLFIELD EQUIPMENT REMOVAL & DISPOSAL

	Production Area		
Cost Item	Nichols Ranch #1	Hank #1	Sub Total
I Wellfield Piping			
A. Removal			
Total Number of Wells	482	418	
Feeder lines from HH to Injection wells 1" HDPE (Ft)	71,560	49,494	
Pregnant solution feeder lines from production wells to HH 1" HDPE (Ft)	50,427	44,703	
Total Quantity of 1" HDPE Piping (Ft)	121,987	94,197	
Plastic Volume (Ft^3)	400.05	308.76	
Chipped Volume Assuming 30% Void Space (Ft^3)	520.07	401.39	
Disposal Weight (tons)	20.80	16.06	
Quantity per Truck Load (Tons)	21.6	21.6	
Total Number of Truck Loads	1	1	
Total Length of Feeder line Trench (ft)	40,765	31,814	
Pipeline Removal Unit Cost ($/ft of trench)	$2.25	$2.25	
Total Cost for Trunkline Removal ($)	$91,720	$71,580	
Total Cost - Removal	$91,720	$71,580	
B. Survey & Decontamination			
Percent Requiring Decontamination	0	0	
Loads for Decontamination	0	0	
Cost for Decontamination ($/Load)	$600	$600	
Cost for Decontamination ($)	$0	$0	$0
C. Transport & Disposal			
1.) Landfill			
a. Transportation			
Percent to be Shipped	0%	100%	
Loads to be Shipped	0	1	
Distance (Miles)	50	50	
Transportation Cost (Ton/Mile) ($)	$0.15	$0.15	
Transportation Cost ($)	$0	$8	$0
b. Disposal			
Disposal Fee per Yd^3	$15	$15	
Yds^3 per Load	20	20	
Disposal Cost ($)	$0	$300	
Total Cost - Landfill	$0	$308	$308
2.) Licensed Site			
a. Transportation			
Percent to be Shipped	100%	0%	
Loads to be Shipped	1	0	
Tons to be Shipped	20.80	0.00	
Distance (Miles)	160	160	
Transportation Ton/Mile ($)	$0.150	$0.150	
Transportation Cost ($)	$499	$0	
b. Disposal			
Disposal Fee per ton	$350	$350	
Disposal Cost ($)	7,281	0	
Total Cost - Licensed Site	$7,780	$0	
Total Cost - Transport & Disposal	$7,780	$308	
Total Cost - WF Piping Removal & Disposal	**99,500**	**71,888**	**$171,388**

Surety Estimate
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Nichols Ranch ISR Project
Uranerz Energy Corporation

Worksheet 5, No. II
WELLFIELD EQUIPMENT REMOVAL & DISPOSAL

Cost Item	Production Area		
	Nichols Ranch #1	Hank #1	Sub Total
II Production Well Pumps			
A. Pump and Tubing Removal			
Number of Production Wells	233	186	
Cost of Removal ($/well)	$40	$0	
Cost of Removal ($)	$9,320	$0	
Number of Pumps per Truck Load	180	180	
Number of Truck Loads (Pumps)	1.29	1.03	
Weight of Pumps	21.29	21.03	
B. Survey & Decontamination (Pumps)			
Percent Requiring Decontamination	50%	50%	
Loads for Decontamination	0.65	0.52	
Cost for Decontamination ($/Load)	$600	$600	
Cost for Decontamination ($)	$388	$310	
C. Tubing Volume Reduction & Loading			
Length per Well (Ft)	300	140	
Total Quantity (Ft^3)	229.2	85.4	
Chipped Volume Assuming 30% Void Space (Ft^3)	298.0	111.0	
Cost of Removal ($/Ft)	$0.03	$0.03	
Cost of Removal ($)	$9.00	$4.20	
Quantity per Truck Load (Ft^3)	540	540	
Number of Truck Loads	0.42	0.16	
D. Transport & Disposal			
1.) Landfill			
a. Transportation			
Percent to be Shipped (Pumps)	50%	100%	
Percent to be Shipped (Tubing)	0%	100%	
Loads to be Shipped	0.6	1.2	
Distance (Miles)	50	50	
Transportation Ton/Mile ($)	$0.15	$0.15	
Transportation Cost ($)	$105	$193	
b. Disposal			
Disposal Fee per Yd^3	$15	$15	
Yds^3 per Load	20	20	
Disposal Cost ($)	$194	$357	
Total Cost - Landfill	$299	$550	
2.) Licensed Site			
a. Transportation			
Percent to be Shipped (Pumps)	50%	0%	
Percent to be Shipped (Tubing)	100%	0%	
Loads to be Shipped	1.07	0.00	
Distance (Miles)	160	160	
Transportation Ton/Mile ($)	$0.15	$0.15	
Transportation Cost ($)	$556	$0	
b. Disposal			
Disposal Cost per Ft^3	$15	$15	
Disposal Fee per Yd^3	20	20	
Quantity Per Truck Load (Yds^3)	$322	$0	
Disposal Cost ($)	$877	$0	
Total Cost - Licensed Site	$1,433	$0	
Total Cost - Transport & Disposal	$1,732	$550	
Total Cost - Pump Removal & Disposal	**$11,449**	**$865**	**$12,314**

Surety Estimate
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Uranerz Energy Corporation

Worksheet 5, No. III
WELLFIELD EQUIPMENT REMOVAL & DISPOSAL

Cost Item	Production Area		
	Nichols Ranch #1	Hank #1	Sub Total
III Buried Trunkline			
A. Removal			
Trunk lines from Resin Plant to HH 8" HDPE Pipe (Ft)	38,473	13,882	
Pregnant solution trunk lines form HH to Resin Plant 8" HDPE Pipe (Ft)	38,473	13,882	
Total Quantity of 8" HDPE Piping (Ft)	76,946	27,764	
Plastic Volume (Ft^3)	51,906	18,729	
Chipped Volume Assuming 30% Void Space (Ft^3)	67,478	24,348	
Disposal Tons	320	115	
Quantity per Truck Load (Tons)	21.6	21.6	
Total Number of Truck Loads	15	6	
Total Length of Trunkline Trench (ft)	38,473	0	
Pipeline Removal Unit Cost ($/ft of trench)	$2.25	$2.25	
Total Cost for Trunkline Removal ($)	$86,564	$0	$86,564
B. Survey & Decontamination			
Percent Requiring Decontamination	0	0	
Loads for Decontamination	0	0	
Cost for Decontamination ($/Load)	$600	$600	
Cost for Survey & Decontamination ($)	$0	$0	$0
C. Transportation & Disposal			
1.) Landfill			
a. Transportation			
Percent to be Shipped	0%	100%	
Loads to be Shipped	0	6	
Distance (Miles)	50	50	
Transportation Cost (Ton/Mile) ($)	$0.15	$0.15	0.6
Transportation Cost ($)	$0	$45	
b. Disposal			
Disposal Fee per Yd^3	$15	$15	
Yds^3 per Load	20	20	80
Disposal Cost ($)	$0	$1,800	1800
Total Cost - Landfill	$0	$1,845	
2.) Licensed Site			
a. Transportation			
Percent to be Shipped	100%	0%	
Loads to be Shipped	15	0	
Tons to be Shipped	319.90	0.00	
Distance (Miles)	160	160	
Transportation Ton/Mile ($)	$0.150	$0.150	
Transportation Cost ($)	$7,678	$0	
b. Disposal			
Disposal Fee per ton	$350	$350	
Disposal Cost ($)	$111,966	$0	
Total Cost - Licensed Site	$119,644	$0	$268,532
Total Cost Transportation & Disposal	**$119,644**	**$1,845**	**$270,377**
Total Cost - Buried Trunkline Removal & Disposal	**$206,208**	**$1,845**	**$356,941**
TOTAL WELLFIELD EQUIPMENT REMOVAL & DISPOSAL COST	$317,157	$74,598	$391,755

Surety Estimate
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Uranerz Energy Corporation

Worksheet 6, No. I
TOPSOIL REPLACEMENT & REVEGETATION

	Production Area		
Cost Item	Nichols Ranch #1	Hank #1	Sub Total
I Process Plant and Office Building			
A. Topsoil Handling & Grading			
Affected Area (Acres)	5.2	0	
Average Affected Thickness (Ins)	12	0	
Topsoil Volume (Yds^3)	8,356	0	
Unit Cost	$5	$0	
Sub Total - Topsoil	$41,782	$0	
B. Radiation Survey & Soil Analysis			
Unit Cost ($/Ac)	$600	$600	
Sub Total - Survey & Analysis	$3,108	$0	
C. Revegation			
Fertilizer ($/Ac)	$232.00	$232.00	
Seeding Prep & Seeding ($/Ac)	$227.00	$227.00	
Mulching & Crimping ($/Ac)	$100.00	$100.00	
Sub Total Cost/Acre	$559.00	$559.00	
Sub Total Revegation	$2,895	$0	
TOTAL PLANT AND OFFICE BUILDING TOPSOIL REPLACEMENT & REVEG COST	**$47,786**	**$0**	**$47,786**

Surety Estimate
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Nichols Ranch ISR Project
Uranerz Energy Corporation

Worksheet 6, Nos. II & III
TOPSOIL REPLACEMENT & REVEGETATION

Cost Item	Production Area		
	Nichols Ranch #1	Hank #1	Sub Total
II Wellfields			
A. Topsoil Handling & Grading			
Affected Area (Acres)	22	11	
Average Affected Thickness (Inch)	12	12	
Topsoil Volume (Yds^3)	35,217	17,674	
Unit Cost - Haul/Place/Grading ($/cy)	$5.00	$5.00	
Sub Total - Topsoil	$176,083	$88,371	
B. Radiation Survey & Soil Analysis			
Unit Cost ($/Ac)	$600	$600	
Sub Total - Survey & Analysis	$13,097	$6,573	
C. Spill Cleanup			
Affected Area (Acres)	0	0	
Affected Area (Ft^2)	0	0	
Affected Area Thickness (Ft)	0.25	0.25	
Affected Volume (Ft^3)	0	0	
Quantity per Truckload (Ft^3)	540	540	
Quantity to be Shipped (Loads)	0	0	
Distance (Miles)	160	160	
Transportation Cost (Ton/Mile) ($)	$0.15	$0.15	
Transportation Cost ($)	$0	$0	
Handling Cost ($/Load)	$200	$200	
Handling Cost ($)	$0	$0	
Disposal Fee ($/Ton)	$350	$350	
Disposal Cost ($)	$0	$0	
Sub Total - Spill Cleanup	$0	$0	
D. Revegation			
Fertilizer ($/Ac)	$232.00	$232.00	
Seeding Prep & Seeding ($/Ac)	$227.00	$227.00	
Mulching & Crimping ($/Ac)	$100.00	$100.00	
Sub Total Cost/Acre	$559.00	$559.00	
Sub Total Revegation	$12,202	$6,124	
Sub Total - Wellfields	$201,383	$101,068	
TOTAL WELLFIELDS COST	**$201,383**	**$101,068**	
III Roads			
A. Topsoil Handling & Grading			
Affected Area (Acres)	5.17	4.82	
Average Affected Thickness (Ins)	12	12	
Topsoil Volume (Yds^3)	8,333	7,778	
Unit Cost - Haul/Place/Grading ($/cy)	$5.00	$5.00	
Sub Total - Topsoil	$41,667	$38,889	
B. Radiation Survey & Soil Analysis			
Unit Cost ($/Ac)	$600	$600	
Sub Total - Survey & Analysis	$3,099	$2,893	
C. Revegation			
Fertilizer ($/Ac)	$232	$232	
Seeding Prep & Seeding ($/Ac)	$227	$227	
Mulching & Crimping ($/Ac)	$100	$100	
Sub Total Cost/Acre	$559	$559	
Sub Total Revegation	$2,887	$2,695	
Sub Total - Roads	$47,653	$44,476	
TOTAL ROADS COST	**$47,653.24**	**$44,476.35**	**$92,129.59**

Surety Estimate
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Uranerz Energy Corporation

Worksheet 6, Nos IV & V
TOPSOIL REPLACEMENT & REVEGETATION

Cost Item	Production Area		
	Nichols Ranch #1	Hank #1	Sub Total
IV Other			
A. Topsoil Handling & Grading			
Affected Area (Acres)	0	0	
Average Affected Thickness (Ins)	3	3	
Topsoil Volume (Yds^3)	0	0	
Unit Cost - Haul/Place/Grading ($/Ac)	$5.00	$5.00	
Sub Total - Topsoil	$0	$0	
B. Radiation Survey & Soil Analysis			
Unit Cost ($/Ac)	$600	$600	
Sub Total - Survey & Analysis	$0	$0	
C. Revegation			
Fertilizer ($/Ac)	$232.00	$232.00	
Seeding Prep & Seeding ($/Ac)	$227.00	$227.00	
Mulching & Crimping ($/Ac)	$100.00	$100.00	
Sub Total Cost/Acre	$559.00	$559.00	
Sub Total Revegation	$0	$0	
Sub Total - Other	$0	$0	
TOTAL OTHER COST	$0	$0	$0
V Remedial Action			
A. Topsoil Handling & Grading			
Affected Area (Acres)	0	0	
Average Affected Thickness (Ins)	3	3	
Topsoil Volume (Yds^3)	0	0	
Unit Cost - Haul/Place/Grading ($/cy)	$5.00	$5.00	
Sub Total - Topsoil	$0	$0	
B. Radiation Survey & Soil Analysis			
Unit Cost ($/Ac)	$600	$600	
Sub Total - Survey & Analysis	$0	$0	
C. Revegation			
Fertilizer ($/Ac)	$232.00	$232.00	
Seeding Prep & Seeding ($/Ac)	$227.00	$227.00	
Mulching & Crimping ($/Ac)	$100.00	$100.00	
Sub Total Cost/Acre	$559.00	$559.00	
Sub Total Revegation	$0	$0	
TOTAL REMEDIAL ACTION	$0	$0	$0
TOTAL TOPSOIL REPLACEMENT & REVEGETATION COST (Total of 7I through 7V)	$296,821	$145,544	$442,366

Surety Estimate
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Uranerz Energy Corporation

Worksheet 7, Nos I - VII
MISCELLANEOUS RECLAMATION

	Cost Item	Production Area		
		Nichols Ranch #1	Hank #1	Sub Total
I	**Fence Removal & Disposal**			
	Quantity (Ft)	8,558	12,078	
	Cost of Removal/Disposal ($/Ft)	$0.59	$0.59	
	Cost of Removal/Disposal ($)	$5,049	$7,126	$12,175
II	**Powerline Removal & Disposal**			
	Quantity (Ft)	160,460	152,862	
	Cost of Removal/Disposal ($/Ft)	$0	$0	
	Cost of Removal/Disposal ($)	$0	$0	0
III	**Powerpole Removal & Disposal**			
	Quantity	0	0	
	Cost of Removal/Disposal ($/Each)	0	0	
	Cost of Removal/Disposal ($)	$0.00	$0.00	$0.00
IV	**Transformer Removal & Disposal**			
	Quantity	0	0	
	Cost of Removal/Disposal ($/Each)	0	0	
	Cost of Removal/Disposal ($)	0	0	0
V	**Culvert Removal & Disposal**			
	Quantity (Ft)	0	0	
	Cost of Removal/Disposal ($/Ft)	$4.56	$4.56	
	Cost of Removal/Disposal ($)	$0.00	0	0
VI	**Guardrail Removal**			
	Quantity (Ft)	0	0	
	Cost of Removal/Disposal ($/Ft)	$6.50	$6.50	
	Cost of Removal/Disposal ($)	$0	0	0
VII	**Low Water Stream Crossing**			
	Quantity	0	0	
	Cost of Removal/Disposal ($/Each)	$8,000	$8,000	
	Cost of Removal/Disposal ($)	$0	$0	0
	TOTAL MISCELLANEOUS COST	**$5,049**	**$7,126**	**$12,175**

ADDENDUM 7A:

DRAWDOWN PREDICATIONS

November 2007

NICHOLS UNIT PUMP TESTS ADDENDUM 7A

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7A.1-1 NICHOLS RANCH UNIT MODEL DRAWDOWN PRINTOUT 7A.1-1

7A.2-1 HANK UNIT MODEL DRAWDOWN PRINTOUT 7A.2-1

TABLE 7A.1-1. NICHOLS RANCH UNIT MODEL DRAWDOWN PRINTOUT

NICHOLS UNIT 1% BLEED DRAWDOWN T=350 S=1.8E-4 Q= 35.0 GPM 1% BLEED
AO AND WO = 1 1

GENERAL DATABASE:

TS = 1
Number of simulation periods for which drawdown
or recovery is to be calculated 1
Simulation period number= 1
Duration of simulation period in days= 1095.000
Number of grid columns= 59
Number of grid rows= 64
Grid spacing in ft= 1000.00
X-coordinate of upper-left grid node in ft=-29000.00
Y-coordinate of upper-left grid node in ft=-29000.00
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 5
Well number= 1
X-coordinate of well in ft= 2800.00
Y-coordinate of well in ft= 3200.00
Well discharge in gpm= 35.00
Duration of pump operation during simulation period
in days= 1095.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 5
Well number= 2
X-coordinate of well in ft= 2800.00
Y-coordinate of well in ft= 3200.00
Well discharge in gpm= -35.00
Duration of pump operation during simulation period
in days= 730.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 5
Well number= 3
X-coordinate of well in ft= 400.00
Y-coordinate of well in ft= 1500.00
Well discharge in gpm= 35.00
Duration of pump operation during simulation period
in days= 730.000
Well radius in ft= 0.50
Simulation period number= 1

TABLE 7A.1-1. NICHOLS RANCH UNIT MODEL DRAWDOWN PRINTOUT

Number of production, injection, and image wells
active during simulation period= 5
Well number= 4
X-coordinate of well in ft= 400.00
Y-coordinate of well in ft= 1500.00
Well discharge in gpm= -35.00
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 5
Well number= 5
X-coordinate of well in ft= 1100.00
Y-coordinate of well in ft= 4300.00
Well discharge in gpm= 35.00
Duration of pump operation during simulation period
in days= 365.000
Well radius in ft= 0.50
Number of observation wells for which time-
drawdown tables are desired 1
Observation well number= 1
I-coordinate of observation well= 1
J-coordinate of observation well= 1
Aquifer transmissivity in gpd/ft= 350.00
Aquifer storativity as a decimal= 0.000180

NODAL COMPUTATION RESULTS:

SIMULATION PERIOD DURATION IN DAYS: 1095.000

VALUES OF DRAWDOWN OR RECOVERY (FT) AT NODES:

TABLE 7A.1-1. NICHOLS RANCH UNIT MODEL DRAWDOWN PRINTOUT

		I-COLUMN																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
J-ROW	1	0.86	0.93	1	1.08	1.16	1.24	1.33	1.42	1.52	1.61	1.71	1.81	1.91	2.01	2.11	2.21	2.3	2.4
	2	0.93	1	1.09	1.17	1.26	1.35	1.45	1.55	1.65	1.76	1.86	1.97	2.08	2.19	2.3	2.41	2.52	2.63
	3	1	1.09	1.18	1.27	1.37	1.47	1.57	1.68	1.8	1.91	2.03	2.15	2.27	2.39	2.52	2.64	2.76	2.87
	4	1.09	1.18	1.27	1.37	1.48	1.59	1.71	1.83	1.95	2.08	2.21	2.34	2.47	2.61	2.74	2.88	3.01	3.14
	5	1.17	1.27	1.37	1.48	1.6	1.72	1.85	1.98	2.11	2.25	2.4	2.54	2.69	2.84	2.98	3.13	3.28	3.42
	6	1.26	1.37	1.48	1.6	1.73	1.86	2	2.14	2.29	2.44	2.59	2.75	2.91	3.08	3.24	3.4	3.56	3.72
	7	1.35	1.47	1.59	1.72	1.86	2	2.15	2.31	2.47	2.63	2.8	2.98	3.16	3.33	3.51	3.69	3.87	4.04
	8	1.45	1.57	1.71	1.85	2	2.15	2.31	2.48	2.66	2.84	3.03	3.22	3.41	3.61	3.8	4	4.2	4.39
	9	1.55	1.68	1.83	1.98	2.14	2.31	2.48	2.67	2.86	3.06	3.26	3.47	3.68	3.89	4.11	4.33	4.54	4.75
	10	1.65	1.8	1.95	2.11	2.29	2.47	2.66	2.86	3.07	3.28	3.5	3.73	3.96	4.19	4.43	4.67	4.91	5.14
	11	1.75	1.91	2.08	2.25	2.44	2.64	2.84	3.06	3.28	3.51	3.75	4	4.25	4.51	4.77	5.03	5.29	5.55
	12	1.86	2.03	2.21	2.4	2.6	2.81	3.03	3.26	3.51	3.76	4.02	4.29	4.56	4.84	5.12	5.41	5.7	5.98
	13	1.97	2.15	2.34	2.54	2.76	2.99	3.22	3.48	3.74	4.01	4.29	4.58	4.88	5.19	5.5	5.81	6.12	6.43
	14	2.08	2.27	2.48	2.69	2.92	3.17	3.42	3.69	3.97	4.27	4.57	4.89	5.21	5.54	5.88	6.22	6.57	6.91
	15	2.2	2.4	2.61	2.85	3.09	3.35	3.62	3.91	4.22	4.53	4.86	5.2	5.55	5.91	6.28	6.66	7.04	7.41
	16	2.31	2.52	2.75	3	3.26	3.54	3.83	4.14	4.46	4.8	5.16	5.52	5.9	6.3	6.7	7.11	7.52	7.94
	17	2.42	2.65	2.89	3.15	3.43	3.72	4.03	4.36	4.71	5.07	5.46	5.85	6.26	6.69	7.13	7.57	8.02	8.48
	18	2.53	2.77	3.03	3.3	3.6	3.91	4.24	4.59	4.96	5.35	5.76	6.19	6.63	7.09	7.56	8.05	8.54	9.05
	19	2.64	2.89	3.16	3.45	3.76	4.09	4.44	4.82	5.21	5.63	6.06	6.52	7	7.5	8.01	8.54	9.08	9.63
	20	2.75	3.01	3.29	3.6	3.92	4.27	4.64	5.04	5.46	5.9	6.37	6.86	7.37	7.91	8.46	9.04	9.63	10.23
	21	2.85	3.12	3.42	3.74	4.08	4.45	4.84	5.26	5.7	6.17	6.67	7.19	7.74	8.32	8.92	9.54	10.19	10.85
	22	2.95	3.23	3.54	3.88	4.24	4.62	5.03	5.47	5.94	6.44	6.97	7.52	8.11	8.73	9.37	10.05	10.75	11.47
	23	3.04	3.34	3.66	4.01	4.38	4.78	5.22	5.68	6.17	6.69	7.25	7.84	8.47	9.13	9.83	10.55	11.31	12.1
	24	3.13	3.43	3.77	4.13	4.52	4.94	5.39	5.87	6.39	6.94	7.53	8.15	8.82	9.52	10.27	11.05	11.87	12.73
	25	3.2	3.52	3.87	4.24	4.65	5.08	5.55	6.05	6.59	7.17	7.79	8.45	9.15	9.9	10.69	11.53	12.42	13.35
	26	3.28	3.61	3.96	4.35	4.76	5.21	5.7	6.22	6.78	7.38	8.03	8.72	9.46	10.25	11.1	11.99	12.94	13.95
	27	3.34	3.68	4.04	4.44	4.87	5.33	5.83	6.37	6.95	7.58	8.25	8.97	9.75	10.58	11.47	12.42	13.44	14.52
	28	3.39	3.74	4.11	4.52	4.96	5.43	5.94	6.5	7.1	7.75	8.45	9.2	10.01	10.88	11.81	12.82	13.9	15.05
	29	3.44	3.79	4.17	4.58	5.03	5.51	6.04	6.61	7.23	7.89	8.61	9.39	10.23	11.13	12.11	13.17	14.3	15.53
	30	3.47	3.83	4.21	4.63	5.09	5.58	6.12	6.7	7.33	8.01	8.75	9.54	10.41	11.34	12.36	13.46	14.65	15.94
	31	3.5	3.85	4.24	4.67	5.13	5.63	6.17	6.76	7.4	8.09	8.84	9.66	10.55	11.51	12.55	13.69	14.92	16.27
	32	3.51	3.87	4.26	4.69	5.15	5.65	6.2	6.8	7.44	8.15	8.91	9.74	10.64	11.62	12.68	13.85	15.12	16.51
	33	3.51	3.87	4.26	4.69	5.15	5.66	6.21	6.81	7.46	8.16	8.93	9.77	10.68	11.67	12.75	13.93	15.22	16.64
	34	3.5	3.86	4.25	4.67	5.14	5.64	6.19	6.79	7.44	8.15	8.92	9.75	10.66	11.66	12.74	13.93	15.23	16.66
	35	3.48	3.83	4.22	4.65	5.11	5.61	6.16	6.75	7.4	8.1	8.86	9.69	10.6	11.59	12.67	13.85	15.14	16.57
	36	3.44	3.8	4.18	4.6	5.06	5.55	6.09	6.68	7.32	8.01	8.77	9.59	10.49	11.46	12.53	13.69	14.96	16.36
	37	3.4	3.75	4.13	4.54	4.99	5.48	6.01	6.59	7.22	7.9	8.64	9.44	10.32	11.28	12.32	13.45	14.69	16.05
	38	3.35	3.69	4.06	4.46	4.91	5.38	5.9	6.47	7.08	7.75	8.47	9.26	10.11	11.04	12.05	13.14	14.34	15.65
	39	3.28	3.62	3.98	4.38	4.81	5.27	5.78	6.33	6.93	7.57	8.27	9.04	9.86	10.75	11.72	12.77	13.92	15.16
	40	3.21	3.54	3.89	4.27	4.69	5.15	5.64	6.17	6.75	7.37	8.05	8.78	9.57	10.43	11.35	12.35	13.43	14.59
	41	3.13	3.45	3.79	4.16	4.57	5	5.48	5.99	6.55	7.15	7.79	8.49	9.25	10.06	10.94	11.88	12.89	13.98
	42	3.04	3.35	3.68	4.04	4.43	4.85	5.3	5.8	6.33	6.9	7.52	8.19	8.9	9.67	10.49	11.38	12.32	13.33
	43	2.95	3.24	3.56	3.91	4.28	4.68	5.12	5.59	6.1	6.64	7.23	7.86	8.53	9.25	10.02	10.85	11.72	12.65
	44	2.85	3.13	3.44	3.77	4.12	4.51	4.92	5.37	5.85	6.37	6.92	7.51	8.15	8.82	9.54	10.3	11.11	11.95
	45	2.75	3.01	3.31	3.62	3.96	4.33	4.72	5.14	5.6	6.09	6.61	7.16	7.75	8.38	9.04	9.75	10.48	11.26
	46	2.64	2.89	3.17	3.47	3.79	4.14	4.51	4.91	5.34	5.8	6.28	6.8	7.35	7.93	8.55	9.19	9.86	10.57
	47	2.53	2.77	3.03	3.32	3.62	3.95	4.3	4.68	5.08	5.5	5.96	6.44	6.95	7.49	8.05	8.64	9.25	9.89
	48	2.41	2.65	2.89	3.16	3.45	3.76	4.09	4.44	4.81	5.21	5.63	6.08	6.55	7.04	7.56	8.1	8.65	9.23
	49	2.3	2.52	2.75	3.01	3.28	3.56	3.87	4.2	4.55	4.92	5.31	5.72	6.16	6.61	7.08	7.57	8.07	8.59
	50	2.19	2.39	2.61	2.85	3.1	3.37	3.66	3.97	4.29	4.63	4.99	5.37	5.77	6.19	6.62	7.06	7.52	7.98
	51	2.07	2.27	2.47	2.7	2.93	3.18	3.45	3.74	4.04	4.35	4.69	5.03	5.4	5.78	6.17	6.57	6.98	7.4
	52	1.96	2.14	2.34	2.54	2.76	3	3.25	3.51	3.79	4.08	4.38	4.7	5.04	5.38	5.74	6.1	6.47	6.84
	53	1.85	2.02	2.2	2.39	2.6	2.82	3.05	3.29	3.54	3.81	4.09	4.39	4.69	5	5.32	5.65	5.98	6.32
	54	1.74	1.9	2.07	2.25	2.44	2.64	2.85	3.07	3.31	3.56	3.81	4.08	4.36	4.64	4.93	5.23	5.53	5.83
	55	1.64	1.78	1.94	2.11	2.28	2.47	2.66	2.87	3.08	3.31	3.55	3.79	4.04	4.3	4.56	4.83	5.1	5.37
	56	1.54	1.67	1.82	1.97	2.13	2.3	2.48	2.67	2.87	3.08	3.29	3.51	3.74	3.97	4.21	4.45	4.69	4.93
	57	1.44	1.56	1.7	1.84	1.99	2.14	2.31	2.48	2.66	2.85	3.05	3.25	3.45	3.66	3.88	4.1	4.31	4.53
	58	1.34	1.46	1.58	1.71	1.85	1.99	2.14	2.3	2.47	2.64	2.82	3	3.19	3.38	3.57	3.76	3.96	4.15
	59	1.25	1.36	1.47	1.59	1.72	1.85	1.99	2.13	2.28	2.44	2.6	2.77	2.93	3.11	3.28	3.45	3.63	3.8
	60	1.16	1.26	1.37	1.48	1.59	1.71	1.84	1.97	2.11	2.25	2.4	2.55	2.7	2.85	3.01	3.17	3.32	3.48
	61	1.08	1.17	1.27	1.37	1.47	1.58	1.7	1.82	1.94	2.07	2.2	2.34	2.48	2.62	2.76	2.9	3.04	3.18
	62	1	1.08	1.17	1.26	1.36	1.46	1.57	1.67	1.79	1.9	2.02	2.15	2.27	2.4	2.52	2.65	2.77	2.9
	63	0.93	1	1.08	1.17	1.25	1.35	1.44	1.54	1.64	1.75	1.86	1.97	2.08	2.19	2.31	2.42	2.53	2.64
	64	0.85	0.92	1	1.07	1.15	1.24	1.32	1.41	1.51	1.6	1.7	1.8	1.9	2	2.1	2.21	2.31	2.41

TABLE 7A.1-1. NICHOLS RANCH UNIT MODEL DRAWDOWN PRINTOUT

	I-COLUMN																	
J-ROW	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
1	2.49	2.58	2.66	2.74	2.81	2.88	2.94	2.99	3.04	3.07	3.1	3.12	3.12	3.12	3.11	3.09	3.06	3.02
2	2.73	2.83	2.92	3.01	3.09	3.16	3.23	3.29	3.34	3.38	3.41	3.42	3.43	3.43	3.42	3.39	3.36	3.32
3	2.99	3.1	3.2	3.3	3.39	3.47	3.54	3.61	3.66	3.71	3.74	3.76	3.77	3.76	3.75	3.72	3.69	3.64
4	3.26	3.38	3.5	3.61	3.71	3.8	3.88	3.95	4.01	4.06	4.1	4.12	4.13	4.13	4.11	4.08	4.04	3.98
5	3.56	3.69	3.82	3.94	4.05	4.16	4.25	4.33	4.39	4.45	4.49	4.51	4.52	4.52	4.5	4.47	4.42	4.36
6	3.88	4.02	4.17	4.3	4.42	4.54	4.64	4.73	4.8	4.86	4.91	4.93	4.94	4.94	4.92	4.88	4.83	4.76
7	4.22	4.38	4.54	4.68	4.82	4.95	5.06	5.16	5.24	5.31	5.36	5.39	5.4	5.39	5.37	5.33	5.27	5.19
8	4.58	4.76	4.93	5.1	5.25	5.39	5.52	5.62	5.72	5.79	5.84	5.88	5.89	5.89	5.86	5.81	5.74	5.66
9	4.96	5.16	5.35	5.54	5.71	5.86	6	6.12	6.23	6.31	6.37	6.41	6.42	6.41	6.38	6.33	6.25	6.16
10	5.37	5.59	5.8	6.01	6.2	6.37	6.53	6.66	6.78	6.87	6.94	6.98	6.99	6.98	6.95	6.89	6.8	6.7
11	5.8	6.05	6.28	6.51	6.72	6.91	7.09	7.24	7.37	7.47	7.54	7.59	7.61	7.6	7.56	7.49	7.39	7.27
12	6.26	6.53	6.79	7.04	7.28	7.49	7.69	7.86	8	8.11	8.2	8.25	8.27	8.26	8.21	8.14	8.03	7.89
13	6.74	7.04	7.33	7.61	7.87	8.11	8.33	8.52	8.68	8.81	8.9	8.96	8.99	8.97	8.92	8.83	8.71	8.56
14	7.25	7.58	7.91	8.22	8.51	8.77	9.02	9.23	9.41	9.56	9.66	9.73	9.76	9.74	9.68	9.58	9.44	9.27
15	7.79	8.16	8.51	8.86	9.18	9.48	9.75	10	10.2	10.36	10.48	10.56	10.59	10.57	10.5	10.39	10.23	10.04
16	8.35	8.76	9.15	9.54	9.9	10.24	10.54	10.82	11.05	11.23	11.37	11.46	11.49	11.46	11.39	11.26	11.08	10.86
17	8.94	9.39	9.83	10.26	10.66	11.04	11.39	11.7	11.96	12.17	12.33	12.42	12.46	12.43	12.35	12.2	12	11.74
18	9.55	10.05	10.54	11.02	11.47	11.9	12.29	12.64	12.94	13.18	13.36	13.48	13.52	13.49	13.39	13.22	12.99	12.7
19	10.18	10.74	11.28	11.82	12.33	12.82	13.26	13.66	14	14.28	14.49	14.62	14.67	14.63	14.52	14.32	14.05	13.72
20	10.84	11.45	12.06	12.66	13.24	13.79	14.3	14.76	15.15	15.48	15.72	15.87	15.92	15.88	15.74	15.52	15.21	14.82
21	11.52	12.2	12.88	13.55	14.2	14.83	15.41	15.94	16.4	16.77	17.05	17.23	17.3	17.25	17.09	16.82	16.46	16.01
22	12.21	12.96	13.72	14.47	15.21	15.93	16.6	17.21	17.75	18.19	18.52	18.73	18.81	18.75	18.56	18.25	17.82	17.3
23	12.91	13.74	14.59	15.44	16.28	17.09	17.87	18.58	19.21	19.74	20.14	20.39	20.48	20.41	20.19	19.81	19.31	18.69
24	13.62	14.54	15.48	16.43	17.39	18.32	19.22	20.06	20.81	21.44	21.92	22.23	22.34	22.26	21.99	21.53	20.92	20.19
25	14.32	15.34	16.38	17.46	18.54	19.62	20.67	21.66	22.56	23.32	23.91	24.29	24.43	24.33	23.99	23.43	22.7	21.82
26	15.01	16.12	17.29	18.49	19.72	20.97	22.19	23.37	24.46	25.4	26.14	26.62	26.8	26.67	26.24	25.55	24.64	23.57
27	15.67	16.89	18.18	19.52	20.92	22.36	23.8	25.21	26.54	27.71	28.65	29.28	29.52	29.35	28.79	27.9	26.76	25.45
28	16.3	17.62	19.03	20.53	22.11	23.76	25.46	27.16	28.8	30.29	31.52	32.35	32.68	32.45	31.71	30.54	29.09	27.46
29	16.86	18.29	19.83	21.49	23.26	25.15	27.14	29.19	31.24	33.17	34.82	35.97	36.44	36.12	35.08	33.51	31.61	29.57
30	17.35	18.88	20.55	22.36	24.33	26.47	28.78	31.25	33.81	36.36	38.65	40.34	41.04	40.56	39.03	36.82	34.3	31.72
31	17.75	19.37	21.14	23.1	25.26	27.65	30.3	33.23	36.43	39.8	43.1	45.76	46.94	46.13	43.69	40.46	37.06	33.82
32	18.04	19.73	21.59	23.67	25.99	28.61	31.58	34.97	38.87	43.31	48.18	52.73	55.05	53.44	49.14	44.24	39.68	35.68
33	18.21	19.94	21.87	24.03	26.47	29.25	32.47	36.25	40.78	46.35	53.36	61.85	67.95	63.53	54.95	47.6	41.77	37.05
34	18.24	20	21.95	24.15	26.65	29.51	32.85	36.82	41.71	47.99	56.74	70.93	100.31	75.13	58.96	49.47	42.8	37.68
35	18.14	19.89	21.83	24.02	26.5	29.33	32.64	36.56	41.35	47.44	55.67	67.77	81.77	70.83	57.69	48.86	42.42	37.41
36	17.91	19.62	21.51	23.64	26.03	28.75	31.87	35.5	39.8	44.93	51.03	57.61	61.56	58.77	52.34	46.05	40.72	36.27
37	17.55	19.19	21.01	23.03	25.28	27.8	30.63	33.84	37.44	41.43	45.58	49.21	50.94	49.75	46.38	42.24	38.19	34.5
38	17.07	18.63	20.35	22.23	24.3	26.58	29.08	31.8	34.72	37.73	40.56	42.76	43.7	43.06	41.06	38.31	35.3	32.35
39	16.5	17.96	19.56	21.28	23.15	25.17	27.33	29.61	31.94	34.21	36.2	37.64	38.23	37.83	36.53	34.62	32.39	30.05
40	15.85	17.21	18.67	20.23	21.9	23.67	25.51	27.4	29.26	30.98	32.44	33.44	33.84	33.57	32.67	31.29	29.6	27.76
41	15.15	16.39	17.72	19.12	20.59	22.13	23.69	25.25	26.74	28.08	29.17	29.9	30.19	29.99	29.34	28.31	27.01	25.54
42	14.4	15.53	16.73	17.98	19.27	20.6	21.92	23.21	24.42	25.47	26.31	26.87	27.08	26.94	26.45	25.66	24.63	23.45
43	13.62	14.65	15.72	16.83	17.96	19.1	20.23	21.3	22.29	23.13	23.8	24.23	24.39	24.28	23.9	23.28	22.46	21.5
44	12.84	13.77	14.72	15.7	16.69	17.67	18.63	19.53	20.34	21.03	21.56	21.9	22.03	21.94	21.64	21.14	20.48	19.7
45	12.06	12.89	13.74	14.61	15.47	16.32	17.13	17.89	18.56	19.13	19.56	19.84	19.94	19.87	19.63	19.22	18.68	18.03
46	11.29	12.03	12.79	13.55	14.3	15.04	15.73	16.37	16.94	17.41	17.76	17.99	18.08	18.02	17.82	17.49	17.04	16.5
47	10.54	11.2	11.88	12.54	13.2	13.84	14.43	14.98	15.45	15.85	16.15	16.33	16.41	16.36	16.2	15.92	15.55	15.09
48	9.81	10.41	11	11.59	12.16	12.71	13.23	13.69	14.1	14.43	14.68	14.84	14.9	14.86	14.73	14.5	14.18	13.79
49	9.12	9.64	10.17	10.69	11.19	11.67	12.11	12.51	12.86	13.14	13.36	13.49	13.54	13.51	13.39	13.2	12.93	12.6
50	8.45	8.92	9.39	9.84	10.28	10.7	11.09	11.43	11.73	11.97	12.15	12.27	12.31	12.28	12.19	12.02	11.8	11.51
51	7.82	8.24	8.65	9.05	9.44	9.8	10.14	10.44	10.69	10.9	11.06	11.15	11.19	11.17	11.09	10.95	10.75	10.51
52	7.22	7.59	7.96	8.31	8.65	8.97	9.26	9.52	9.74	9.92	10.06	10.14	10.18	10.16	10.09	9.97	9.8	9.59
53	6.66	6.99	7.31	7.63	7.93	8.2	8.46	8.68	8.88	9.03	9.15	9.22	9.25	9.24	9.18	9.08	8.93	8.75
54	6.13	6.42	6.71	6.99	7.25	7.5	7.72	7.92	8.08	8.22	8.32	8.39	8.41	8.4	8.35	8.26	8.14	7.98
55	5.63	5.9	6.15	6.4	6.63	6.84	7.04	7.21	7.36	7.48	7.57	7.62	7.65	7.63	7.59	7.51	7.41	7.27
56	5.17	5.41	5.63	5.85	6.05	6.24	6.42	6.57	6.7	6.8	6.88	6.93	6.95	6.94	6.9	6.83	6.74	6.62
57	4.74	4.95	5.15	5.34	5.52	5.69	5.84	5.98	6.09	6.18	6.25	6.29	6.31	6.3	6.27	6.21	6.13	6.03
58	4.34	4.53	4.71	4.88	5.04	5.18	5.32	5.44	5.53	5.61	5.67	5.71	5.73	5.72	5.7	5.65	5.58	5.49
59	3.97	4.14	4.3	4.45	4.59	4.72	4.84	4.94	5.03	5.1	5.15	5.19	5.2	5.2	5.17	5.13	5.07	4.99
60	3.63	3.78	3.92	4.05	4.18	4.29	4.4	4.49	4.57	4.63	4.67	4.7	4.72	4.71	4.69	4.66	4.6	4.54
61	3.31	3.44	3.57	3.69	3.8	3.9	3.99	4.07	4.14	4.2	4.24	4.27	4.28	4.28	4.26	4.23	4.18	4.12
62	3.02	3.14	3.25	3.35	3.45	3.54	3.62	3.7	3.76	3.81	3.84	3.87	3.88	3.88	3.86	3.83	3.79	3.74
63	2.75	2.85	2.95	3.05	3.14	3.22	3.29	3.35	3.41	3.45	3.48	3.5	3.51	3.51	3.5	3.48	3.44	3.39
64	2.5	2.59	2.68	2.77	2.84	2.92	2.98	3.04	3.08	3.12	3.15	3.17	3.18	3.18	3.17	3.15	3.12	3.08

TABLE 7A.1-1. NICHOLS RANCH UNIT MODEL DRAWDOWN PRINTOUT

		I-COLUMN																	
		37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
J-ROW	1	2.98	2.92	2.86	2.79	2.72	2.64	2.55	2.47	2.38	2.28	2.19	2.09	1.99	1.9	1.8	1.71	1.61	1.52
	2	3.27	3.21	3.14	3.06	2.98	2.89	2.8	2.7	2.6	2.49	2.39	2.28	2.17	2.07	1.96	1.86	1.75	1.65
	3	3.58	3.51	3.44	3.35	3.26	3.16	3.06	2.95	2.84	2.72	2.6	2.49	2.37	2.25	2.13	2.02	1.9	1.79
	4	3.92	3.84	3.76	3.66	3.56	3.45	3.33	3.21	3.09	2.96	2.83	2.7	2.57	2.44	2.31	2.19	2.06	1.94
	5	4.28	4.2	4.1	4	3.88	3.76	3.63	3.5	3.36	3.22	3.08	2.93	2.79	2.65	2.51	2.37	2.23	2.1
	6	4.68	4.58	4.48	4.36	4.23	4.09	3.95	3.8	3.65	3.5	3.34	3.18	3.02	2.86	2.71	2.56	2.41	2.26
	7	5.1	4.99	4.87	4.74	4.6	4.45	4.29	4.13	3.96	3.79	3.61	3.44	3.26	3.09	2.92	2.76	2.59	2.43
	8	5.56	5.44	5.3	5.16	5	4.83	4.66	4.47	4.29	4.1	3.91	3.71	3.52	3.33	3.15	2.96	2.79	2.61
	9	6.04	5.91	5.76	5.6	5.42	5.24	5.04	4.84	4.63	4.42	4.21	4	3.79	3.59	3.38	3.18	2.99	2.8
	10	6.57	6.42	6.25	6.07	5.87	5.67	5.45	5.23	5	4.77	4.54	4.31	4.08	3.85	3.63	3.41	3.2	3
	11	7.13	6.96	6.78	6.57	6.35	6.12	5.88	5.64	5.39	5.13	4.88	4.63	4.37	4.13	3.89	3.65	3.42	3.2
	12	7.73	7.54	7.33	7.11	6.86	6.61	6.34	6.07	5.8	5.52	5.24	4.96	4.68	4.41	4.15	3.9	3.65	3.41
	13	8.37	8.16	7.93	7.68	7.41	7.12	6.83	6.53	6.22	5.92	5.61	5.31	5.01	4.71	4.43	4.15	3.88	3.63
	14	9.06	8.83	8.57	8.28	7.98	7.67	7.34	7.01	6.67	6.33	6	5.67	5.34	5.02	4.71	4.41	4.12	3.85
	15	9.8	9.54	9.24	8.93	8.59	8.24	7.88	7.51	7.14	6.77	6.4	6.04	5.68	5.34	5	4.68	4.37	4.07
	16	10.6	10.3	9.97	9.61	9.24	8.84	8.44	8.04	7.63	7.22	6.82	6.42	6.04	5.66	5.3	4.95	4.62	4.3
	17	11.44	11.11	10.73	10.33	9.91	9.48	9.03	8.59	8.14	7.69	7.25	6.82	6.4	6	5.6	5.23	4.87	4.53
	18	12.35	11.97	11.55	11.1	10.63	10.14	9.65	9.15	8.66	8.17	7.69	7.22	6.77	6.33	5.91	5.51	5.12	4.76
	19	13.33	12.89	12.42	11.91	11.38	10.84	10.29	9.74	9.2	8.67	8.14	7.63	7.14	6.67	6.22	5.79	5.38	4.99
	20	14.38	13.87	13.33	12.76	12.17	11.56	10.96	10.35	9.75	9.17	8.6	8.05	7.52	7.01	6.53	6.07	5.63	5.21
	21	15.5	14.92	14.31	13.66	12.99	12.32	11.64	10.97	10.32	9.68	9.06	8.47	7.9	7.35	6.83	6.34	5.88	5.44
	22	16.7	16.04	15.33	14.6	13.85	13.09	12.34	11.61	10.89	10.19	9.52	8.88	8.27	7.68	7.13	6.61	6.12	5.65
	23	17.99	17.22	16.41	15.58	14.73	13.89	13.06	12.25	11.46	10.7	9.98	9.29	8.63	8.01	7.42	6.87	6.35	5.86
	24	19.37	18.47	17.54	16.59	15.64	14.7	13.78	12.89	12.03	11.21	10.43	9.69	8.99	8.32	7.7	7.12	6.57	6.06
	25	20.84	19.79	18.72	17.63	16.56	15.51	14.49	13.52	12.59	11.7	10.86	10.07	9.32	8.62	7.97	7.35	6.78	6.24
	26	22.4	21.18	19.93	18.7	17.49	16.32	15.2	14.13	13.12	12.17	11.27	10.43	9.64	8.9	8.21	7.57	6.97	6.41
	27	24.05	22.6	21.16	19.76	18.4	17.11	15.88	14.72	13.63	12.61	11.66	10.77	9.93	9.16	8.44	7.77	7.15	6.57
	28	25.76	24.06	22.39	20.8	19.28	17.86	16.52	15.27	14.1	13.02	12.01	11.07	10.2	9.39	8.64	7.94	7.3	6.7
	29	27.51	25.5	23.59	21.79	20.11	18.55	17.1	15.76	14.52	13.37	12.31	11.33	10.43	9.59	8.81	8.09	7.43	6.82
	30	29.23	26.88	24.7	22.69	20.85	19.16	17.61	16.19	14.88	13.68	12.57	11.55	10.61	9.75	8.95	8.21	7.53	6.91
	31	30.83	28.12	25.68	23.47	21.48	19.67	18.03	16.53	15.17	13.92	12.77	11.72	10.76	9.87	9.05	8.3	7.61	6.97
	32	32.18	29.13	26.45	24.07	21.95	20.05	18.33	16.78	15.37	14.08	12.91	11.83	10.85	9.95	9.12	8.36	7.66	7.01
	33	33.14	29.82	26.96	24.45	22.24	20.27	18.51	16.92	15.48	14.17	12.98	11.89	10.89	9.98	9.15	8.38	7.67	7.03
	34	33.55	30.09	27.15	24.59	22.34	20.34	18.55	16.94	15.49	14.18	12.98	11.89	10.89	9.97	9.13	8.37	7.66	7.01
	35	33.33	29.92	26.99	24.45	22.22	20.23	18.45	16.85	15.41	14.1	12.91	11.82	10.83	9.92	9.08	8.32	7.62	6.97
	36	32.52	29.3	26.51	24.06	21.89	19.95	18.21	16.65	15.23	13.94	12.76	11.69	10.71	9.81	8.99	8.24	7.54	6.9
	37	31.22	28.31	25.73	23.43	21.37	19.52	17.85	16.33	14.95	13.7	12.55	11.51	10.55	9.67	8.86	8.12	7.44	6.81
	38	29.58	27.03	24.71	22.6	20.69	18.95	17.36	15.92	14.6	13.39	12.28	11.27	10.34	9.48	8.7	7.97	7.31	6.7
	39	27.76	25.57	23.52	21.62	19.87	18.26	16.78	15.42	14.17	13.01	11.96	10.98	10.08	9.26	8.5	7.8	7.15	6.56
	40	25.87	24.01	22.23	20.54	18.96	17.49	16.12	14.85	13.67	12.58	11.58	10.65	9.79	9	8.27	7.59	6.97	6.4
	41	23.99	22.43	20.89	19.4	17.99	16.65	15.39	14.22	13.13	12.11	11.16	10.28	9.47	8.71	8.02	7.37	6.77	6.22
	42	22.17	20.85	19.53	18.23	16.97	15.77	14.63	13.56	12.54	11.6	10.71	9.89	9.12	8.4	7.74	7.12	6.55	6.02
	43	20.44	19.33	18.19	17.06	15.95	14.87	13.84	12.86	11.94	11.06	10.24	9.47	8.75	8.07	7.44	6.86	6.32	5.81
	44	18.81	17.87	16.89	15.91	14.93	13.97	13.05	12.16	11.31	10.51	9.75	9.03	8.36	7.73	7.14	6.59	6.07	5.59
	45	17.29	16.49	15.65	14.79	13.93	13.08	12.26	11.45	10.68	9.95	9.25	8.58	7.96	7.37	6.82	6.3	5.82	5.36
	46	15.87	15.19	14.47	13.72	12.97	12.22	11.48	10.75	10.06	9.38	8.74	8.13	7.55	7.01	6.49	6.01	5.55	5.13
	47	14.56	13.97	13.35	12.7	12.04	11.37	10.71	10.07	9.44	8.83	8.24	7.68	7.15	6.64	6.16	5.71	5.29	4.89
	48	13.34	12.84	12.3	11.74	11.15	10.57	9.98	9.4	8.83	8.28	7.75	7.24	6.75	6.28	5.84	5.42	5.02	4.65
	49	12.22	11.79	11.32	10.83	10.32	9.8	9.28	8.76	8.25	7.75	7.26	6.8	6.35	5.92	5.51	5.12	4.76	4.41
	50	11.18	10.81	10.4	9.97	9.52	9.07	8.6	8.14	7.68	7.23	6.79	6.37	5.96	5.57	5.19	4.83	4.49	4.17
	51	10.23	9.9	9.55	9.17	8.78	8.38	7.96	7.55	7.14	6.74	6.34	5.95	5.58	5.22	4.88	4.55	4.23	3.93
	52	9.35	9.07	8.76	8.43	8.08	7.73	7.36	6.99	6.63	6.26	5.9	5.55	5.21	4.89	4.57	4.27	3.98	3.7
	53	8.54	8.29	8.03	7.74	7.43	7.12	6.79	6.47	6.14	5.81	5.49	5.17	4.86	4.56	4.28	4	3.73	3.48
	54	7.79	7.58	7.35	7.09	6.83	6.55	6.26	5.97	5.67	5.38	5.09	4.8	4.53	4.25	3.99	3.74	3.49	3.26
	55	7.11	6.93	6.72	6.5	6.26	6.02	5.76	5.5	5.24	4.98	4.71	4.46	4.2	3.96	3.72	3.49	3.26	3.05
	56	6.48	6.32	6.14	5.95	5.74	5.52	5.29	5.06	4.83	4.59	4.36	4.13	3.9	3.68	3.46	3.25	3.04	2.85
	57	5.91	5.77	5.61	5.44	5.25	5.06	4.86	4.65	4.45	4.24	4.02	3.82	3.61	3.41	3.21	3.02	2.83	2.65
	58	5.38	5.26	5.12	4.97	4.81	4.64	4.46	4.27	4.09	3.9	3.71	3.52	3.34	3.15	2.97	2.8	2.63	2.47
	59	4.9	4.79	4.67	4.53	4.39	4.24	4.08	3.92	3.75	3.58	3.42	3.25	3.08	2.91	2.75	2.59	2.44	2.29
	60	4.45	4.36	4.25	4.14	4.01	3.88	3.74	3.59	3.44	3.29	3.14	2.99	2.84	2.69	2.54	2.4	2.26	2.12
	61	4.05	3.97	3.87	3.77	3.66	3.54	3.41	3.29	3.15	3.02	2.88	2.75	2.61	2.48	2.34	2.21	2.09	1.96
	62	3.68	3.61	3.52	3.43	3.33	3.23	3.12	3	2.89	2.77	2.64	2.52	2.4	2.28	2.16	2.04	1.93	1.81
	63	3.34	3.28	3.2	3.12	3.03	2.94	2.84	2.74	2.64	2.53	2.42	2.31	2.2	2.09	1.98	1.88	1.77	1.67
	64	3.03	2.97	2.91	2.84	2.76	2.68	2.59	2.5	2.41	2.31	2.21	2.12	2.02	1.92	1.82	1.73	1.63	1.54

TABLE 7A.1-1. NICHOLS RANCH UNIT MODEL DRAWDOWN PRINTOUT

I-COLUMN

J-ROW	55	56	57	58	59
1	1.43	1.34	1.26	1.18	1.1
2	1.55	1.46	1.37	1.28	1.19
3	1.68	1.58	1.48	1.38	1.29
4	1.82	1.71	1.6	1.49	1.39
5	1.97	1.84	1.72	1.61	1.5
6	2.12	1.98	1.85	1.73	1.61
7	2.28	2.13	1.99	1.85	1.72
8	2.45	2.29	2.13	1.98	1.84
9	2.62	2.45	2.28	2.12	1.97
10	2.8	2.61	2.43	2.26	2.1
11	2.99	2.78	2.59	2.41	2.23
12	3.18	2.96	2.75	2.55	2.36
13	3.38	3.14	2.92	2.7	2.5
14	3.58	3.33	3.09	2.86	2.64
15	3.79	3.51	3.26	3.01	2.78
16	3.99	3.7	3.43	3.17	2.93
17	4.2	3.89	3.6	3.33	3.07
18	4.41	4.08	3.77	3.48	3.21
19	4.62	4.27	3.94	3.64	3.35
20	4.82	4.46	4.11	3.79	3.48
21	5.02	4.64	4.27	3.93	3.61
22	5.22	4.81	4.43	4.07	3.74
23	5.4	4.98	4.58	4.21	3.86
24	5.58	5.13	4.72	4.33	3.97
25	5.75	5.28	4.85	4.45	4.08
26	5.9	5.42	4.97	4.55	4.17
27	6.03	5.54	5.07	4.65	4.25
28	6.15	5.64	5.17	4.73	4.33
29	6.25	5.73	5.24	4.8	4.39
30	6.33	5.8	5.3	4.85	4.43
31	6.39	5.84	5.35	4.89	4.47
32	6.42	5.87	5.37	4.91	4.48
33	6.43	5.88	5.38	4.91	4.49
34	6.42	5.87	5.37	4.9	4.48
35	6.38	5.83	5.33	4.87	4.45
36	6.32	5.78	5.29	4.83	4.41
37	6.24	5.71	5.22	4.77	4.36
38	6.13	5.61	5.13	4.7	4.29
39	6.01	5.5	5.04	4.61	4.21
40	5.86	5.37	4.92	4.5	4.12
41	5.7	5.23	4.79	4.39	4.02
42	5.53	5.08	4.66	4.27	3.91
43	5.34	4.91	4.51	4.13	3.79
44	5.15	4.73	4.35	3.99	3.66
45	4.94	4.55	4.18	3.84	3.53
46	4.73	4.36	4.01	3.69	3.39
47	4.52	4.17	3.84	3.54	3.25
48	4.3	3.97	3.66	3.38	3.11
49	4.08	3.77	3.49	3.22	2.96
50	3.87	3.58	3.31	3.06	2.82
51	3.65	3.39	3.13	2.9	2.68
52	3.44	3.19	2.96	2.74	2.53
53	3.24	3.01	2.79	2.59	2.39
54	3.04	2.83	2.62	2.43	2.25
55	2.84	2.65	2.46	2.29	2.12
56	2.66	2.48	2.31	2.14	1.99
57	2.48	2.31	2.16	2.01	1.86
58	2.31	2.16	2.01	1.87	1.74
59	2.15	2.01	1.87	1.75	1.63
60	1.99	1.86	1.74	1.63	1.51
61	1.84	1.73	1.62	1.51	1.41
62	1.7	1.6	1.5	1.4	1.31
63	1.57	1.48	1.38	1.3	1.21
64	1.45	1.36	1.28	1.2	1.12

TABLE 7A.1-1. NICHOLS RANCH UNIT MODEL DRAWDOWN PRINTOUT

OBSERVATION WELL COMPUTATION RESULTS WITH FULL WELL PENETRATION AND WITHOUT WELLBORE STORAGE:

TIME-DRAWDOWN OR RECOVERY TABLE

OBSERVATION WELL NUMBER: 1

TIME(DAYS)	DRAWDOWN OR RECOVERY(FT)
1095.000	0.86

TABLE 7A.2-1. HANK UNIT MODEL DRAWDOWN PRINTOUT

HANK UNIT 3.0% DRAWDOWN WELLFIELD T=400 S=0.05 Q= 75.0 GPM
AO AND WO = 1 1

GENERAL DATA BASE:

TS = 1
Number of simulation periods for which drawdown
or recovery is to be calculated 1
Simulation period number= 1
Duration of simulation period in days= 1095.000
Number of grid columns= 35
Number of grid rows= 65
Grid spacing in ft= 200.00
X-coordinate of upper-left grid node in ft= 0.00
Y-coordinate of upper-left grid node in ft= -1000.00
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 1
X-coordinate of well in ft= 2400.00
Y-coordinate of well in ft= 500.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 1095.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 2
X-coordinate of well in ft= 3000.00
Y-coordinate of well in ft= 1100.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 1095.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 3
X-coordinate of well in ft= 3900.00
Y-coordinate of well in ft= 1000.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 1095.000
Well radius in ft= 0.50
Simulation period number= 1

Number of production, injection, and image wells
active during simulation period= 18
Well number= 4
X-coordinate of well in ft= 3800.00
Y-coordinate of well in ft= 1900.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 1095.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 5
X-coordinate of well in ft= 3800.00
Y-coordinate of well in ft= 2800.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 1095.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 6
X-coordinate of well in ft= 3700.00
Y-coordinate of well in ft= 3700.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 1095.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 7
X-coordinate of well in ft= 2400.00
Y-coordinate of well in ft= 500.00
Well discharge in gpm= -12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 8
X-coordinate of well in ft= 3000.00
Y-coordinate of well in ft= 1100.00
Well discharge in gpm= -12.50

Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 9
X-coordinate of well in ft= 3900.00
Y-coordinate of well in ft= 1000.00
Well discharge in gpm= -12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 10
X-coordinate of well in ft= 3800.00
Y-coordinate of well in ft= 1900.00
Well discharge in gpm= -12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 11
X-coordinate of well in ft= 3800.00
Y-coordinate of well in ft= 2800.00
Well discharge in gpm= -12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 12
X-coordinate of well in ft= 3700.00
Y-coordinate of well in ft= 3700.00
Well discharge in gpm= -12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18

Well number= 13
X-coordinate of well in ft= 3600.00
Y-coordinate of well in ft= 4600.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 14
X-coordinate of well in ft= 3600.00
Y-coordinate of well in ft= 5500.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 15
X-coordinate of well in ft= 3600.00
Y-coordinate of well in ft= 6400.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 16
X-coordinate of well in ft= 3600.00
Y-coordinate of well in ft= 7300.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 17
X-coordinate of well in ft= 3600.00
Y-coordinate of well in ft= 8200.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 548.000

TABLE 7A.2-1. HANK UNIT MODEL DRAWDOWN PRINTOUT

Well radius in ft= 0.50
Simulation period number= 1
Number of production, injection, and image wells
active during simulation period= 18
Well number= 18
X-coordinate of well in ft= 4300.00
Y-coordinate of well in ft= 9000.00
Well discharge in gpm= 12.50
Duration of pump operation during simulation period
in days= 548.000
Well radius in ft= 0.50
Number of observation wells for which time-
drawdown tables are desired 1
Observation well number= 1
I-coordinate of observation well= 1
J-coordinate of observation well= 1
Aquifer transmissivity in gpd/ft= 400.00
Aquifer storativity as a decimal= 0.050000

NODAL COMPUTATION RESULTS:

SIMULATION PERIOD DURATION IN DAYS: 1095.000

VALUES OF DRAWDOWN OR RECOVERY (FT) AT NODES:

TABLE 7A.2-1. HANK UNIT MODEL DRAWDOWN PRINTOUT

		I-COLUMN																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
J-ROW	1	0.31	0.41	0.52	0.67	0.83	1.01	1.21	1.43	1.64	1.86	2.06	2.24	2.39	2.5	2.57	2.59	2.57	2.5
	2	0.37	0.48	0.63	0.8	1	1.22	1.47	1.73	1.99	2.26	2.51	2.74	2.93	3.07	3.16	3.2	3.18	3.1
	3	0.43	0.56	0.73	0.94	1.17	1.44	1.73	2.05	2.37	2.69	3	3.28	3.52	3.7	3.82	3.88	3.86	3.78
	4	0.49	0.64	0.84	1.07	1.35	1.66	2.01	2.37	2.76	3.14	3.51	3.85	4.14	4.37	4.53	4.61	4.61	4.52
	5	0.54	0.72	0.94	1.21	1.52	1.88	2.27	2.7	3.15	3.59	4.03	4.43	4.78	5.06	5.26	5.37	5.39	5.3
	6	0.59	0.79	1.04	1.33	1.68	2.08	2.52	3.01	3.51	4.03	4.53	5	5.41	5.75	6	6.14	6.18	6.1
	7	0.64	0.85	1.11	1.44	1.82	2.26	2.75	3.28	3.85	4.42	4.99	5.52	6	6.4	6.7	6.89	6.95	6.89
	8	0.67	0.89	1.18	1.52	1.93	2.4	2.93	3.51	4.13	4.76	5.39	5.99	6.53	6.99	7.35	7.58	7.68	7.63
	9	0.69	0.92	1.22	1.57	2	2.5	3.06	3.68	4.34	5.02	5.71	6.37	6.97	7.5	7.91	8.19	8.33	8.31
	10	0.69	0.93	1.23	1.6	2.04	2.55	3.14	3.78	4.48	5.21	5.94	6.65	7.31	7.89	8.36	8.7	8.88	8.89
	11	0.69	0.92	1.22	1.59	2.04	2.56	3.15	3.82	4.54	5.3	6.07	6.83	7.54	8.17	8.69	9.08	9.31	9.36
	12	0.67	0.9	1.2	1.56	2	2.52	3.12	3.79	4.52	5.3	6.1	6.89	7.64	8.32	8.9	9.33	9.61	9.7
	13	0.64	0.86	1.15	1.5	1.93	2.44	3.03	3.7	4.43	5.22	6.03	6.85	7.64	8.36	8.97	9.45	9.77	9.91
	14	0.6	0.81	1.08	1.42	1.83	2.33	2.9	3.56	4.28	5.07	5.89	6.72	7.53	8.27	8.93	9.45	9.81	9.99
	15	0.55	0.75	1.01	1.33	1.72	2.19	2.74	3.38	4.08	4.86	5.67	6.51	7.33	8.1	8.78	9.34	9.74	9.95
	16	0.5	0.69	0.92	1.22	1.59	2.03	2.56	3.17	3.85	4.6	5.41	6.24	7.06	7.84	8.55	9.14	9.57	9.82
	17	0.45	0.62	0.84	1.11	1.45	1.87	2.36	2.94	3.6	4.32	5.11	5.92	6.75	7.54	8.26	8.87	9.33	9.61
	18	0.4	0.56	0.75	1	1.32	1.7	2.17	2.71	3.33	4.03	4.79	5.59	6.41	7.2	7.93	8.55	9.04	9.35
	19	0.36	0.49	0.67	0.9	1.19	1.54	1.97	2.48	3.07	3.74	4.48	5.26	6.06	6.85	7.58	8.22	8.73	9.06
	20	0.31	0.43	0.59	0.8	1.06	1.39	1.79	2.27	2.82	3.46	4.17	4.93	5.72	6.51	7.25	7.9	8.43	8.78
	21	0.27	0.38	0.52	0.71	0.95	1.25	1.62	2.06	2.59	3.2	3.88	4.63	5.41	6.2	6.95	7.63	8.17	8.55
	22	0.24	0.33	0.46	0.63	0.84	1.12	1.46	1.88	2.38	2.96	3.62	4.36	5.14	5.94	6.72	7.43	8.02	8.42
	23	0.2	0.29	0.4	0.55	0.75	1	1.32	1.71	2.18	2.74	3.39	4.12	4.92	5.75	6.58	7.35	8	8.46
	24	0.18	0.25	0.35	0.49	0.67	0.9	1.19	1.56	2.01	2.56	3.2	3.93	4.76	5.64	6.56	7.44	8.21	8.76
	25	0.15	0.22	0.31	0.43	0.59	0.8	1.08	1.42	1.86	2.39	3.03	3.79	4.66	5.63	6.68	7.74	8.71	9.44
	26	0.13	0.19	0.27	0.38	0.52	0.72	0.97	1.3	1.72	2.24	2.89	3.68	4.61	5.7	6.94	8.28	9.61	10.69
	27	0.11	0.16	0.23	0.33	0.46	0.64	0.88	1.19	1.6	2.12	2.77	3.59	4.61	5.83	7.3	9.02	10.95	12.79
	28	0.1	0.14	0.2	0.29	0.41	0.57	0.8	1.09	1.49	2	2.67	3.52	4.61	5.97	7.67	9.81	12.55	16.04
	29	0.08	0.12	0.18	0.25	0.36	0.51	0.72	1	1.38	1.89	2.57	3.45	4.59	6.06	7.94	10.38	13.68	18.98
	30	0.07	0.1	0.15	0.22	0.32	0.46	0.65	0.92	1.29	1.79	2.47	3.37	4.55	6.09	8.06	10.57	13.72	17.58
	31	0.06	0.09	0.13	0.19	0.28	0.4	0.58	0.84	1.2	1.69	2.37	3.28	4.49	6.06	8.07	10.57	13.46	16.24
	32	0.05	0.07	0.11	0.16	0.24	0.36	0.53	0.77	1.11	1.6	2.27	3.18	4.4	6	8.06	10.63	13.69	16.88
	33	0.04	0.06	0.09	0.14	0.21	0.32	0.48	0.71	1.04	1.51	2.17	3.08	4.3	5.92	8.01	10.71	14.21	19.18
	34	0.03	0.05	0.08	0.12	0.19	0.29	0.43	0.65	0.97	1.43	2.08	2.98	4.2	5.81	7.91	10.61	14.12	19.09
	35	0.03	0.04	0.07	0.11	0.16	0.26	0.39	0.6	0.91	1.36	2	2.89	4.09	5.69	7.76	10.36	13.44	16.64
	36	0.02	0.04	0.06	0.09	0.15	0.23	0.36	0.56	0.86	1.3	1.93	2.8	4	5.59	7.64	10.19	13.15	15.97
	37	0.02	0.03	0.05	0.08	0.13	0.21	0.34	0.53	0.82	1.25	1.86	2.73	3.92	5.5	7.57	10.21	13.5	17.46
	38	0.02	0.03	0.04	0.07	0.12	0.19	0.31	0.5	0.78	1.2	1.81	2.67	3.85	5.43	7.51	10.2	13.79	19.3
	39	0.01	0.02	0.04	0.06	0.11	0.18	0.3	0.48	0.75	1.17	1.76	2.61	3.78	5.35	7.41	10.03	13.32	17.27
	40	0.01	0.02	0.03	0.06	0.1	0.17	0.28	0.46	0.73	1.13	1.72	2.56	3.72	5.28	7.3	9.83	12.77	15.59
	41	0.01	0.02	0.03	0.05	0.09	0.16	0.27	0.44	0.7	1.1	1.69	2.52	3.67	5.21	7.24	9.8	12.87	16.06
	42	0.01	0.02	0.03	0.05	0.09	0.15	0.26	0.42	0.68	1.07	1.65	2.46	3.6	5.15	7.19	9.84	13.34	18.31
	43	0.01	0.01	0.03	0.05	0.08	0.14	0.24	0.41	0.66	1.04	1.6	2.4	3.52	5.05	7.07	9.72	13.21	18.2
	44	0.01	0.01	0.02	0.04	0.08	0.14	0.23	0.39	0.63	1	1.54	2.32	3.42	4.91	6.88	9.4	12.47	15.71
	45	0.01	0.01	0.02	0.04	0.07	0.13	0.22	0.36	0.59	0.95	1.47	2.22	3.27	4.72	6.64	9.1	12.02	14.9
	46	0.01	0.01	0.02	0.04	0.07	0.12	0.2	0.34	0.55	0.88	1.37	2.08	3.09	4.48	6.35	8.83	12.06	16.09
	47	0	0.01	0.02	0.03	0.06	0.11	0.18	0.31	0.51	0.81	1.26	1.92	2.85	4.15	5.93	8.36	11.79	17.37
	48	0	0.01	0.02	0.03	0.05	0.1	0.16	0.28	0.45	0.73	1.13	1.72	2.56	3.73	5.32	7.48	10.41	14.31
	49	0	0.01	0.01	0.03	0.05	0.08	0.14	0.24	0.4	0.63	0.99	1.5	2.23	3.23	4.58	6.33	8.51	10.9
	50	0	0.01	0.01	0.02	0.04	0.07	0.12	0.21	0.34	0.54	0.84	1.27	1.88	2.7	3.79	5.16	6.79	8.53
	51	0	0	0.01	0.02	0.03	0.06	0.1	0.17	0.28	0.44	0.69	1.04	1.53	2.2	3.06	4.12	5.38	6.79
	52	0	0	0.01	0.01	0.03	0.05	0.08	0.14	0.22	0.36	0.55	0.83	1.22	1.74	2.41	3.24	4.23	5.39
	53	0	0	0.01	0.01	0.02	0.04	0.06	0.11	0.18	0.28	0.43	0.65	0.95	1.34	1.86	2.5	3.27	4.18
	54	0	0	0	0.01	0.02	0.03	0.05	0.08	0.13	0.21	0.33	0.49	0.72	1.01	1.4	1.88	2.46	3.15
	55	0	0	0	0.01	0.01	0.02	0.04	0.06	0.1	0.16	0.24	0.36	0.53	0.75	1.03	1.38	1.81	2.3
	56	0	0	0	0	0.01	0.01	0.03	0.04	0.07	0.11	0.17	0.26	0.38	0.54	0.74	0.99	1.29	1.63
	57	0	0	0	0	0.01	0.01	0.02	0.03	0.05	0.08	0.12	0.18	0.27	0.38	0.52	0.69	0.9	1.12
	58	0	0	0	0	0	0.01	0.01	0.02	0.03	0.05	0.08	0.12	0.18	0.26	0.35	0.47	0.61	0.75
	59	0	0	0	0	0	0	0.01	0.01	0.02	0.04	0.06	0.08	0.12	0.17	0.23	0.31	0.4	0.49
	60	0	0	0	0	0	0	0.01	0.01	0.01	0.02	0.04	0.05	0.08	0.11	0.15	0.2	0.25	0.31
	61	0	0	0	0	0	0	0	0.01	0.01	0.01	0.02	0.03	0.05	0.07	0.09	0.12	0.16	0.19
	62	0	0	0	0	0	0	0	0	0.01	0.01	0.01	0.02	0.03	0.04	0.06	0.08	0.1	0.12
	63	0	0	0	0	0	0	0	0	0	0.01	0.01	0.01	0.02	0.03	0.03	0.04	0.06	0.07
	64	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0.01	0.02	0.03	0.03	0.04
	65	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0.01	0.01	0.02	0.02

TABLE 7A.2-1. HANK UNIT MODEL DRAWDOWN PRINTOUT

		I-COLUMN																
		19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
J-ROW	1	2.39	2.25	2.08	1.89	1.69	1.48	1.28	1.09	0.91	0.74	0.6	0.47	0.37	0.28	0.21	0.16	0.11
	2	2.98	2.81	2.6	2.37	2.12	1.86	1.61	1.37	1.14	0.93	0.75	0.59	0.46	0.35	0.26	0.2	0.14
	3	3.64	3.44	3.19	2.91	2.61	2.3	1.99	1.69	1.41	1.15	0.93	0.73	0.57	0.44	0.33	0.24	0.17
	4	4.36	4.13	3.84	3.51	3.15	2.78	2.41	2.05	1.71	1.4	1.13	0.89	0.69	0.53	0.4	0.29	0.21
	5	5.13	4.87	4.54	4.16	3.74	3.3	2.86	2.44	2.04	1.67	1.34	1.06	0.82	0.63	0.47	0.35	0.25
	6	5.91	5.63	5.27	4.83	4.36	3.85	3.34	2.85	2.38	1.96	1.57	1.24	0.97	0.74	0.55	0.41	0.29
	7	6.7	6.4	6	5.52	4.98	4.42	3.84	3.27	2.74	2.25	1.81	1.43	1.11	0.85	0.63	0.47	0.34
	8	7.45	7.13	6.71	6.19	5.6	4.97	4.33	3.7	3.1	2.54	2.05	1.62	1.26	0.96	0.72	0.53	0.38
	9	8.14	7.82	7.37	6.82	6.18	5.5	4.8	4.1	3.44	2.83	2.28	1.81	1.4	1.07	0.8	0.59	0.42
	10	8.74	8.42	7.96	7.38	6.71	5.98	5.23	4.48	3.76	3.1	2.5	1.98	1.54	1.17	0.88	0.64	0.46
	11	9.23	8.93	8.47	7.87	7.18	6.41	5.61	4.81	4.05	3.33	2.69	2.13	1.66	1.26	0.94	0.69	0.5
	12	9.6	9.32	8.86	8.27	7.55	6.76	5.93	5.09	4.29	3.54	2.86	2.27	1.76	1.34	1	0.74	0.53
	13	9.84	9.59	9.15	8.56	7.84	7.03	6.18	5.31	4.48	3.7	2.99	2.37	1.84	1.41	1.05	0.77	0.56
	14	9.96	9.74	9.32	8.74	8.02	7.21	6.35	5.47	4.62	3.82	3.09	2.45	1.91	1.46	1.09	0.8	0.58
	15	9.97	9.77	9.39	8.82	8.12	7.31	6.45	5.56	4.7	3.89	3.15	2.5	1.95	1.49	1.11	0.82	0.59
	16	9.87	9.71	9.35	8.81	8.13	7.33	6.47	5.59	4.73	3.92	3.18	2.52	1.96	1.5	1.12	0.83	0.6
	17	9.69	9.56	9.23	8.72	8.06	7.28	6.43	5.57	4.71	3.9	3.17	2.52	1.96	1.5	1.12	0.82	0.6
	18	9.46	9.36	9.05	8.57	7.92	7.17	6.34	5.49	4.64	3.85	3.12	2.48	1.93	1.48	1.11	0.81	0.59
	19	9.19	9.12	8.84	8.37	7.75	7.01	6.2	5.36	4.54	3.76	3.05	2.42	1.89	1.44	1.08	0.79	0.57
	20	8.93	8.88	8.61	8.16	7.55	6.82	6.03	5.21	4.41	3.65	2.96	2.35	1.83	1.39	1.04	0.77	0.55
	21	8.72	8.68	8.42	7.96	7.35	6.63	5.84	5.04	4.25	3.51	2.84	2.25	1.75	1.33	1	0.73	0.53
	22	8.61	8.57	8.29	7.81	7.18	6.44	5.65	4.85	4.08	3.35	2.71	2.14	1.66	1.26	0.94	0.69	0.5
	23	8.68	8.62	8.3	7.76	7.07	6.29	5.48	4.67	3.9	3.19	2.56	2.02	1.56	1.19	0.88	0.65	0.47
	24	9.01	8.92	8.5	7.85	7.06	6.2	5.33	4.49	3.72	3.02	2.41	1.89	1.46	1.1	0.82	0.6	0.43
	25	9.76	9.59	9	8.14	7.16	6.17	5.21	4.33	3.54	2.85	2.26	1.76	1.35	1.02	0.75	0.55	0.39
	26	11.17	10.83	9.87	8.65	7.39	6.21	5.14	4.19	3.38	2.68	2.1	1.62	1.24	0.93	0.68	0.5	0.36
	27	13.69	12.91	11.18	9.36	7.71	6.29	5.08	4.06	3.22	2.52	1.95	1.49	1.13	0.84	0.62	0.45	0.32
	28	18.64	16.15	12.76	10.11	8.03	6.37	5.03	3.94	3.06	2.36	1.8	1.36	1.02	0.75	0.55	0.4	0.28
	29	62.05	19.07	13.86	10.63	8.26	6.41	4.96	3.81	2.91	2.21	1.66	1.24	0.91	0.67	0.48	0.35	0.25
	30	20.32	17.66	13.88	10.78	8.32	6.38	4.86	3.67	2.76	2.05	1.52	1.12	0.81	0.59	0.42	0.3	0.21
	31	17.55	16.31	13.59	10.74	8.29	6.3	4.74	3.53	2.61	1.91	1.39	1.01	0.72	0.52	0.37	0.26	0.18
	32	18.56	16.93	13.79	10.77	8.23	6.19	4.6	3.38	2.46	1.78	1.27	0.91	0.64	0.45	0.32	0.22	0.15
	33	25.18	19.22	14.29	10.82	8.15	6.07	4.46	3.24	2.33	1.65	1.17	0.82	0.57	0.39	0.27	0.19	0.13
	34	25.09	19.12	14.18	10.7	8.02	5.93	4.32	3.11	2.2	1.54	1.07	0.74	0.5	0.34	0.23	0.16	0.11
	35	18.32	16.67	13.49	10.43	7.85	5.79	4.19	2.99	2.09	1.45	0.99	0.67	0.45	0.3	0.2	0.13	0.09
	36	17.28	15.99	13.19	10.25	7.71	5.67	4.08	2.88	2	1.37	0.92	0.62	0.41	0.27	0.18	0.11	0.07
	37	20.22	17.48	13.54	10.26	7.64	5.58	3.99	2.8	1.93	1.31	0.87	0.57	0.37	0.24	0.15	0.1	0.06
	38	62.44	19.33	13.83	10.26	7.57	5.5	3.92	2.74	1.88	1.26	0.83	0.54	0.35	0.22	0.14	0.09	0.05
	39	20.03	17.3	13.37	10.1	7.49	5.45	3.88	2.7	1.84	1.23	0.81	0.52	0.33	0.21	0.13	0.08	0.05
	40	16.9	15.63	12.85	9.94	7.43	5.42	3.86	2.69	1.83	1.22	0.8	0.51	0.32	0.2	0.12	0.07	0.04
	41	17.76	16.13	12.99	9.97	7.44	5.43	3.87	2.7	1.85	1.23	0.81	0.52	0.32	0.2	0.12	0.07	0.04
	42	24.34	18.42	13.54	10.12	7.51	5.48	3.92	2.75	1.89	1.27	0.83	0.53	0.34	0.21	0.12	0.07	0.04
	43	24.26	18.38	13.55	10.17	7.58	5.57	4.02	2.84	1.97	1.33	0.88	0.57	0.36	0.22	0.13	0.08	0.05
	44	17.49	15.99	13	10.11	7.68	5.72	4.18	2.99	2.09	1.42	0.95	0.61	0.39	0.24	0.14	0.09	0.05
	45	16.37	15.35	12.85	10.21	7.89	5.97	4.42	3.2	2.25	1.55	1.04	0.68	0.43	0.27	0.16	0.1	0.05
	46	19.11	16.79	13.36	10.55	8.27	6.36	4.77	3.49	2.48	1.71	1.15	0.75	0.48	0.3	0.18	0.11	0.06
	47	60.87	18.44	13.8	11.02	8.85	6.94	5.27	3.86	2.75	1.9	1.27	0.83	0.53	0.33	0.2	0.12	0.07
	48	17.56	15.93	13.49	11.6	9.76	7.8	5.92	4.31	3.04	2.09	1.4	0.91	0.58	0.36	0.22	0.13	0.07
	49	12.71	13.24	13.15	12.78	11.41	9.07	6.7	4.77	3.31	2.25	1.49	0.97	0.62	0.38	0.23	0.14	0.08
	50	10.14	11.62	13.41	15.71	14.76	10.67	7.4	5.09	3.47	2.34	1.54	1	0.63	0.39	0.24	0.14	0.08
	51	8.34	10.24	13.19	20.33	19.71	11.4	7.52	5.09	3.44	2.31	1.53	0.99	0.63	0.39	0.24	0.14	0.08
	52	6.76	8.48	10.85	13.78	13.38	9.7	6.74	4.66	3.19	2.15	1.43	0.93	0.59	0.37	0.23	0.13	0.08
	53	5.26	6.53	7.91	8.95	8.69	7.18	5.42	3.91	2.75	1.89	1.27	0.84	0.54	0.34	0.21	0.12	0.07
	54	3.93	4.77	5.55	6	5.84	5.09	4.07	3.08	2.24	1.57	1.07	0.72	0.46	0.29	0.18	0.11	0.06
	55	2.84	3.37	3.82	4.05	3.95	3.54	2.94	2.31	1.72	1.24	0.86	0.58	0.38	0.24	0.15	0.09	0.05
	56	1.99	2.33	2.59	2.72	2.66	2.42	2.06	1.66	1.27	0.94	0.66	0.46	0.3	0.19	0.12	0.07	0.04
	57	1.36	1.57	1.73	1.8	1.77	1.63	1.41	1.16	0.91	0.68	0.49	0.34	0.23	0.15	0.09	0.06	0.03
	58	0.9	1.03	1.13	1.18	1.15	1.07	0.94	0.79	0.63	0.48	0.35	0.25	0.17	0.11	0.07	0.04	0.03
	59	0.59	0.67	0.73	0.75	0.74	0.69	0.61	0.52	0.42	0.32	0.24	0.17	0.12	0.08	0.05	0.03	0.02
	60	0.37	0.42	0.46	0.47	0.47	0.44	0.39	0.33	0.27	0.21	0.16	0.11	0.08	0.05	0.03	0.02	0.01
	61	0.23	0.26	0.28	0.29	0.29	0.27	0.24	0.21	0.17	0.14	0.1	0.07	0.05	0.04	0.02	0.01	0.01
	62	0.14	0.16	0.17	0.17	0.17	0.16	0.15	0.13	0.11	0.08	0.06	0.05	0.03	0.02	0.01	0.01	0.01
	63	0.08	0.09	0.1	0.1	0.1	0.1	0.09	0.08	0.06	0.05	0.04	0.03	0.02	0.01	0.01	0.01	0
	64	0.05	0.05	0.06	0.06	0.06	0.05	0.05	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0	0
	65	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0	0	0	0

TABLE 7A.2-1. HANK UNIT MODEL DRAWDOWN PRINTOUT

OBSERVATION WELL COMPUTATION RESULTS WITH FULL WELL PENETRATION AND WITHOUT WELLBORE STORAGE:

TIME-DRAWDOWN OR RECOVERY TABLE

OBSERVATION WELL NUMBER: 1

TIME(DAYS)	DRAWDOWN OR RECOVERY(FT)
1095.000	0.31

ADDENDUM 7B:

MILDOS REPORT

November 2007

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M[illegible] Gillette, WY DATA: URANERZ.MIL 11/17/07
[illegible]NT FREQUENCY IN PERCENT, DIRECTION INDICATES WHERE WIND IS FROM FREQWS=0.15373,0.18910,0.27937,0.26362,0.08151,0.03286

MPH	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTALS
STABILITY CLASS 1																	
1.5	0.0470	0.0340	0.0310	0.0300	0.0390	0.0190	0.0190	0.0390	0.0330	0.0240	0.0110	0.0240	0.0280	0.0090	0.0270	0.0400	0.4540
5.5	0.0210	0.0160	0.0090	0.0130	0.0150	0.0060	0.0060	0.0110	0.0060	0.0050	0.0040	0.0050	0.0070	0.0050	0.0090	0.0100	0.1480
10.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ALL	0.0680	0.0500	0.0400	0.0430	0.0540	0.0250	0.0250	0.0500	0.0390	0.0290	0.0150	0.0290	0.0350	0.0140	0.0360	0.0500	0.6020
STABILITY CLASS 2																	
1.5	0.1590	0.1100	0.0910	0.0970	0.1130	0.1090	0.1130	0.0950	0.1250	0.0880	0.0930	0.0840	0.1050	0.0820	0.0890	0.1070	1.6600
5.5	0.1940	0.1220	0.0760	0.0610	0.1040	0.0930	0.0880	0.0960	0.1220	0.0690	0.0600	0.0710	0.1300	0.0960	0.1040	0.1210	1.6070
10.0	0.1430	0.0770	0.0610	0.0330	0.0820	0.0520	0.0890	0.0960	0.1520	0.0650	0.0760	0.0620	0.0880	0.0870	0.1020	0.0930	1.3580
15.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ALL	0.4960	0.3090	0.2280	0.1910	0.2990	0.2540	0.2900	0.2870	0.3990	0.2220	0.2290	0.2170	0.3230	0.2650	0.2950	0.3210	4.6250
STABILITY CLASS 3																	
1.5	0.1270	0.0810	0.0500	0.0570	0.0910	0.0720	0.0770	0.0950	0.1260	0.0500	0.0750	0.0610	0.0990	0.0640	0.0840	0.0640	1.2730
5.5	0.2450	0.1150	0.0870	0.0770	0.1270	0.1050	0.1360	0.1580	0.2270	0.1110	0.1350	0.1360	0.2500	0.1390	0.1460	0.1320	2.3260
10.0	0.6060	0.2130	0.1410	0.0980	0.1790	0.1940	0.2810	0.4470	0.6190	0.2830	0.4030	0.4280	0.4720	0.4060	0.4370	0.3950	5.6020
15.5	0.1120	0.0430	0.0210	0.0180	0.0200	0.0340	0.0820	0.1230	0.1660	0.0740	0.0570	0.0460	0.0450	0.0690	0.1270	0.1070	1.1440
21.5	0.0050	0.0000	0.0000	0.0000	0.0010	0.0040	0.0070	0.0230	0.0170	0.0090	0.0130	0.0020	0.0010	0.0060	0.0220	0.0220	0.1320
28.0	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0150	0.0060	0.0000	0.0010	0.0010	0.0000	0.0020	0.0090	0.0050	0.0460
ALL	1.0970	0.4520	0.2990	0.2500	0.4180	0.4090	0.5880	0.8610	1.1610	0.5270	0.6840	0.6740	0.8670	0.6860	0.8250	0.7250	10.5230
STABILITY CLASS 4																	
1.5	0.2430	0.0810	0.0910	0.0690	0.0960	0.0580	0.0750	0.0820	0.1120	0.0420	0.0500	0.0620	0.1210	0.1020	0.1190	0.1620	1.5650
5.5	0.7100	0.2630	0.2390	0.1820	0.2210	0.1750	0.2300	0.2300	0.3200	0.1490	0.1570	0.1770	0.3580	0.2990	0.3120	0.4410	4.4630
10.0	1.6800	0.5180	0.3390	0.1500	0.2610	0.2950	0.5560	0.8760	1.1530	0.3750	0.5970	1.0680	1.6340	1.1100	1.1210	1.2380	12.9710
15.5	2.0100	0.5690	0.2080	0.1100	0.1540	0.3720	1.3640	2.2850	3.7060	1.4170	2.7070	1.8160	1.6480	1.8440	2.6120	2.3960	25.2180
21.5	0.4150	0.0690	0.0270	0.0040	0.0150	0.1220	0.3570	0.8130	1.1400	0.5850	1.3330	0.3830	0.2100	0.4140	1.2440	0.8880	8.0190
28.[illegible]	[illegible]	0.0070	0.0050	0.0060	0.0040	0.0350	0.0820	0.3030	0.2690	0.2140	0.7470	0.1340	0.0630	0.1880	0.7370	0.3800	3.2400
AL[illegible]	[illegible]	240	1.5070	0.9090	0.5210	0.7510	1.0570	2.6640	4.5890	6.7000	2.7820	5.5910	3.6400	4.0340	3.9570	6.1450	5.5050	55.4760
ST[illegible]ITY CLASS 5																	
1.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5.5	0.3690	0.0850	0.1260	0.0840	0.1210	0.1550	0.2470	0.3020	0.6160	0.2680	0.2130	0.1910	0.3590	0.2630	0.2720	0.3290	4.0000
10.0	0.2330	0.1150	0.1010	0.0720	0.1320	0.1500	0.5600	0.7820	1.6670	0.3160	0.6460	0.7090	1.4050	0.4910	0.3390	0.2880	8.0060
15.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ALL	0.6020	0.2000	0.2270	0.1560	0.2530	0.3050	0.8070	1.0840	2.2830	0.5840	0.8590	0.9000	1.7640	0.7540	0.6110	0.6170	12.0060
STABILITY CLASS 6																	
1.5	0.5870	0.2620	0.2440	0.2170	0.4850	0.4380	0.6480	0.8560	1.9040	1.2400	0.9480	0.7020	0.6790	0.3630	0.4160	0.4320	10.4210
5.5	0.2290	0.1110	0.1390	0.1210	0.2300	0.2360	0.3740	0.5990	1.4240	0.6270	0.4960	0.4110	0.5560	0.2520	0.2840	0.2770	6.3660
10.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ALL	0.8160	0.3730	0.3830	0.3380	0.7150	0.6740	1.0220	1.4550	3.3280	1.8670	1.4440	1.1130	1.2350	0.6150	0.7000	0.7090	16.7870
ALL	8.2030	2.8910	2.0860	1.4990	2.4900	2.7240	5.3960	8.326	013.9100	6.0110	8.8220	6.5730	8.2580	6.2910	8.6120	7.9270	100.0190

INDIVIDUAL RECEPTOR LOCATION DATA, 15 LOCATIONS INPUT THIS RUN

I	LOCATION NAMES	X(KM)	Y(KM)	Z(M)	DIST(KM)	TYPE	I	LOCATION NAMES	X(KM)	Y(KM)	Z(M)	DIST(KM)	TYPE
1	T-Chair Ranch	3.70	-2.20	-7.00	4.30	1	9	Nichols-east central	0.60	0.20	-2.00	0.63	1
2	Dry Fork Ranch	-2.70	-1.10	-58.00	2.92	1	10	Nichols-south centra	-0.30	-1.10	-18.00	1.14	1
3	Christensen Ranch	1.80	7.80	-1.00	8.00	1	11	Nichols-west central	-1.40	0.50	12.00	1.49	1
4	Pfister Ranch	7.80	7.40	78.00	10.75	1	12	Hank-north central	7.90	6.60	86.00	10.29	1
5	Pumpkin Butte Ranch	11.10	3.60	218.00	11.67	1	13	Hank-east central	8.80	3.30	160.00	9.40	1
6	Van Buggenum Ranch	15.40	5.30	130.00	16.29	1	14	Hank-south central	7.90	1.30	139.00	8.01	1
7	Ruby Ranch	19.00	2.90	101.00	19.22	1	15	Hank-west central	7.10	4.20	102.00	8.25	1
8	Nichols-north centra	-0.40	1.30	57.00	1.36	1							

MISCELLANEOUS INPUTABLE PARAMETER VALUES

DMM	DMA	TSTART	FFORI	FHAYI	FFORP	FHAYP	FPR(1)	FPR(2)	FPR(3)	ACTRAT
100.0	100.0	2011.00	0.50	0.50	0.50	0.50	3120.00	345.00	134.00	2.50

IPACT EQUALS 0, 0, 0, 0, 0, 0, 0,

JC EQUALS 0, 0, 0, 0, 0, 0, 0, 0, 0, 0

TIME STEP DATA....

	STEP NAMES	LENGTH, YRS	IFTODO
1	2011	1.00	1
2	2012	1.00	1
3	2013	1.00	1
4	2014	1.00	1
5	2015	1.00	1
6	2016	1.00	1
7	2017	1.00	1
8	2018	1.00	1
9	2019	1.00	1

XRHO EQUALS 1.5, 2.5, 3.5, 4.5, 7.5, 15.0, 25.0, 35.0, 45.0, 55.0, 65.0, 75.0,

EQUALS 50.0

POPULATION DISTRIBUTION

KILOMETERS	N 0.0	NNE 22.5	NE 45.0	ENE 67.5	E 90.0	ESE 112.5	SE 135.0	SSE 157.5	S 180.0	SSW 202.5	SW 225.0	WSW 247.5	W 270.0	WNW 292.5	NW 315.0	NNW 337.5
1.0- 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0- 3.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.0- 4.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4.0- 5.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.0-10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0-20.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.0-30.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30.0-40.0	0	0	0	0	1347	0	0	0	0	0	169	0	0	0	0	0
40.0-50.0	0	0	0	0	0	0	0	0	0	0	408	0	0	0	0	0
50.0-60.0	0	0	0	0	0	0	0	0	0	0	0	0	249	0	0	0
60.0-70.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70.0-80.0	0	0	19646	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0-80.0	0	0	19646	0	1347	0	0	0	0	0	577	0	249	0	0	0

TOTAL 1-80 KM POPULATION IS 21819 PERSONS

NUMBER OF SOURCES= 7

NO.	KM X	KM Y	M Z	KM2 AREA	U-238	Th-230	CI/YEAR Ra-226	Pb-210	Rn-222	ID	PSIZE SET	M/SEC EXIT VEL	SOURCE NAME
1	0.00	0.00	0.00	0.0000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1001	1	0.00E+00	drying/packaging
2	-0.90	0.40	6.00	0.0000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.47E-02	1002	1	0.00E+00	Nichols development
3	-0.90	0.40	6.00	0.0000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E+02	1003	1	0.00E+00	Nichols production
4	-0.90	0.40	6.00	0.0000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.82E+02	1004	1	0.00E+00	Nichols restoration
5	8.20	3.50	9.99	0.0000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.76E-02	1005	1	0.00E+00	Hank development
6	8.20	3.50	9.99	0.0000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.59E+02	1006	1	0.00E+00	Hank production
7	8.20	3.50	9.99	0.0000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.30E+02	1007	1	0.00E+00	Hank restoration

INPUT TAILS ACTIVITIES, PCI/G

SET	URANIUM	THORIUM	RADIUM	LEAD
1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AMAD AND FRACTIONAL DISTRIBUTION

SET	1.5	3.0	7.7	54.0
1	0.000	1.000	0.000	0.000
2	1.000	0.000	0.000	0.000
3	0.000	0.000	0.300	0.700

PARTICULATE SOURCE STRENGTH MULTIPLIERS BY TIME STEP, 9 TIME STEP(S) USED FOR THIS RUN

SOURCE NUMBER	TSTEP 1 1.00YRS	TSTEP 2 1.00YRS	TSTEP 3 1.00YRS	TSTEP 4 1.00YRS	TSTEP 5 1.00YRS	TSTEP 6 1.00YRS	TSTEP 7 1.00YRS	TSTEP 8 1.00YRS	TSTEP 9 1.00YRS	TSTEP10 5.00YRS
1	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
2	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
3	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
4	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
5	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
6	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
7	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00

RADON SOURCE STRENGTH MULTIPLIERS BY TIME STEP, 9 TIME STEP(S) USED FOR THIS RUN

SOURCE NU	TSTEP 1 1.00YRS	TSTEP 2 1.00YRS	TSTEP 3 1.00YRS	TSTEP 4 1.00YRS	TSTEP 5 1.00YRS	TSTEP 6 1.00YRS	TSTEP 7 1.00YRS	TSTEP 8 1.00YRS	TSTEP 9 1.00YRS	TSTEP10 5.00YRS
[illegible]	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.000E+00
2	0.000E+00	5.000E-01	2.500E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.000E+00
3	1.000E+00	1.000E+00	7.500E-01	5.000E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.000E+00
4	0.000E+00	0.000E+00	7.500E-01	1.000E+00	1.000E+00	1.000E+00	2.500E-01	0.000E+00	0.000E+00	1.000E+00
5	2.500E-01	0.000E+00	7.500E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.000E+00
6	7.500E-01	1.000E+00	1.000E+00	1.000E+00	7.500E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.000E+00
7	0.000E+00	0.000E+00	2.500E-01	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	7.500E-01	1.000E+00

TIME STEP NUMBER 1, 2011 DURATION IN YRS IS... 1.0

SUMMARY PRINT OF POPULATION DOSES COMPUTED FOR TSTEP 1--DOSES SHOWN ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DOSES RECEIVED BY PEOPLE WITHIN 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	1.043E-02	8.438E-02	1.400E-03	6.329E-02	3.044E-02	3.103E+00
GROUND	3.763E-04	3.763E-04	3.763E-04	3.763E-04	3.763E-04	3.763E-04
CLOUD	2.665E-02	2.665E-02	2.665E-02	2.665E-02	2.665E-02	2.665E-02
VEG. ING	4.919E-02	5.684E-01	4.919E-02	1.689E-01	1.376E-01	4.919E-02
MEAT ING	2.589E-03	2.992E-02	2.589E-03	8.892E-03	7.243E-03	2.589E-03
MILK ING	5.255E-04	6.073E-03	5.255E-04	1.805E-03	1.470E-03	5.255E-04
RNPLUS50	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTALS	8.976E-02	7.158E-01	8.073E-02	2.699E-01	2.038E-01	3.183E+00

DOSES RECEIVED BY PEOPLE BEYOND 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
GROUND	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CLOUD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
VEG. ING	4.618E-01	5.336E+00	4.618E-01	1.586E+00	1.292E+00	4.618E-01
MEAT ING	5.417E-03	6.259E-02	5.417E-03	1.860E-02	1.515E-02	5.417E-03
MILK ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RNPLUS50	3.889E+00	5.303E+01	8.838E-01	3.889E+00	3.889E+00	2.475E+01
TOTALS	4.356E+00	5.842E+01	1.351E+00	5.493E+00	5.196E+00	2.521E+01

TOTAL DOSES COMPUTED OVER ALL POPULATIONS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	1.043E-02	8.438E-02	1.400E-03	6.329E-02	3.044E-02	3.103E+00
GROUND	3.763E-04	3.763E-04	3.763E-04	3.763E-04	3.763E-04	3.763E-04
CLOUD	2.665E-02	2.665E-02	2.665E-02	2.665E-02	2.665E-02	2.665E-02
VEG. ING	5.110E-01	5.905E+00	5.110E-01	1.755E+00	1.429E+00	5.110E-01
MEAT ING	8.006E-03	9.251E-02	8.006E-03	2.750E-02	2.240E-02	8.006E-03
MILK ING	5.255E-04	6.073E-03	5.255E-04	1.805E-03	1.470E-03	5.255E-04
RNPLUS50	3.889E+00	5.303E+01	8.838E-01	3.889E+00	3.889E+00	2.475E+01
TOTALS	4.446E+00	5.914E+01	1.432E+00	5.763E+00	5.399E+00	2.840E+01

TIME STEP NUMBER 1, 2011 DURATION IN YRS IS... 1.0

NUMBER 1 NAME=T-Chair Ranch X= 3.7KM, Y= -2.2KM, Z= -7.0M, DIST= 4.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	9.47E-02	9.35E-03	7.87E-03	1.62E-02	1.10E-02	1.45E+00
CHILD	TOTALS	9.45E-02	1.04E-02	8.22E-03	1.19E-02	9.62E-03	1.45E+00
TEENAGE	TOTALS	9.46E-02	1.32E-02	8.46E-03	1.00E-02	9.07E-03	1.45E+00
ADULT	TOTALS	9.47E-02	1.29E-02	8.76E-03	1.01E-02	9.19E-03	1.45E+00

NUMBER 2 NAME=Dry Fork Ranch X= -2.7KM, Y= -1.1KM, Z= -58.0M, DIST= 2.9KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	4.11E-02	3.05E-03	2.49E-03	5.61E-03	3.67E-03	6.44E-01
CHILD	TOTALS	4.11E-02	3.44E-03	2.62E-03	4.01E-03	3.15E-03	6.44E-01
TEENAGE	TOTALS	4.11E-02	4.47E-03	2.71E-03	3.31E-03	2.94E-03	6.44E-01
ADULT	TOTALS	4.11E-02	4.38E-03	2.82E-03	3.32E-03	2.99E-03	6.44E-01

TIME STEP NUMBER 1, 2011 DURATION IN YRS IS... 1.0

NUMBER 3 NAME=Christensen Ranch X= 1.8KM, Y= 7.8KM, Z= -1.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.25E-01	1.71E-02	1.33E-02	3.45E-02	2.13E-02	1.85E+00
CHILD	TOTALS	1.24E-01	1.97E-02	1.42E-02	2.36E-02	1.77E-02	1.85E+00
TEENAGE	TOTALS	1.24E-01	2.67E-02	1.48E-02	1.88E-02	1.64E-02	1.85E+00
ADULT	TOTALS	1.25E-01	2.61E-02	1.56E-02	1.89E-02	1.67E-02	1.85E+00

NUMBER 4 NAME=Pfister Ranch X= 7.8KM, Y= 7.4KM, Z= 78.0M, DIST= 10.8KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	3.70E-01	3.44E-02	2.97E-02	5.57E-02	3.96E-02	5.67E+00
CHILD	TOTALS	3.69E-01	3.76E-02	3.08E-02	4.24E-02	3.52E-02	5.67E+00
TEENAGE	TOTALS	3.69E-01	4.62E-02	3.16E-02	3.65E-02	3.35E-02	5.67E+00
ADULT	TOTALS	3.70E-01	4.55E-02	3.25E-02	3.66E-02	3.38E-02	5.67E+00

TIME STEP NUMBER 1, 2011 DURATION IN YRS IS... 1.0

NUMBER 5 NAME=Pumpkin Butte Ranch X= 11.1KM, Y= 3.6KM, Z= 218.0M, DIST= 11.7KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.90E-01	2.02E-02	1.77E-02	3.22E-02	2.31E-02	4.55E+00
CHILD	TOTALS	2.90E-01	2.21E-02	1.83E-02	2.47E-02	2.07E-02	4.55E+00
TEENAGE	TOTALS	2.90E-01	2.69E-02	1.87E-02	2.14E-02	1.97E-02	4.55E+00
ADULT	TOTALS	2.90E-01	2.65E-02	1.92E-02	2.15E-02	1.99E-02	4.55E+00

NUMBER 6 NAME=Van Buggenum Ranch X= 15.4KM, Y= 5.3KM, Z= 130.0M, DIST= 16.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	9.32E-02	1.25E-02	9.23E-03	2.74E-02	1.61E-02	1.39E+00
CHILD	TOTALS	9.28E-02	1.48E-02	9.99E-03	1.81E-02	1.30E-02	1.39E+00
TEENAGE	TOTALS	9.30E-02	2.08E-02	1.05E-02	1.40E-02	1.19E-02	1.39E+00
ADULT	TOTALS	9.31E-02	2.03E-02	1.12E-02	1.40E-02	1.21E-02	1.39E+00

TIME STEP NUMBER 1, 2011 DURATION IN YRS IS... 1.0

NUMBER 7 NAME=Ruby Ranch X= 19.0KM, Y= 2.9KM, Z= 101.0M, DIST= 19.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	6.60E-02	1.04E-02	7.04E-03	2.60E-02	1.42E-02	9.75E-01
CHILD	TOTALS	6.57E-02	1.28E-02	7.82E-03	1.62E-02	1.10E-02	9.75E-01
TEENAGE	TOTALS	6.58E-02	1.91E-02	8.37E-03	1.20E-02	9.76E-03	9.75E-01
ADULT	TOTALS	6.59E-02	1.85E-02	9.05E-03	1.21E-02	1.00E-02	9.75E-01

NUMBER 8 NAME=Nichols-north centra X= -0.4KM, Y= 1.3KM, Z= 57.0M, DIST= 1.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.45E+00	3.26E-02	3.12E-02	3.89E-02	3.41E-02	2.37E+01
CHILD	TOTALS	1.45E+00	3.35E-02	3.15E-02	3.49E-02	3.28E-02	2.37E+01
TEENAGE	TOTALS	1.45E+00	3.61E-02	3.17E-02	3.32E-02	3.23E-02	2.37E+01
ADULT	TOTALS	1.45E+00	3.59E-02	3.20E-02	3.32E-02	3.24E-02	2.37E+01

TIME STEP NUMBER 1, 2011 DURATION IN YRS IS... 1.0

NUMBER 9 NAME=Nichols-east central X= 0.6KM, Y= 0.2KM, Z= -2.0M, DIST= 0.6KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.44E-01	1.67E-02	1.56E-02	2.14E-02	1.78E-02	8.82E+00
CHILD	TOTALS	5.44E-01	1.74E-02	1.59E-02	1.85E-02	1.69E-02	8.82E+00
TEENAGE	TOTALS	5.44E-01	1.93E-02	1.61E-02	1.72E-02	1.65E-02	8.82E+00
ADULT	TOTALS	5.44E-01	1.92E-02	1.63E-02	1.72E-02	1.66E-02	8.82E+00

NUMBER 10 NAME=Nichols-south centra X= -0.3KM, Y= -1.1KM, Z= -18.0M, DIST= 1.1KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.87E-01	9.38E-03	8.52E-03	1.34E-02	1.03E-02	4.64E+00
CHILD	TOTALS	2.87E-01	9.99E-03	8.72E-03	1.09E-02	9.54E-03	4.64E+00
TEENAGE	TOTALS	2.87E-01	1.16E-02	8.86E-03	9.78E-03	9.22E-03	4.64E+00
ADULT	TOTALS	2.87E-01	1.15E-02	9.04E-03	9.80E-03	9.29E-03	4.64E+00

TIME STEP NUMBER 1, 2011 DURATION IN YRS IS... 1.0

NUMBER 11 NAME=Nichols-west central X= -1.4KM, Y= 0.5KM, Z= 12.0M, DIST= 1.5KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.19E+00	1.87E-02	1.77E-02	2.30E-02	1.97E-02	3.62E+01
CHILD	TOTALS	2.19E+00	1.93E-02	1.79E-02	2.03E-02	1.88E-02	3.62E+01
TEENAGE	TOTALS	2.19E+00	2.10E-02	1.81E-02	1.91E-02	1.85E-02	3.62E+01
ADULT	TOTALS	2.19E+00	2.09E-02	1.83E-02	1.91E-02	1.86E-02	3.62E+01

NUMBER 12 NAME=Hank-north central X= 7.9KM, Y= 6.6KM, Z= 86.0M, DIST= 10.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG:LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.00E-01	3.86E-02	3.44E-02	5.78E-02	4.33E-02	7.77E+00
CHILD	TOTALS	4.99E-01	4.15E-02	3.54E-02	4.58E-02	3.93E-02	7.77E+00
TEENAGE	TOTALS	5.00E-01	4.93E-02	3.61E-02	4.05E-02	3.78E-02	7.77E+00
ADULT	TOTALS	5.00E-01	4.86E-02	3.69E-02	4.06E-02	3.81E-02	7.77E+00

TIME STEP NUMBER 1, 2011 DURATION IN YRS IS... 1.0

NUMBER 13 NAME=Hank-east central X= 8.8KM, Y= 3.3KM, Z= 160.0M, DIST= 9.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.13E+00	2.13E-02	1.96E-02	2.89E-02	2.31E-02	3.51E+01
CHILD	TOTALS	2.13E+00	2.24E-02	2.00E-02	2.41E-02	2.16E-02	3.51E+01
TEENAGE	TOTALS	2.13E+00	2.55E-02	2.03E-02	2.20E-02	2.09E-02	3.51E+01
ADULT	TOTALS	2.13E+00	2.52E-02	2.06E-02	2.21E-02	2.11E-02	3.51E+01

NUMBER 14 NAME=Hank-south central X= 7.9KM, Y= 1.3KM, Z= 139.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	3.45E-01	2.06E-02	1.83E-02	3.07E-02	2.30E-02	5.46E+00
CHILD	TOTALS	3.45E-01	2.21E-02	1.89E-02	2.44E-02	2.09E-02	5.46E+00
TEENAGE	TOTALS	3.45E-01	2.62E-02	1.92E-02	2.16E-02	2.01E-02	5.46E+00
ADULT	TOTALS	3.45E-01	2.59E-02	1.97E-02	2.16E-02	2.03E-02	5.46E+00

TIME STEP NUMBER 1, 2011 DURATION IN YRS IS... 1.0

NUMBER 15 NAME=Hank-west central X= 7.1KM, Y= 4.2KM, Z= 102.0M, DIST= 8.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	6.18E-01	2.14E-02	1.96E-02	3.00E-02	2.35E-02	9.99E+00
CHILD	TOTALS	6.18E-01	2.27E-02	2.00E-02	2.46E-02	2.18E-02	9.99E+00
TEENAGE	TOTALS	6.18E-01	2.62E-02	2.03E-02	2.23E-02	2.11E-02	9.99E+00
ADULT	TOTALS	6.18E-01	2.59E-02	2.07E-02	2.23E-02	2.12E-02	9.99E+00

TIME STEP NUMBER 2, 2012 DURATION IN YRS IS... 1.0

SUMMARY PRINT OF POPULATION DOSES COMPUTED FOR TSTEP 2--DOSES SHOWN ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DOSES RECEIVED BY PEOPLE WITHIN 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	1.228E-02	9.942E-02	1.647E-03	7.456E-02	3.586E-02	3.690E+00
GROUND	4.707E-04	4.707E-04	4.707E-04	4.707E-04	4.707E-04	4.707E-04
CLOUD	3.166E-02	3.166E-02	3.166E-02	3.166E-02	3.166E-02	3.166E-02
VEG. ING	5.789E-02	6.690E-01	5.789E-02	1.988E-01	1.620E-01	5.789E-02
MEAT ING	3.076E-03	3.554E-02	3.076E-03	1.056E-02	8.605E-03	3.076E-03
MILK ING	6.244E-04	7.215E-03	6.244E-04	2.144E-03	1.747E-03	6.244E-04
RNPLUS50	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTALS	1.060E-01	8.433E-01	9.537E-02	3.182E-01	2.403E-01	3.783E+00

DOSES RECEIVED BY PEOPLE BEYOND 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
GROUND	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CLOUD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
VEG. ING	5.435E-01	6.281E+00	5.435E-01	1.867E+00	1.521E+00	5.435E-01
MEAT ING	6.435E-03	7.436E-02	6.435E-03	2.210E-02	1.800E-02	6.435E-03
MILK ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RNPLUS50	3.810E+00	5.195E+01	8.658E-01	3.810E+00	3.810E+00	2.424E+01
TOTALS	4.360E+00	5.831E+01	1.416E+00	5.699E+00	5.348E+00	2.479E+01

TOTAL DOSES COMPUTED OVER ALL POPULATIONS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	1.228E-02	9.942E-02	1.647E-03	7.456E-02	3.586E-02	3.690E+00
GROUND	4.707E-04	4.707E-04	4.707E-04	4.707E-04	4.707E-04	4.707E-04
CLOUD	3.166E-02	3.166E-02	3.166E-02	3.166E-02	3.166E-02	3.166E-02
VEG. ING	6.014E-01	6.950E+00	6.014E-01	2.066E+00	1.683E+00	6.014E-01
MEAT ING	9.511E-03	1.099E-01	9.511E-03	3.267E-02	2.661E-02	9.511E-03
MILK ING	6.244E-04	7.215E-03	6.244E-04	2.144E-03	1.747E-03	6.244E-04
RNPLUS50	3.810E+00	5.195E+01	8.658E-01	3.810E+00	3.810E+00	2.424E+01
TOTALS	4.466E+00	5.915E+01	1.511E+00	6.017E+00	5.589E+00	2.858E+01

TIME STEP NUMBER 2, 2012 DURATION IN YRS IS... 1.0

NUMBER 1 NAME=T-Chair Ranch X= 3.7KM, Y= -2.2KM, Z= -7.0M, DIST= 4.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.04E-01	1.06E-02	8.84E-03	1.85E-02	1.25E-02	1.59E+00
CHILD	TOTALS	1.04E-01	1.18E-02	9.25E-03	1.36E-02	1.09E-02	1.59E+00
TEENAGE	TOTALS	1.04E-01	1.50E-02	9.53E-03	1.14E-02	1.02E-02	1.59E+00
ADULT	TOTALS	1.04E-01	1.48E-02	9.88E-03	1.14E-02	1.04E-02	1.59E+00

NUMBER 2 NAME=Dry Fork Ranch X= -2.7KM, Y= -1.1KM, Z= -58.0M, DIST= 2.9KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	4.42E-02	3.57E-03	2.85E-03	6.87E-03	4.37E-03	6.89E-01
CHILD	TOTALS	4.42E-02	4.08E-03	3.02E-03	4.81E-03	3.70E-03	6.89E-01
TEENAGE	TOTALS	4.42E-02	5.41E-03	3.14E-03	3.90E-03	3.43E-03	6.89E-01
ADULT	TOTALS	4.42E-02	5.30E-03	3.28E-03	3.92E-03	3.49E-03	6.89E-01

TIME STEP NUMBER 2, 2012 DURATION IN YRS IS... 1.0

NUMBER 3 NAME=Christensen Ranch X= 1.8KM, Y= 7.8KM, Z= -1.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.41E-01	1.92E-02	1.50E-02	3.86E-02	2.39E-02	2.09E+00
CHILD	TOTALS	1.40E-01	2.22E-02	1.60E-02	2.65E-02	1.99E-02	2.09E+00
TEENAGE	TOTALS	1.40E-01	3.00E-02	1.66E-02	2.11E-02	1.84E-02	2.09E+00
ADULT	TOTALS	1.40E-01	2.94E-02	1.75E-02	2.12E-02	1.87E-02	2.09E+00

NUMBER 4 NAME=Pfister Ranch X= 7.8KM, Y= 7.4KM, Z= 78.0M, DIST= 10.8KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	4.79E-01	4.37E-02	3.82E-02	6.93E-02	4.99E-02	7.36E+00
CHILD	TOTALS	4.78E-01	4.77E-02	3.95E-02	5.33E-02	4.47E-02	7.36E+00
TEENAGE	TOTALS	4.79E-01	5.80E-02	4.04E-02	4.63E-02	4.27E-02	7.36E+00
ADULT	TOTALS	4.79E-01	5.72E-02	4.15E-02	4.65E-02	4.31E-02	7.36E+00

TIME STEP NUMBER 2, 2012 DURATION IN YRS IS... 1.0

NUMBER 5 NAME=Pumpkin Butte Ranch X= 11.1KM, Y= 3.6KM, Z= 218.0M, DIST= 11.7KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	3.76E-01	2.53E-02	2.23E-02	3.87E-02	2.85E-02	5.90E+00
CHILD	TOTALS	3.76E-01	2.73E-02	2.30E-02	3.03E-02	2.58E-02	5.90E+00
TEENAGE	TOTALS	3.76E-01	3.28E-02	2.35E-02	2.66E-02	2.47E-02	5.90E+00
ADULT	TOTALS	3.76E-01	3.23E-02	2.41E-02	2.67E-02	2.49E-02	5.90E+00

NUMBER 6 NAME=Van Buggenum Ranch X= 15.4KM, Y= 5.3KM, Z= 130.0M, DIST= 16.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.17E-01	1.52E-02	1.15E-02	3.27E-02	1.95E-02	1.75E+00
CHILD	TOTALS	1.16E-01	1.79E-02	1.24E-02	2.18E-02	1.59E-02	1.75E+00
TEENAGE	TOTALS	1.17E-01	2.50E-02	1.30E-02	1.70E-02	1.45E-02	1.75E+00
ADULT	TOTALS	1.17E-01	2.44E-02	1.37E-02	1.71E-02	1.48E-02	1.75E+00

TIME STEP NUMBER 2, 2012 DURATION IN YRS IS... 1.0

NUMBER 7 NAME=Ruby Ranch X= 19.0KM, Y= 2.9KM, Z= 101.0M, DIST= 19.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	8.13E-02	1.25E-02	8.59E-03	3.08E-02	1.70E-02	1.20E+00
CHILD	TOTALS	8.09E-02	1.54E-02	9.52E-03	1.94E-02	1.32E-02	1.20E+00
TEENAGE	TOTALS	8.11E-02	2.27E-02	1.02E-02	1.44E-02	1.18E-02	1.20E+00
ADULT	TOTALS	8.12E-02	2.21E-02	1.10E-02	1.45E-02	1.21E-02	1.20E+00

NUMBER 8 NAME=Nichols-north centra X= -0.4KM, Y= 1.3KM, Z= 57.0M, DIST= 1.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.46E+00	3.38E-02	3.21E-02	4.16E-02	3.57E-02	2.39E+01
CHILD	TOTALS	1.46E+00	3.50E-02	3.25E-02	3.68E-02	3.41E-02	2.39E+01
TEENAGE	TOTALS	1.46E+00	3.82E-02	3.28E-02	3.46E-02	3.35E-02	2.39E+01
ADULT	TOTALS	1.46E+00	3.79E-02	3.32E-02	3.47E-02	3.36E-02	2.39E+01

TIME STEP NUMBER 2, 2012 DURATION IN YRS IS... 1.0

NUMBER 9 NAME=Nichols-east central X= 0.6KM, Y= 0.2KM, Z= -2.0M, DIST= 0.6KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.51E-01	1.76E-02	1.64E-02	2.34E-02	1.90E-02	8.92E+00
CHILD	TOTALS	5.51E-01	1.85E-02	1.67E-02	1.98E-02	1.79E-02	8.92E+00
TEENAGE	TOTALS	5.51E-01	2.09E-02	1.69E-02	1.82E-02	1.74E-02	8.92E+00
ADULT	TOTALS	5.51E-01	2.07E-02	1.71E-02	1.83E-02	1.75E-02	8.92E+00

NUMBER 10 NAME=Nichols-south centra X= -0.3KM, Y= -1.1KM, Z= -18.0M, DIST= 1.1KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.92E-01	1.02E-02	9.14E-03	1.52E-02	1.14E-02	4.72E+00
CHILD	TOTALS	2.92E-01	1.10E-02	9.40E-03	1.21E-02	1.04E-02	4.72E+00
TEENAGE	TOTALS	2.92E-01	1.30E-02	9.57E-03	1.07E-02	1.00E-02	4.72E+00
ADULT	TOTALS	2.92E-01	1.28E-02	9.79E-03	1.08E-02	1.01E-02	4.72E+00

TIME STEP NUMBER 2, 2012 DURATION IN YRS IS... 1.0

NUMBER 11 NAME=Nichols-west central X= -1.4KM, Y= 0.5KM, Z= 12.0M, DIST= 1.5KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.20E+00	1.97E-02	1.85E-02	2.53E-02	2.11E-02	3.63E+01
CHILD	TOTALS	2.20E+00	2.06E-02	1.88E-02	2.18E-02	1.99E-02	3.63E+01
TEENAGE	TOTALS	2.20E+00	2.28E-02	1.90E-02	2.03E-02	1.95E-02	3.63E+01
ADULT	TOTALS	2.20E+00	2.27E-02	1.92E-02	2.03E-02	1.96E-02	3.63E+01

NUMBER 12 NAME=Hank-north central X= 7.9KM, Y= 6.6KM, Z= 86.0M, DIST= 10.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	6.52E-01	4.93E-02	4.44E-02	7.22E-02	5.49E-02	1.02E+01
CHILD	TOTALS	6.52E-01	5.29E-02	4.56E-02	5.79E-02	5.02E-02	1.02E+01
TEENAGE	TOTALS	6.52E-01	6.21E-02	4.64E-02	5.17E-02	4.84E-02	1.02E+01
ADULT	TOTALS	6.52E-01	6.13E-02	4.74E-02	5.18E-02	4.88E-02	1.02E+01

TIME STEP NUMBER 2, 2012 DURATION IN YRS IS... 1.0

NUMBER 13 NAME=Hank-east central X= 8.8KM, Y= 3.3KM, Z= 160.0M, DIST= 9.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.82E+00	2.64E-02	2.47E-02	3.42E-02	2.83E-02	4.66E+01
CHILD	TOTALS	2.82E+00	2.76E-02	2.51E-02	2.93E-02	2.67E-02	4.66E+01
TEENAGE	TOTALS	2.82E+00	3.07E-02	2.54E-02	2.72E-02	2.61E-02	4.66E+01
ADULT	TOTALS	2.82E+00	3.05E-02	2.57E-02	2.72E-02	2.62E-02	4.66E+01

NUMBER 14 NAME=Hank-south central X= 7.9KM, Y= 1.3KM, Z= 139.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	4.43E-01	2.51E-02	2.27E-02	3.63E-02	2.78E-02	7.01E+00
CHILD	TOTALS	4.42E-01	2.69E-02	2.33E-02	2.93E-02	2.56E-02	7.01E+00
TEENAGE	TOTALS	4.43E-01	3.14E-02	2.37E-02	2.63E-02	2.47E-02	7.01E+00
ADULT	TOTALS	4.43E-01	3.10E-02	2.42E-02	2.63E-02	2.49E-02	7.01E+00

TIME STEP NUMBER 2, 2012 DURATION IN YRS IS... 1.0

NUMBER 15 NAME=Hank-west central X= 7.1KM, Y= 4.2KM, Z= 102.0M, DIST= 8.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	8.08E-01	2.65E-02	2.45E-02	3.55E-02	2.87E-02	1.31E+01
CHILD	TOTALS	8.08E-01	2.79E-02	2.50E-02	2.99E-02	2.68E-02	1.31E+01
TEENAGE	TOTALS	8.08E-01	3.15E-02	2.53E-02	2.74E-02	2.61E-02	1.31E+01
ADULT	TOTALS	8.08E-01	3.12E-02	2.57E-02	2.74E-02	2.63E-02	1.31E+01

TIME STEP NUMBER 3, 2013 DURATION IN YRS IS... 1.0

SUMMARY PRINT OF POPULATION DOSES COMPUTED FOR TSTEP 3--DOSES SHOWN ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DOSES RECEIVED BY PEOPLE WITHIN 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	1.652E-02	1.337E-01	2.218E-03	1.003E-01	4.823E-02	4.927E+00
GROUND	6.477E-04	6.477E-04	6.477E-04	6.477E-04	6.477E-04	6.477E-04
CLOUD	4.231E-02	4.231E-02	4.231E-02	4.231E-02	4.231E-02	4.231E-02
VEG. ING	7.825E-02	9.042E-01	7.825E-02	2.687E-01	2.189E-01	7.825E-02
MEAT ING	4.180E-03	4.830E-02	4.180E-03	1.436E-02	1.169E-02	4.180E-03
MILK ING	8.485E-04	9.804E-03	8.485E-04	2.914E-03	2.374E-03	8.485E-04
RNPLUS50	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTALS	1.428E-01	1.139E+00	1.285E-01	4.293E-01	3.242E-01	5.053E+00

DOSES RECEIVED BY PEOPLE BEYOND 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
GROUND	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CLOUD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
VEG. ING	7.347E-01	8.489E+00	7.347E-01	2.523E+00	2.055E+00	7.347E-01
MEAT ING	8.745E-03	1.010E-01	8.745E-03	3.003E-02	2.446E-02	8.745E-03
MILK ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RNPLUS50	5.132E+00	6.998E+01	1.166E+00	5.132E+00	5.132E+00	3.266E+01
TOTALS	5.876E+00	7.857E+01	1.910E+00	7.685E+00	7.212E+00	3.340E+01

TOTAL DOSES COMPUTED OVER ALL POPULATIONS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	1.652E-02	1.337E-01	2.218E-03	1.003E-01	4.823E-02	4.927E+00
GROUND	6.477E-04	6.477E-04	6.477E-04	6.477E-04	6.477E-04	6.477E-04
CLOUD	4.231E-02	4.231E-02	4.231E-02	4.231E-02	4.231E-02	4.231E-02
VEG. ING	8.129E-01	9.394E+00	8.129E-01	2.792E+00	2.274E+00	8.129E-01
MEAT ING	1.292E-02	1.493E-01	1.292E-02	4.439E-02	3.616E-02	1.292E-02
MILK ING	8.485E-04	9.804E-03	8.485E-04	2.914E-03	2.374E-03	8.485E-04
RNPLUS50	5.132E+00	6.998E+01	1.166E+00	5.132E+00	5.132E+00	3.266E+01
TOTALS	6.018E+00	7.971E+01	2.038E+00	8.115E+00	7.536E+00	3.846E+01

TIME STEP NUMBER 3, 2013 DURATION IN YRS IS... 1.0

NUMBER 1 NAME=T-Chair Ranch X= 3.7KM, Y= -2.2KM, Z= -7.0M, DIST= 4.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.48E-01	1.47E-02	1.23E-02	2.56E-02	1.73E-02	2.26E+00
CHILD	TOTALS	1.48E-01	1.64E-02	1.29E-02	1.88E-02	1.51E-02	2.26E+00
TEENAGE	TOTALS	1.48E-01	2.08E-02	1.33E-02	1.58E-02	1.43E-02	2.26E+00
ADULT	TOTALS	1.48E-01	2.04E-02	1.38E-02	1.59E-02	1.44E-02	2.26E+00

NUMBER 2 NAME=Dry Fork Ranch X= -2.7KM, Y= -1.1KM, Z= -58.0M, DIST= 2.9KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	6.40E-02	4.82E-03	3.93E-03	8.97E-03	5.83E-03	1.00E+00
CHILD	TOTALS	6.39E-02	5.47E-03	4.14E-03	6.38E-03	4.99E-03	1.00E+00
TEENAGE	TOTALS	6.39E-02	7.14E-03	4.29E-03	5.24E-03	4.66E-03	1.00E+00
ADULT	TOTALS	6.40E-02	7.01E-03	4.47E-03	5.27E-03	4.73E-03	1.00E+00

TIME STEP NUMBER 3, 2013 DURATION IN YRS IS... 1.0

NUMBER 3 NAME=Christensen Ranch X= 1.8KM, Y= 7.8KM, Z= -1.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.96E-01	2.68E-02	2.09E-02	5.40E-02	3.34E-02	2.91E+00
CHILD	TOTALS	1.95E-01	3.10E-02	2.23E-02	3.70E-02	2.79E-02	2.91E+00
TEENAGE	TOTALS	1.95E-01	4.20E-02	2.32E-02	2.95E-02	2.57E-02	2.91E+00
ADULT	TOTALS	1.96E-01	4.11E-02	2.44E-02	2.97E-02	2.62E-02	2.91E+00

NUMBER 4 NAME=Pfister Ranch X= 7.8KM, Y= 7.4KM, Z= 78.0M, DIST= 10.8KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.98E-01	5.54E-02	4.80E-02	8.94E-02	6.36E-02	9.19E+00
CHILD	TOTALS	5.98E-01	6.07E-02	4.98E-02	6.81E-02	5.67E-02	9.19E+00
TEENAGE	TOTALS	5.98E-01	7.44E-02	5.10E-02	5.88E-02	5.40E-02	9.19E+00
ADULT	TOTALS	5.98E-01	7.33E-02	5.25E-02	5.90E-02	5.46E-02	9.19E+00

TIME STEP NUMBER 3, 2013 DURATION IN YRS IS... 1.0

NUMBER 5 NAME=Pumpkin Butte Ranch X= 11.1KM, Y= 3.6KM, Z= 218.0M, DIST= 11.7KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	4.70E-01	3.25E-02	2.84E-02	5.12E-02	3.70E-02	7.36E+00
CHILD	TOTALS	4.69E-01	3.54E-02	2.94E-02	3.95E-02	3.32E-02	7.36E+00
TEENAGE	TOTALS	4.69E-01	4.29E-02	3.00E-02	3.44E-02	3.17E-02	7.36E+00
ADULT	TOTALS	4.70E-01	4.23E-02	3.09E-02	3.45E-02	3.20E-02	7.36E+00

NUMBER 6 NAME=Van Buggenum Ranch X= 15.4KM, Y= 5.3KM, Z= 130.0M, DIST= 16.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.50E-01	1.99E-02	1.48E-02	4.36E-02	2.57E-02	2.24E+00
CHILD	TOTALS	1.49E-01	2.36E-02	1.60E-02	2.88E-02	2.08E-02	2.24E+00
TEENAGE	TOTALS	1.49E-01	3.31E-02	1.68E-02	2.23E-02	1.90E-02	2.24E+00
ADULT	TOTALS	1.50E-01	3.24E-02	1.79E-02	2.25E-02	1.94E-02	2.24E+00

TIME STEP NUMBER 3, 2013 DURATION IN YRS IS... 1.0

NUMBER 7 NAME=Ruby Ranch X= 19.0KM, Y= 2.9KM, Z= 101.0M, DIST= 19.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.06E-01	1.66E-02	1.12E-02	4.13E-02	2.26E-02	1.56E+00
CHILD	TOTALS	1.05E-01	2.04E-02	1.25E-02	2.58E-02	1.75E-02	1.56E+00
TEENAGE	TOTALS	1.05E-01	3.04E-02	1.34E-02	1.91E-02	1.56E-02	1.56E+00
ADULT	TOTALS	1.06E-01	2.96E-02	1.45E-02	1.92E-02	1.60E-02	1.56E+00

NUMBER 8 NAME=Nichols-north centra X= -0.4KM, Y= 1.3KM, Z= 57.0M, DIST= 1.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.23E+00	5.03E-02	4.81E-02	6.04E-02	5.27E-02	3.64E+01
CHILD	TOTALS	2.23E+00	5.19E-02	4.86E-02	5.41E-02	5.07E-02	3.64E+01
TEENAGE	TOTALS	2.23E+00	5.60E-02	4.90E-02	5.13E-02	4.99E-02	3.64E+01
ADULT	TOTALS	2.23E+00	5.56E-02	4.94E-02	5.14E-02	5.00E-02	3.64E+01

TIME STEP NUMBER 3, 2013 DURATION IN YRS IS... 1.0

NUMBER 9 NAME=Nichols-east central X= 0.6KM, Y= 0.2KM, Z= -2.0M, DIST= 0.6KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	8.36E-01	2.58E-02	2.42E-02	3.34E-02	2.77E-02	1.36E+01
CHILD	TOTALS	8.36E-01	2.70E-02	2.46E-02	2.87E-02	2.61E-02	1.36E+01
TEENAGE	TOTALS	8.36E-01	3.01E-02	2.49E-02	2.66E-02	2.55E-02	1.36E+01
ADULT	TOTALS	8.36E-01	2.98E-02	2.52E-02	2.67E-02	2.57E-02	1.36E+01

NUMBER 10 NAME=Nichols-south centra X= -0.3KM, Y= -1.1KM, Z= -18.0M, DIST= 1.1KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	4.41E-01	1.46E-02	1.32E-02	2.10E-02	1.62E-02	7.14E+00
CHILD	TOTALS	4.41E-01	1.56E-02	1.36E-02	1.70E-02	1.49E-02	7.14E+00
TEENAGE	TOTALS	4.41E-01	1.82E-02	1.38E-02	1.53E-02	1.44E-02	7.14E+00
ADULT	TOTALS	4.41E-01	1.80E-02	1.41E-02	1.53E-02	1.45E-02	7.14E+00

TIME STEP NUMBER 3, 2013 DURATION IN YRS IS... 1.0

NUMBER 11 NAME=Nichols-west central X= -1.4KM, Y= 0.5KM, Z= 12.0M, DIST= 1.5KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	3.36E+00	2.89E-02	2.74E-02	3.59E-02	3.06E-02	5.55E+01
CHILD	TOTALS	3.36E+00	3.00E-02	2.78E-02	3.15E-02	2.92E-02	5.55E+01
TEENAGE	TOTALS	3.36E+00	3.28E-02	2.80E-02	2.96E-02	2.86E-02	5.55E+01
ADULT	TOTALS	3.36E+00	3.26E-02	2.83E-02	2.97E-02	2.87E-02	5.55E+01

NUMBER 12 NAME=Hank-north central X= 7.9KM, Y= 6.6KM, Z= 86.0M, DIST= 10.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	8.10E-01	6.23E-02	5.57E-02	9.28E-02	6.97E-02	1.26E+01
CHILD	TOTALS	8.10E-01	6.70E-02	5.72E-02	7.37E-02	6.35E-02	1.26E+01
TEENAGE	TOTALS	8.10E-01	7.93E-02	5.83E-02	6.54E-02	6.10E-02	1.26E+01
ADULT	TOTALS	8.10E-01	7.83E-02	5.96E-02	6.55E-02	6.16E-02	1.26E+01

TIME STEP NUMBER 3, 2013 DURATION IN YRS IS... 1.0

NUMBER 13 NAME=Hank-east central X= 8.8KM, Y= 3.3KM, Z= 160.0M, DIST= 9.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	3.46E+00	3.41E-02	3.15E-02	4.58E-02	3.69E-02	5.72E+01
CHILD	TOTALS	3.46E+00	3.59E-02	3.21E-02	3.85E-02	3.45E-02	5.72E+01
TEENAGE	TOTALS	3.46E+00	4.06E-02	3.26E-02	3.53E-02	3.36E-02	5.72E+01
ADULT	TOTALS	3.46E+00	4.03E-02	3.31E-02	3.53E-02	3.38E-02	5.72E+01

NUMBER 14 NAME=Hank-south central X= 7.9KM, Y= 1.3KM, Z= 139.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.58E-01	3.28E-02	2.94E-02	4.87E-02	3.67E-02	8.82E+00
CHILD	TOTALS	5.57E-01	3.53E-02	3.02E-02	3.88E-02	3.35E-02	8.82E+00
TEENAGE	TOTALS	5.58E-01	4.17E-02	3.08E-02	3.45E-02	3.22E-02	8.82E+00
ADULT	TOTALS	5.58E-01	4.12E-02	3.15E-02	3.45E-02	3.25E-02	8.82E+00

TIME STEP NUMBER 3, 2013 DURATION IN YRS IS... 1.0

NUMBER 15 NAME=Hank-west central X= 7.1KM, Y= 4.2KM, Z= 102.0M, DIST= 8.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.00E+00	3.43E-02	3.14E-02	4.76E-02	3.75E-02	1.62E+01
CHILD	TOTALS	1.00E+00	3.64E-02	3.21E-02	3.93E-02	3.48E-02	1.62E+01
TEENAGE	TOTALS	1.00E+00	4.17E-02	3.26E-02	3.57E-02	3.38E-02	1.62E+01
ADULT	TOTALS	1.00E+00	4.13E-02	3.32E-02	3.57E-02	3.40E-02	1.62E+01

TIME STEP NUMBER 4, 2014 DURATION IN YRS IS... 1.0

SUMMARY PRINT OF POPULATION DOSES COMPUTED FOR TSTEP 4--DOSES SHOWN ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DOSES RECEIVED BY PEOPLE WITHIN 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	2.152E-02	1.742E-01	2.883E-03	1.306E-01	6.283E-02	6.503E+00
GROUND	8.733E-04	8.733E-04	8.733E-04	8.733E-04	8.733E-04	8.733E-04
CLOUD	5.576E-02	5.576E-02	5.576E-02	5.576E-02	5.576E-02	5.576E-02
VEG. ING	1.015E-01	1.173E+00	1.015E-01	3.485E-01	2.839E-01	1.015E-01
MEAT ING	5.445E-03	6.292E-02	5.445E-03	1.870E-02	1.523E-02	5.445E-03
MILK ING	1.105E-03	1.277E-02	1.105E-03	3.796E-03	3.092E-03	1.105E-03
RNPLUS50	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTALS	1.862E-01	1.479E+00	1.676E-01	5.583E-01	4.217E-01	6.667E+00

DOSES RECEIVED BY PEOPLE BEYOND 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
GROUND	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CLOUD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
VEG. ING	9.528E-01	1.101E+01	9.528E-01	3.272E+00	2.665E+00	9.528E-01
MEAT ING	1.139E-02	1.316E-01	1.139E-02	3.913E-02	3.187E-02	1.139E-02
MILK ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RNPLUS50	6.665E+00	9.088E+01	1.515E+00	6.665E+00	6.665E+00	4.241E+01
TOTALS	7.629E+00	1.020E+02	2.479E+00	9.976E+00	9.362E+00	4.338E+01

TOTAL DOSES COMPUTED OVER ALL POPULATIONS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	2.152E-02	1.742E-01	2.883E-03	1.306E-01	6.283E-02	6.503E+00
GROUND	8.733E-04	8.733E-04	8.733E-04	8.733E-04	8.733E-04	8.733E-04
CLOUD	5.576E-02	5.576E-02	5.576E-02	5.576E-02	5.576E-02	5.576E-02
VEG. ING	1.054E+00	1.218E+01	1.054E+00	3.621E+00	2.949E+00	1.054E+00
MEAT ING	1.684E-02	1.946E-01	1.684E-02	5.783E-02	4.710E-02	1.684E-02
MILK ING	1.105E-03	1.277E-02	1.105E-03	3.796E-03	3.092E-03	1.105E-03
RNPLUS50	6.665E+00	9.088E+01	1.515E+00	6.665E+00	6.665E+00	4.241E+01
TOTALS	7.815E+00	1.035E+02	2.646E+00	1.053E+01	9.784E+00	5.004E+01

TIME STEP NUMBER 4, 2014 DURATION IN YRS IS... 1.0

NUMBER 1 NAME=T-Chair Ranch X= 3.7KM, Y= -2.2KM, Z= -7.0M, DIST= 4.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.74E-01	1.80E-02	1.50E-02	3.18E-02	2.13E-02	2.65E+00
CHILD	TOTALS	1.74E-01	2.01E-02	1.57E-02	2.32E-02	1.85E-02	2.65E+00
TEENAGE	TOTALS	1.74E-01	2.57E-02	1.62E-02	1.94E-02	1.74E-02	2.65E+00
ADULT	TOTALS	1.74E-01	2.53E-02	1.68E-02	1.95E-02	1.77E-02	2.65E+00

NUMBER 2 NAME=Dry Fork Ranch X= -2.7KM, Y= -1.1KM, Z= -58.0M, DIST= 2.9KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	7.25E-02	6.22E-03	4.89E-03	1.24E-02	7.71E-03	1.13E+00
CHILD	TOTALS	7.24E-02	7.17E-03	5.21E-03	8.52E-03	6.46E-03	1.13E+00
TEENAGE	TOTALS	7.24E-02	9.65E-03	5.43E-03	6.84E-03	5.97E-03	1.13E+00
ADULT	TOTALS	7.25E-02	9.45E-03	5.70E-03	6.88E-03	6.08E-03	1.13E+00

TIME STEP NUMBER 4, 2014 DURATION IN YRS IS... 1.0

NUMBER 3 NAME=Christensen Ranch X= 1.8KM, Y= 7.8KM, Z= -1.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.39E-01	3.25E-02	2.54E-02	6.53E-02	4.04E-02	3.55E+00
CHILD	TOTALS	2.38E-01	3.76E-02	2.71E-02	4.48E-02	3.38E-02	3.55E+00
TEENAGE	TOTALS	2.39E-01	5.09E-02	2.82E-02	3.58E-02	3.11E-02	3.55E+00
ADULT	TOTALS	2.39E-01	4.98E-02	2.97E-02	3.60E-02	3.17E-02	3.55E+00

NUMBER 4 NAME=Pfister Ranch X= 7.8KM, Y= 7.4KM, Z= 78.0M, DIST= 10.8KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	8.90E-01	8.04E-02	7.05E-02	1.26E-01	9.14E-02	1.37E+01
CHILD	TOTALS	8.89E-01	8.75E-02	7.29E-02	9.74E-02	8.22E-02	1.37E+01
TEENAGE	TOTALS	8.89E-01	1.06E-01	7.45E-02	8.50E-02	7.86E-02	1.37E+01
ADULT	TOTALS	8.90E-01	1.04E-01	7.65E-02	8.53E-02	7.94E-02	1.37E+01

TIME STEP NUMBER 4, 2014 DURATION IN YRS IS... 1.0

NUMBER 5 NAME=Pumpkin Butte Ranch X= 11.1KM, Y= 3.6KM, Z= 218.0M, DIST= 11.7KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	6.98E-01	4.59E-02	4.10E-02	6.88E-02	5.15E-02	1.10E+01
CHILD	TOTALS	6.98E-01	4.95E-02	4.21E-02	5.45E-02	4.68E-02	1.10E+01
TEENAGE	TOTALS	6.98E-01	5.87E-02	4.29E-02	4.82E-02	4.50E-02	1.10E+01
ADULT	TOTALS	6.98E-01	5.80E-02	4.40E-02	4.84E-02	4.54E-02	1.10E+01

NUMBER 6 NAME=Van Buggenum Ranch X= 15.4KM, Y= 5.3KM, Z= 130.0M, DIST= 16.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.13E-01	2.73E-02	2.08E-02	5.79E-02	3.48E-02	3.19E+00
CHILD	TOTALS	2.12E-01	3.21E-02	2.23E-02	3.88E-02	2.86E-02	3.19E+00
TEENAGE	TOTALS	2.13E-01	4.45E-02	2.34E-02	3.05E-02	2.61E-02	3.19E+00
ADULT	TOTALS	2.13E-01	4.35E-02	2.48E-02	3.07E-02	2.67E-02	3.19E+00

TIME STEP NUMBER 4, 2014 DURATION IN YRS IS... 1.0

NUMBER 7 NAME=Ruby Ranch X= 19.0KM, Y= 2.9KM, Z= 101.0M, DIST= 19.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.47E-01	2.23E-02	1.54E-02	5.42E-02	3.00E-02	2.17E+00
CHILD	TOTALS	1.46E-01	2.72E-02	1.70E-02	3.42E-02	2.35E-02	2.17E+00
TEENAGE	TOTALS	1.46E-01	4.01E-02	1.82E-02	2.55E-02	2.10E-02	2.17E+00
ADULT	TOTALS	1.46E-01	3.91E-02	1.96E-02	2.57E-02	2.16E-02	2.17E+00

NUMBER 8 NAME=Nichols-north centra X= -0.4KM, Y= 1.3KM, Z= 57.0M, DIST= 1.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.27E+00	5.40E-02	5.09E-02	6.80E-02	5.74E-02	3.70E+01
CHILD	TOTALS	2.27E+00	5.62E-02	5.17E-02	5.92E-02	5.45E-02	3.70E+01
TEENAGE	TOTALS	2.27E+00	6.18E-02	5.22E-02	5.54E-02	5.34E-02	3.70E+01
ADULT	TOTALS	2.27E+00	6.14E-02	5.28E-02	5.55E-02	5.37E-02	3.70E+01

TIME STEP NUMBER 4, 2014 DURATION IN YRS IS... 1.0

NUMBER 9 NAME=Nichols-east central X= 0.6KM, Y= 0.2KM, Z= -2.0M, DIST= 0.6KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	8.60E-01	2.85E-02	2.63E-02	3.89E-02	3.11E-02	1.39E+01
CHILD	TOTALS	8.59E-01	3.01E-02	2.68E-02	3.24E-02	2.89E-02	1.39E+01
TEENAGE	TOTALS	8.59E-01	3.43E-02	2.72E-02	2.96E-02	2.81E-02	1.39E+01
ADULT	TOTALS	8.59E-01	3.40E-02	2.76E-02	2.97E-02	2.83E-02	1.39E+01

NUMBER 10 NAME=Nichols-south centra X= -0.3KM, Y= -1.1KM, Z= -18.0M, DIST= 1.1KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	4.59E-01	1.69E-02	1.50E-02	2.61E-02	1.92E-02	7.40E+00
CHILD	TOTALS	4.59E-01	1.84E-02	1.54E-02	2.04E-02	1.73E-02	7.40E+00
TEENAGE	TOTALS	4.59E-01	2.21E-02	1.58E-02	1.79E-02	1.66E-02	7.40E+00
ADULT	TOTALS	4.59E-01	2.18E-02	1.62E-02	1.79E-02	1.67E-02	7.40E+00

TIME STEP NUMBER 4, 2014 DURATION IN YRS IS... 1.0

NUMBER 11 NAME=Nichols-west central X= -1.4KM, Y= 0.5KM, Z= 12.0M, DIST= 1.5KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	3.40E+00	3.18E-02	2.96E-02	4.24E-02	3.44E-02	5.62E+01
CHILD	TOTALS	3.40E+00	3.35E-02	3.01E-02	3.58E-02	3.23E-02	5.62E+01
TEENAGE	TOTALS	3.40E+00	3.77E-02	3.05E-02	3.29E-02	3.14E-02	5.62E+01
ADULT	TOTALS	3.40E+00	3.74E-02	3.10E-02	3.30E-02	3.16E-02	5.62E+01

NUMBER 12 NAME=Hank-north central X= 7.9KM, Y= 6.6KM, Z= 86.0M, DIST= 10.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.22E+00	9.10E-02	8.23E-02	1.31E-01	1.01E-01	1.89E+01
CHILD	TOTALS	1.22E+00	9.73E-02	8.44E-02	1.06E-01	9.26E-02	1.89E+01
TEENAGE	TOTALS	1.22E+00	1.14E-01	8.58E-02	9.51E-02	8.94E-02	1.89E+01
ADULT	TOTALS	1.22E+00	1.12E-01	8.76E-02	9.53E-02	9.01E-02	1.89E+01

TIME STEP NUMBER 4, 2014 DURATION IN YRS IS... 1.0

NUMBER 13 NAME=Hank-east central X= 8.8KM, Y= 3.3KM, Z= 160.0M, DIST= 9.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.31E+00	4.78E-02	4.52E-02	6.01E-02	5.08E-02	8.79E+01
CHILD	TOTALS	5.31E+00	4.98E-02	4.58E-02	5.24E-02	4.83E-02	8.79E+01
TEENAGE	TOTALS	5.31E+00	5.47E-02	4.63E-02	4.91E-02	4.74E-02	8.79E+01
ADULT	TOTALS	5.31E+00	5.43E-02	4.68E-02	4.92E-02	4.76E-02	8.79E+01

NUMBER 14 NAME=Hank-south central X= 7.9KM, Y= 1.3KM, Z= 139.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	8.17E-01	4.51E-02	4.11E-02	6.37E-02	4.96E-02	1.30E+01
CHILD	TOTALS	8.17E-01	4.80E-02	4.21E-02	5.21E-02	4.59E-02	1.30E+01
TEENAGE	TOTALS	8.17E-01	5.55E-02	4.27E-02	4.70E-02	4.44E-02	1.30E+01
ADULT	TOTALS	8.17E-01	5.49E-02	4.35E-02	4.71E-02	4.47E-02	1.30E+01

TIME STEP NUMBER 4, 2014 DURATION IN YRS IS... 1.0

NUMBER 15 NAME=Hank-west central X= 7.1KM, Y= 4.2KM, Z= 102.0M, DIST= 8.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.51E+00	4.78E-02	4.47E-02	6.25E-02	5.14E-02	2.44E+01
CHILD	TOTALS	1.51E+00	5.01E-02	4.54E-02	5.33E-02	4.84E-02	2.44E+01
TEENAGE	TOTALS	1.51E+00	5.60E-02	4.59E-02	4.93E-02	4.72E-02	2.44E+01
ADULT	TOTALS	1.51E+00	5.56E-02	4.66E-02	4.94E-02	4.75E-02	2.44E+01

TIME STEP NUMBER 5, 2015 DURATION IN YRS IS... 1.0

SUMMARY PRINT OF POPULATION DOSES COMPUTED FOR TSTEP 5--DOSES SHOWN ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DOSES RECEIVED BY PEOPLE WITHIN 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	1.723E-02	1.395E-01	2.307E-03	1.046E-01	5.032E-02	5.244E+00
GROUND	7.655E-04	7.655E-04	7.655E-04	7.655E-04	7.655E-04	7.655E-04
CLOUD	4.494E-02	4.494E-02	4.494E-02	4.494E-02	4.494E-02	4.494E-02
VEG. ING	8.149E-02	9.417E-01	8.149E-02	2.799E-01	2.280E-01	8.149E-02
MEAT ING	4.447E-03	5.139E-02	4.447E-03	1.527E-02	1.244E-02	4.447E-03
MILK ING	9.028E-04	1.043E-02	9.028E-04	3.101E-03	2.525E-03	9.028E-04
RNPLUS50	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTALS	1.498E-01	1.189E+00	1.349E-01	4.486E-01	3.390E-01	5.377E+00

DOSES RECEIVED BY PEOPLE BEYOND 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
GROUND	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CLOUD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
VEG. ING	7.651E-01	8.841E+00	7.651E-01	2.628E+00	2.140E+00	7.651E-01
MEAT ING	9.305E-03	1.075E-01	9.305E-03	3.196E-02	2.603E-02	9.305E-03
MILK ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RNPLUS50	5.329E+00	7.267E+01	1.211E+00	5.329E+00	5.329E+00	3.391E+01
TOTALS	6.104E+00	8.162E+01	1.986E+00	7.989E+00	7.496E+00	3.469E+01

TOTAL DOSES COMPUTED OVER ALL POPULATIONS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	1.723E-02	1.395E-01	2.307E-03	1.046E-01	5.032E-02	5.244E+00
GROUND	7.655E-04	7.655E-04	7.655E-04	7.655E-04	7.655E-04	7.655E-04
CLOUD	4.494E-02	4.494E-02	4.494E-02	4.494E-02	4.494E-02	4.494E-02
VEG. ING	8.466E-01	9.783E+00	8.466E-01	2.908E+00	2.368E+00	8.466E-01
MEAT ING	1.375E-02	1.589E-01	1.375E-02	4.723E-02	3.847E-02	1.375E-02
MILK ING	9.028E-04	1.043E-02	9.028E-04	3.101E-03	2.525E-03	9.028E-04
RNPLUS50	5.329E+00	7.267E+01	1.211E+00	5.329E+00	5.329E+00	3.391E+01
TOTALS	6.253E+00	8.281E+01	2.120E+00	8.438E+00	7.835E+00	4.006E+01

TIME STEP NUMBER 5, 2015 DURATION IN YRS IS... 1.0

NUMBER 1 NAME=T-Chair Ranch X= 3.7KM, Y= -2.2KM, Z= -7.0M, DIST= 4.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.31E-01	1.39E-02	1.15E-02	2.49E-02	1.66E-02	2.00E+00
CHILD	TOTALS	1.31E-01	1.56E-02	1.21E-02	1.80E-02	1.43E-02	2.00E+00
TEENAGE	TOTALS	1.31E-01	2.01E-02	1.25E-02	1.50E-02	1.35E-02	2.00E+00
ADULT	TOTALS	1.31E-01	1.98E-02	1.30E-02	1.51E-02	1.37E-02	2.00E+00

NUMBER 2 NAME=Dry Fork Ranch X= -2.7KM, Y= -1.1KM, Z= -58.0M, DIST= 2.9KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.35E-02	4.95E-03	3.83E-03	1.02E-02	6.22E-03	8.26E-01
CHILD	TOTALS	5.34E-02	5.78E-03	4.10E-03	6.92E-03	5.16E-03	8.26E-01
TEENAGE	TOTALS	5.34E-02	7.90E-03	4.28E-03	5.49E-03	4.75E-03	8.26E-01
ADULT	TOTALS	5.35E-02	7.74E-03	4.52E-03	5.53E-03	4.84E-03	8.26E-01

TIME STEP NUMBER 5, 2015 DURATION IN YRS IS... 1.0

NUMBER 3 NAME=Christensen Ranch X= 1.8KM, Y= 7.8KM, Z= -1.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.84E-01	2.50E-02	1.95E-02	5.01E-02	3.11E-02	2.75E+00
CHILD	TOTALS	1.84E-01	2.90E-02	2.08E-02	3.44E-02	2.60E-02	2.75E+00
TEENAGE	TOTALS	1.84E-01	3.92E-02	2.18E-02	2.76E-02	2.40E-02	2.75E+00
ADULT	TOTALS	1.84E-01	3.85E-02	2.29E-02	2.77E-02	2.45E-02	2.75E+00

NUMBER 4 NAME=Pfister Ranch X= 7.8KM, Y= 7.4KM, Z= 78.0M, DIST= 10.8KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	7.60E-01	6.79E-02	5.99E-02	1.05E-01	7.68E-02	1.17E+01
CHILD	TOTALS	7.59E-01	7.37E-02	6.18E-02	8.17E-02	6.94E-02	1.17E+01
TEENAGE	TOTALS	7.59E-01	8.87E-02	6.32E-02	7.17E-02	6.64E-02	1.17E+01
ADULT	TOTALS	7.60E-01	8.76E-02	6.48E-02	7.19E-02	6.71E-02	1.17E+01

TIME STEP NUMBER 5, 2015 DURATION IN YRS IS... 1.0

NUMBER 5 NAME=Pumpkin Butte Ranch X= 11.1KM, Y= 3.6KM, Z= 218.0M, DIST= 11.7KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.96E-01	3.83E-02	3.45E-02	5.60E-02	4.26E-02	9.37E+00
CHILD	TOTALS	5.95E-01	4.11E-02	3.54E-02	4.49E-02	3.90E-02	9.37E+00
TEENAGE	TOTALS	5.96E-01	4.83E-02	3.60E-02	4.01E-02	3.76E-02	9.37E+00
ADULT	TOTALS	5.96E-01	4.78E-02	3.68E-02	4.02E-02	3.79E-02	9.37E+00

NUMBER 6 NAME=Van Buggenum Ranch X= 15.4KM, Y= 5.3KM, Z= 130.0M, DIST= 16.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.78E-01	2.25E-02	1.72E-02	4.69E-02	2.84E-02	2.67E+00
CHILD	TOTALS	1.78E-01	2.64E-02	1.85E-02	3.17E-02	2.35E-02	2.67E+00
TEENAGE	TOTALS	1.78E-01	3.63E-02	1.94E-02	2.50E-02	2.16E-02	2.67E+00
ADULT	TOTALS	1.78E-01	3.55E-02	2.05E-02	2.52E-02	2.20E-02	2.67E+00

TIME STEP NUMBER 5, 2015 DURATION IN YRS IS... 1.0

NUMBER 7 NAME=Ruby Ranch X= 19.0KM, Y= 2.9KM, Z= 101.0M, DIST= 19.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.21E-01	1.81E-02	1.26E-02	4.36E-02	2.43E-02	1.80E+00
CHILD	TOTALS	1.21E-01	2.22E-02	1.40E-02	2.77E-02	1.92E-02	1.80E+00
TEENAGE	TOTALS	1.21E-01	3.25E-02	1.49E-02	2.08E-02	1.71E-02	1.80E+00
ADULT	TOTALS	1.21E-01	3.17E-02	1.60E-02	2.09E-02	1.76E-02	1.80E+00

NUMBER 8 NAME=Nichols-north centra X= -0.4KM, Y= 1.3KM, Z= 57.0M, DIST= 1.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.55E+00	3.83E-02	3.58E-02	4.99E-02	4.11E-02	2.52E+01
CHILD	TOTALS	1.55E+00	4.02E-02	3.64E-02	4.27E-02	3.88E-02	2.52E+01
TEENAGE	TOTALS	1.55E+00	4.49E-02	3.68E-02	3.95E-02	3.79E-02	2.52E+01
ADULT	TOTALS	1.55E+00	4.45E-02	3.74E-02	3.96E-02	3.81E-02	2.52E+01

TIME STEP NUMBER 5, 2015 DURATION IN YRS IS... 1.0

NUMBER 9 NAME=Nichols-east central X= 0.6KM, Y= 0.2KM, Z= -2.0M, DIST= 0.6KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.91E-01	2.07E-02	1.88E-02	2.92E-02	2.27E-02	9.54E+00
CHILD	TOTALS	5.90E-01	2.20E-02	1.93E-02	2.39E-02	2.10E-02	9.54E+00
TEENAGE	TOTALS	5.91E-01	2.55E-02	1.96E-02	2.16E-02	2.03E-02	9.54E+00
ADULT	TOTALS	5.91E-01	2.52E-02	2.00E-02	2.16E-02	2.05E-02	9.54E+00

NUMBER 10 NAME=Nichols-south centra X= -0.3KM, Y= -1.1KM, Z= -18.0M, DIST= 1.1KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	3.18E-01	1.27E-02	1.10E-02	2.03E-02	1.45E-02	5.12E+00
CHILD	TOTALS	3.18E-01	1.39E-02	1.14E-02	1.55E-02	1.30E-02	5.12E+00
TEENAGE	TOTALS	3.18E-01	1.70E-02	1.17E-02	1.35E-02	1.24E-02	5.12E+00
ADULT	TOTALS	3.18E-01	1.68E-02	1.20E-02	1.35E-02	1.25E-02	5.12E+00

TIME STEP NUMBER 5, 2015 DURATION IN YRS IS... 1.0

NUMBER 11 NAME=Nichols-west central X= -1.4KM, Y= 0.5KM, Z= 12.0M, DIST= 1.5KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.31E+00	2.30E-02	2.11E-02	3.21E-02	2.52E-02	3.81E+01
CHILD	TOTALS	2.31E+00	2.45E-02	2.16E-02	2.64E-02	2.34E-02	3.81E+01
TEENAGE	TOTALS	2.31E+00	2.81E-02	2.19E-02	2.40E-02	2.27E-02	3.81E+01
ADULT	TOTALS	2.31E+00	2.79E-02	2.23E-02	2.40E-02	2.28E-02	3.81E+01

NUMBER 12 NAME=Hank-north central X= 7.9KM, Y= 6.6KM, Z= 86.0M, DIST= 10.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.04E+00	7.71E-02	7.01E-02	1.10E-01	8.50E-02	1.63E+01
CHILD	TOTALS	1.04E+00	8.22E-02	7.18E-02	8.93E-02	7.84E-02	1.63E+01
TEENAGE	TOTALS	1.04E+00	9.54E-02	7.29E-02	8.05E-02	7.58E-02	1.63E+01
ADULT	TOTALS	1.04E+00	9.45E-02	7.44E-02	8.07E-02	7.64E-02	1.63E+01

TIME STEP NUMBER 5, 2015 DURATION IN YRS IS... 1.0

NUMBER 13 NAME=Hank-east central X= 8.8KM, Y= 3.3KM, Z= 160.0M, DIST= 9.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	4.60E+00	3.98E-02	3.79E-02	4.83E-02	4.18E-02	7.60E+01
CHILD	TOTALS	4.60E+00	4.11E-02	3.84E-02	4.30E-02	4.01E-02	7.60E+01
TEENAGE	TOTALS	4.60E+00	4.46E-02	3.87E-02	4.07E-02	3.95E-02	7.60E+01
ADULT	TOTALS	4.60E+00	4.43E-02	3.91E-02	4.07E-02	3.96E-02	7.60E+01

NUMBER 14 NAME=Hank-south central X= 7.9KM, Y= 1.3KM, Z= 139.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	6.93E-01	3.71E-02	3.41E-02	5.11E-02	4.05E-02	1.10E+01
CHILD	TOTALS	6.93E-01	3.94E-02	3.48E-02	4.24E-02	3.77E-02	1.10E+01
TEENAGE	TOTALS	6.93E-01	4.50E-02	3.53E-02	3.86E-02	3.66E-02	1.10E+01
ADULT	TOTALS	6.93E-01	4.46E-02	3.60E-02	3.87E-02	3.68E-02	1.10E+01

TIME STEP NUMBER 5, 2015 DURATION IN YRS IS... 1.0

NUMBER 15 NAME=Hank-west central X= 7.1KM, Y= 4.2KM, Z= 102.0M, DIST= 8.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.30E+00	3.96E-02	3.73E-02	5.03E-02	4.22E-02	2.10E+01
CHILD	TOTALS	1.30E+00	4.13E-02	3.79E-02	4.36E-02	4.01E-02	2.10E+01
TEENAGE	TOTALS	1.30E+00	4.56E-02	3.83E-02	4.07E-02	3.92E-02	2.10E+01
ADULT	TOTALS	1.30E+00	4.53E-02	3.88E-02	4.08E-02	3.94E-02	2.10E+01

TIME STEP NUMBER 6, 2016 DURATION IN YRS IS... 1.0

SUMMARY PRINT OF POPULATION DOSES COMPUTED FOR TSTEP 6--DOSES SHOWN ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DOSES RECEIVED BY PEOPLE WITHIN 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	1.166E-02	9.440E-02	1.565E-03	7.080E-02	3.405E-02	3.486E+00
GROUND	5.864E-04	5.864E-04	5.864E-04	5.864E-04	5.864E-04	5.864E-04
CLOUD	2.993E-02	2.993E-02	2.993E-02	2.993E-02	2.993E-02	2.993E-02
VEG. ING	5.617E-02	6.491E-01	5.617E-02	1.929E-01	1.571E-01	5.617E-02
MEAT ING	3.155E-03	3.645E-02	3.155E-03	1.083E-02	8.825E-03	3.155E-03
MILK ING	6.403E-04	7.399E-03	6.403E-04	2.199E-03	1.791E-03	6.403E-04
RNPLUS50	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTALS	1.021E-01	8.179E-01	9.205E-02	3.073E-01	2.323E-01	3.576E+00

DOSES RECEIVED BY PEOPLE BEYOND 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
GROUND	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CLOUD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
VEG. ING	5.274E-01	6.094E+00	5.274E-01	1.811E+00	1.475E+00	5.274E-01
MEAT ING	6.600E-03	7.626E-02	6.600E-03	2.267E-02	1.846E-02	6.600E-03
MILK ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RNPLUS50	3.622E+00	4.939E+01	8.231E-01	3.622E+00	3.622E+00	2.305E+01
TOTALS	4.156E+00	5.556E+01	1.357E+00	5.456E+00	5.116E+00	2.358E+01

TOTAL DOSES COMPUTED OVER ALL POPULATIONS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	1.166E-02	9.440E-02	1.565E-03	7.080E-02	3.405E-02	3.486E+00
GROUND	5.864E-04	5.864E-04	5.864E-04	5.864E-04	5.864E-04	5.864E-04
CLOUD	2.993E-02	2.993E-02	2.993E-02	2.993E-02	2.993E-02	2.993E-02
VEG. ING	5.836E-01	6.743E+00	5.836E-01	2.004E+00	1.633E+00	5.836E-01
MEAT ING	9.754E-03	1.127E-01	9.754E-03	3.350E-02	2.729E-02	9.754E-03
MILK ING	6.403E-04	7.399E-03	6.403E-04	2.199E-03	1.791E-03	6.403E-04
RNPLUS50	3.622E+00	4.939E+01	8.231E-01	3.622E+00	3.622E+00	2.305E+01
TOTALS	4.258E+00	5.638E+01	1.449E+00	5.763E+00	5.348E+00	2.716E+01

TIME STEP NUMBER 6, 2016 DURATION IN YRS IS... 1.0

NUMBER 1 NAME=T-Chair Ranch X= 3.7KM, Y= -2.2KM, Z= -7.0M, DIST= 4.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.03E-01	1.03E-02	8.62E-03	1.79E-02	1.21E-02	1.57E+00
CHILD	TOTALS	1.03E-01	1.15E-02	9.03E-03	1.32E-02	1.06E-02	1.57E+00
TEENAGE	TOTALS	1.03E-01	1.46E-02	9.31E-03	1.11E-02	9.99E-03	1.57E+00
ADULT	TOTALS	1.03E-01	1.44E-02	9.67E-03	1.11E-02	1.01E-02	1.57E+00

NUMBER 2 NAME=Dry Fork Ranch X= -2.7KM, Y= -1.1KM, Z= -58.0M, DIST= 2.9KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	4.42E-02	3.40E-03	2.75E-03	6.39E-03	4.13E-03	6.91E-01
CHILD	TOTALS	4.42E-02	3.89E-03	2.92E-03	4.53E-03	3.53E-03	6.91E-01
TEENAGE	TOTALS	4.42E-02	5.11E-03	3.03E-03	3.72E-03	3.29E-03	6.91E-01
ADULT	TOTALS	4.42E-02	5.04E-03	3.16E-03	3.74E-03	3.35E-03	6.91E-01

TIME STEP NUMBER 6, 2016 DURATION IN YRS IS... 1.0

NUMBER 3 NAME=Christensen Ranch X= 1.8KM, Y= 7.8KM, Z= -1.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.37E-01	1.87E-02	1.46E-02	3.77E-02	2.33E-02	2.03E+00
CHILD	TOTALS	1.36E-01	2.18E-02	1.56E-02	2.59E-02	1.95E-02	2.03E+00
TEENAGE	TOTALS	1.37E-01	2.96E-02	1.63E-02	2.07E-02	1.80E-02	2.03E+00
ADULT	TOTALS	1.37E-01	2.91E-02	1.72E-02	2.09E-02	1.84E-02	2.03E+00

NUMBER 4 NAME=Pfister Ranch X= 7.8KM, Y= 7.4KM, Z= 78.0M, DIST= 10.8KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	4.32E-01	3.98E-02	3.46E-02	6.39E-02	4.57E-02	6.63E+00
CHILD	TOTALS	4.31E-01	4.38E-02	3.59E-02	4.89E-02	4.08E-02	6.63E+00
TEENAGE	TOTALS	4.32E-01	5.36E-02	3.68E-02	4.24E-02	3.89E-02	6.63E+00
ADULT	TOTALS	4.32E-01	5.30E-02	3.79E-02	4.25E-02	3.94E-02	6.63E+00

TIME STEP NUMBER 6, 2016 DURATION IN YRS IS... 1.0

NUMBER 5 NAME=Pumpkin Butte Ranch X= 11.1KM, Y= 3.6KM, Z= 218.0M, DIST= 11.7KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	3.39E-01	2.32E-02	2.04E-02	3.63E-02	2.64E-02	5.32E+00
CHILD	TOTALS	3.39E-01	2.54E-02	2.11E-02	2.82E-02	2.38E-02	5.32E+00
TEENAGE	TOTALS	3.39E-01	3.07E-02	2.16E-02	2.46E-02	2.27E-02	5.32E+00
ADULT	TOTALS	3.39E-01	3.04E-02	2.22E-02	2.47E-02	2.30E-02	5.32E+00

NUMBER 6 NAME=Van Buggenum Ranch X= 15.4KM, Y= 5.3KM, Z= 130.0M, DIST= 16.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.07E-01	1.42E-02	1.06E-02	3.09E-02	1.82E-02	1.60E+00
CHILD	TOTALS	1.07E-01	1.69E-02	1.15E-02	2.05E-02	1.49E-02	1.60E+00
TEENAGE	TOTALS	1.07E-01	2.37E-02	1.21E-02	1.59E-02	1.36E-02	1.60E+00
ADULT	TOTALS	1.07E-01	2.33E-02	1.29E-02	1.61E-02	1.39E-02	1.60E+00

TIME STEP NUMBER 6, 2016 DURATION IN YRS IS... 1.0

NUMBER 7 NAME=Ruby Ranch X= 19.0KM, Y= 2.9KM, Z= 101.0M, DIST= 19.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	7.53E-02	1.18E-02	8.00E-03	2.92E-02	1.60E-02	1.11E+00
CHILD	TOTALS	7.50E-02	1.46E-02	8.94E-03	1.83E-02	1.25E-02	1.11E+00
TEENAGE	TOTALS	7.52E-02	2.17E-02	9.57E-03	1.36E-02	1.11E-02	1.11E+00
ADULT	TOTALS	7.53E-02	2.13E-02	1.04E-02	1.37E-02	1.15E-02	1.11E+00

NUMBER 8 NAME=Nichols-north centra X= -0.4KM, Y= 1.3KM, Z= 57.0M, DIST= 1.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.52E+00	3.45E-02	3.30E-02	4.18E-02	3.63E-02	2.48E+01
CHILD	TOTALS	1.52E+00	3.57E-02	3.33E-02	3.73E-02	3.48E-02	2.48E+01
TEENAGE	TOTALS	1.52E+00	3.87E-02	3.36E-02	3.53E-02	3.43E-02	2.48E+01
ADULT	TOTALS	1.52E+00	3.85E-02	3.39E-02	3.53E-02	3.44E-02	2.48E+01

TIME STEP NUMBER 6, 2016 DURATION IN YRS IS... 1.0

NUMBER 9 NAME=Nichols-east central X= 0.6KM, Y= 0.2KM, Z= -2.0M, DIST= 0.6KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.71E-01	1.78E-02	1.66E-02	2.32E-02	1.91E-02	9.25E+00
CHILD	TOTALS	5.71E-01	1.87E-02	1.69E-02	1.99E-02	1.80E-02	9.25E+00
TEENAGE	TOTALS	5.71E-01	2.09E-02	1.71E-02	1.84E-02	1.76E-02	9.25E+00
ADULT	TOTALS	5.71E-01	2.08E-02	1.74E-02	1.84E-02	1.77E-02	9.25E+00

NUMBER 10 NAME=Nichols-south centra X= -0.3KM, Y= -1.1KM, Z= -18.0M, DIST= 1.1KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	3.02E-01	1.01E-02	9.16E-03	1.47E-02	1.13E-02	4.88E+00
CHILD	TOTALS	3.02E-01	1.09E-02	9.40E-03	1.19E-02	1.03E-02	4.88E+00
TEENAGE	TOTALS	3.02E-01	1.28E-02	9.57E-03	1.06E-02	9.98E-03	4.88E+00
ADULT	TOTALS	3.02E-01	1.27E-02	9.78E-03	1.07E-02	1.01E-02	4.88E+00

TIME STEP NUMBER 6, 2016 DURATION IN YRS IS... 1.0

NUMBER 11 NAME=Nichols-west central X= -1.4KM, Y= 0.5KM, Z= 12.0M, DIST= 1.5KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.29E+00	1.99E-02	1.88E-02	2.50E-02	2.11E-02	3.78E+01
CHILD	TOTALS	2.29E+00	2.07E-02	1.91E-02	2.18E-02	2.01E-02	3.78E+01
TEENAGE	TOTALS	2.29E+00	2.28E-02	1.93E-02	2.05E-02	1.97E-02	3.78E+01
ADULT	TOTALS	2.29E+00	2.27E-02	1.95E-02	2.05E-02	1.98E-02	3.78E+01

NUMBER 12 NAME=Hank-north central X= 7.9KM, Y= 6.6KM, Z= 86.0M, DIST= 10.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.86E-01	4.48E-02	4.01E-02	6.64E-02	5.01E-02	9.11E+00
CHILD	TOTALS	5.85E-01	4.83E-02	4.13E-02	5.30E-02	4.57E-02	9.11E+00
TEENAGE	TOTALS	5.86E-01	5.72E-02	4.21E-02	4.71E-02	4.40E-02	9.11E+00
ADULT	TOTALS	5.86E-01	5.66E-02	4.31E-02	4.73E-02	4.44E-02	9.11E+00

TIME STEP NUMBER 6, 2016 DURATION IN YRS IS... 1.0

NUMBER 13 NAME=Hank-east central X= 8.8KM, Y= 3.3KM, Z= 160.0M, DIST= 9.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.51E+00	2.44E-02	2.26E-02	3.24E-02	2.63E-02	4.15E+01
CHILD	TOTALS	2.51E+00	2.57E-02	2.31E-02	2.74E-02	2.47E-02	4.15E+01
TEENAGE	TOTALS	2.51E+00	2.89E-02	2.33E-02	2.52E-02	2.41E-02	4.15E+01
ADULT	TOTALS	2.51E+00	2.87E-02	2.37E-02	2.53E-02	2.42E-02	4.15E+01

NUMBER 14 NAME=Hank-south central X= 7.9KM, Y= 1.3KM, Z= 139.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	4.01E-01	2.34E-02	2.10E-02	3.44E-02	2.61E-02	6.35E+00
CHILD	TOTALS	4.01E-01	2.52E-02	2.16E-02	2.76E-02	2.38E-02	6.35E+00
TEENAGE	TOTALS	4.01E-01	2.97E-02	2.20E-02	2.45E-02	2.30E-02	6.35E+00
ADULT	TOTALS	4.01E-01	2.94E-02	2.25E-02	2.46E-02	2.32E-02	6.35E+00

TIME STEP NUMBER 6, 2016 DURATION IN YRS IS... 1.0

NUMBER 15 NAME=Hank-west central X= 7.1KM, Y= 4.2KM, Z= 102.0M, DIST= 8.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	7.25E-01	2.45E-02	2.25E-02	3.36E-02	2.67E-02	1.17E+01
CHILD	TOTALS	7.25E-01	2.60E-02	2.30E-02	2.79E-02	2.49E-02	1.17E+01
TEENAGE	TOTALS	7.25E-01	2.97E-02	2.33E-02	2.55E-02	2.42E-02	1.17E+01
ADULT	TOTALS	7.25E-01	2.95E-02	2.38E-02	2.55E-02	2.43E-02	1.17E+01

TIME STEP NUMBER 7, 2017 DURATION IN YRS IS... 1.0

SUMMARY PRINT OF POPULATION DOSES COMPUTED FOR TSTEP 7--DOSES SHOWN ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DOSES RECEIVED BY PEOPLE WITHIN 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	7.863E-03	6.364E-02	1.050E-03	4.773E-02	2.296E-02	2.433E+00
GROUND	4.773E-04	4.773E-04	4.773E-04	4.773E-04	4.773E-04	4.773E-04
CLOUD	2.081E-02	2.081E-02	2.081E-02	2.081E-02	2.081E-02	2.081E-02
VEG. ING	3.783E-02	4.372E-01	3.783E-02	1.299E-01	1.058E-01	3.783E-02
MEAT ING	2.213E-03	2.557E-02	2.213E-03	7.599E-03	6.190E-03	2.213E-03
MILK ING	4.491E-04	5.190E-03	4.491E-04	1.543E-03	1.256E-03	4.491E-04
RNPLUS50	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTALS	6.965E-02	5.529E-01	6.284E-02	2.081E-01	1.575E-01	2.495E+00

DOSES RECEIVED BY PEOPLE BEYOND 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
GROUND	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CLOUD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
VEG. ING	3.552E-01	4.105E+00	3.552E-01	1.220E+00	9.937E-01	3.552E-01
MEAT ING	4.629E-03	5.349E-02	4.629E-03	1.590E-02	1.295E-02	4.629E-03
MILK ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RNPLUS50	2.422E+00	3.302E+01	5.504E-01	2.422E+00	2.422E+00	1.541E+01
TOTALS	2.782E+00	3.718E+01	9.103E-01	3.658E+00	3.428E+00	1.577E+01

TOTAL DOSES COMPUTED OVER ALL POPULATIONS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	7.863E-03	6.364E-02	1.050E-03	4.773E-02	2.296E-02	2.433E+00
GROUND	4.773E-04	4.773E-04	4.773E-04	4.773E-04	4.773E-04	4.773E-04
CLOUD	2.081E-02	2.081E-02	2.081E-02	2.081E-02	2.081E-02	2.081E-02
VEG. ING	3.931E-01	4.542E+00	3.931E-01	1.350E+00	1.100E+00	3.931E-01
MEAT ING	6.842E-03	7.906E-02	6.842E-03	2.350E-02	1.914E-02	6.842E-03
MILK ING	4.491E-04	5.190E-03	4.491E-04	1.543E-03	1.256E-03	4.491E-04
RNPLUS50	2.422E+00	3.302E+01	5.504E-01	2.422E+00	2.422E+00	1.541E+01
TOTALS	2.851E+00	3.773E+01	9.731E-01	3.866E+00	3.586E+00	1.827E+01

TIME STEP NUMBER 7, 2017 DURATION IN YRS IS... 1.0

NUMBER 1 NAME=T-Chair Ranch X= 3.7KM, Y= -2.2KM, Z= -7.0M, DIST= 4.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.11E-02	5.79E-03	4.74E-03	1.07E-02	6.97E-03	7.74E-01
CHILD	TOTALS	5.11E-02	6.62E-03	5.01E-03	7.64E-03	6.00E-03	7.74E-01
TEENAGE	TOTALS	5.11E-02	8.63E-03	5.20E-03	6.32E-03	5.63E-03	7.74E-01
ADULT	TOTALS	5.12E-02	8.54E-03	5.43E-03	6.37E-03	5.73E-03	7.74E-01

NUMBER 2 NAME=Dry Fork Ranch X= -2.7KM, Y= -1.1KM, Z= -58.0M, DIST= 2.9KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.92E-02	2.23E-03	1.64E-03	4.96E-03	2.89E-03	2.92E-01
CHILD	TOTALS	1.92E-02	2.69E-03	1.79E-03	3.26E-03	2.35E-03	2.92E-01
TEENAGE	TOTALS	1.92E-02	3.81E-03	1.89E-03	2.52E-03	2.13E-03	2.92E-01
ADULT	TOTALS	1.92E-02	3.74E-03	2.02E-03	2.55E-03	2.19E-03	2.92E-01

TIME STEP NUMBER 7, 2017 DURATION IN YRS IS... 1.0

NUMBER 3 NAME=Christensen Ranch X= 1.8KM, Y= 7.8KM, Z= -1.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	7.66E-02	1.02E-02	8.04E-03	2.05E-02	1.27E-02	1.14E+00
CHILD	TOTALS	7.64E-02	1.20E-02	8.62E-03	1.41E-02	1.07E-02	1.14E+00
TEENAGE	TOTALS	7.65E-02	1.63E-02	9.01E-03	1.14E-02	9.91E-03	1.14E+00
ADULT	TOTALS	7.66E-02	1.61E-02	9.51E-03	1.15E-02	1.01E-02	1.14E+00

NUMBER 4 NAME=Pfister Ranch X= 7.8KM, Y= 7.4KM, Z= 78.0M, DIST= 10.8KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	3.99E-01	3.49E-02	3.11E-02	5.22E-02	3.91E-02	6.15E+00
CHILD	TOTALS	3.99E-01	3.78E-02	3.21E-02	4.15E-02	3.56E-02	6.15E+00
TEENAGE	TOTALS	3.99E-01	4.50E-02	3.28E-02	3.68E-02	3.43E-02	6.15E+00
ADULT	TOTALS	3.99E-01	4.46E-02	3.36E-02	3.69E-02	3.46E-02	6.15E+00

TIME STEP NUMBER 7, 2017 DURATION IN YRS IS... 1.0

NUMBER 5 NAME=Pumpkin Butte Ranch X= 11.1KM, Y= 3.6KM, Z= 218.0M, DIST= 11.7KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	3.13E-01	1.92E-02	1.76E-02	2.65E-02	2.10E-02	4.93E+00
CHILD	TOTALS	3.13E-01	2.05E-02	1.80E-02	2.20E-02	1.95E-02	4.93E+00
TEENAGE	TOTALS	3.13E-01	2.35E-02	1.83E-02	2.00E-02	1.90E-02	4.93E+00
ADULT	TOTALS	3.13E-01	2.34E-02	1.87E-02	2.01E-02	1.91E-02	4.93E+00

NUMBER 6 NAME=Van Buggenum Ranch X= 15.4KM, Y= 5.3KM, Z= 130.0M, DIST= 16.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	8.97E-02	1.09E-02	8.57E-03	2.19E-02	1.36E-02	1.35E+00
CHILD	TOTALS	8.95E-02	1.28E-02	9.19E-03	1.51E-02	1.14E-02	1.35E+00
TEENAGE	TOTALS	8.96E-02	1.74E-02	9.61E-03	1.21E-02	1.06E-02	1.35E+00
ADULT	TOTALS	8.97E-02	1.71E-02	1.01E-02	1.22E-02	1.08E-02	1.35E+00

TIME STEP NUMBER 7, 2017 DURATION IN YRS IS... 1.0

NUMBER 7 NAME=Ruby Ranch X= 19.0KM, Y= 2.9KM, Z= 101.0M, DIST= 19.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.96E-02	8.61E-03	6.13E-03	2.01E-02	1.14E-02	8.86E-01
CHILD	TOTALS	5.94E-02	1.06E-02	6.77E-03	1.30E-02	9.11E-03	8.86E-01
TEENAGE	TOTALS	5.95E-02	1.53E-02	7.21E-03	9.86E-03	8.22E-03	8.86E-01
ADULT	TOTALS	5.96E-02	1.51E-02	7.75E-03	9.97E-03	8.45E-03	8.86E-01

NUMBER 8 NAME=Nichols-north centra X= -0.4KM, Y= 1.3KM, Z= 57.0M, DIST= 1.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	4.02E-01	1.20E-02	1.08E-02	1.77E-02	1.34E-02	6.53E+00
CHILD	TOTALS	4.02E-01	1.30E-02	1.11E-02	1.42E-02	1.23E-02	6.53E+00
TEENAGE	TOTALS	4.02E-01	1.53E-02	1.13E-02	1.26E-02	1.18E-02	6.53E+00
ADULT	TOTALS	4.02E-01	1.52E-02	1.16E-02	1.27E-02	1.19E-02	6.53E+00

TIME STEP NUMBER 7, 2017 DURATION IN YRS IS... 1.0

NUMBER 9 NAME=Nichols-east central X= 0.6KM, Y= 0.2KM, Z= -2.0M, DIST= 0.6KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.60E-01	7.00E-03	6.11E-03	1.11E-02	7.99E-03	2.57E+00
CHILD	TOTALS	1.60E-01	7.69E-03	6.34E-03	8.55E-03	7.17E-03	2.57E+00
TEENAGE	TOTALS	1.60E-01	9.38E-03	6.49E-03	7.44E-03	6.85E-03	2.57E+00
ADULT	TOTALS	1.60E-01	9.29E-03	6.68E-03	7.48E-03	6.94E-03	2.57E+00

NUMBER 10 NAME=Nichols-south centra X= -0.3KM, Y= -1.1KM, Z= -18.0M, DIST= 1.1KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	9.00E-02	4.78E-03	3.94E-03	8.65E-03	5.72E-03	1.44E+00
CHILD	TOTALS	9.00E-02	5.43E-03	4.15E-03	6.25E-03	4.94E-03	1.44E+00
TEENAGE	TOTALS	9.00E-02	7.02E-03	4.30E-03	5.19E-03	4.64E-03	1.44E+00
ADULT	TOTALS	9.00E-02	6.93E-03	4.48E-03	5.23E-03	4.72E-03	1.44E+00

TIME STEP NUMBER 7, 2017 DURATION IN YRS IS... 1.0

NUMBER 11 NAME=Nichols-west central X= -1.4KM, Y= 0.5KM, Z= 12.0M, DIST= 1.5KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.89E-01	7.75E-03	6.71E-03	1.26E-02	8.92E-03	9.71E+00
CHILD	TOTALS	5.89E-01	8.55E-03	6.98E-03	9.57E-03	7.96E-03	9.71E+00
TEENAGE	TOTALS	5.89E-01	1.05E-02	7.16E-03	8.27E-03	7.58E-03	9.71E+00
ADULT	TOTALS	5.89E-01	1.04E-02	7.38E-03	8.31E-03	7.68E-03	9.71E+00

NUMBER 12 NAME=Hank-north central X= 7.9KM, Y= 6.6KM, Z= 86.0M, DIST= 10.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.52E-01	3.99E-02	3.66E-02	5.50E-02	4.35E-02	8.62E+00
CHILD	TOTALS	5.52E-01	4.24E-02	3.75E-02	4.56E-02	4.05E-02	8.62E+00
TEENAGE	TOTALS	5.52E-01	4.87E-02	3.80E-02	4.15E-02	3.94E-02	8.62E+00
ADULT	TOTALS	5.52E-01	4.83E-02	3.88E-02	4.17E-02	3.97E-02	8.62E+00

TIME STEP NUMBER 7, 2017 DURATION IN YRS IS... 1.0

NUMBER 13 NAME=Hank-east central X= 8.8KM, Y= 3.3KM, Z= 160.0M, DIST= 9.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.48E+00	1.98E-02	1.93E-02	2.22E-02	2.04E-02	4.10E+01
CHILD	TOTALS	2.48E+00	2.02E-02	1.94E-02	2.07E-02	1.99E-02	4.10E+01
TEENAGE	TOTALS	2.48E+00	2.13E-02	1.95E-02	2.01E-02	1.97E-02	4.10E+01
ADULT	TOTALS	2.48E+00	2.12E-02	1.96E-02	2.01E-02	1.98E-02	4.10E+01

NUMBER 14 NAME=Hank-south central X= 7.9KM, Y= 1.3KM, Z= 139.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	3.59E-01	1.81E-02	1.69E-02	2.34E-02	1.94E-02	5.72E+00
CHILD	TOTALS	3.59E-01	1.90E-02	1.72E-02	2.01E-02	1.83E-02	5.72E+00
TEENAGE	TOTALS	3.59E-01	2.12E-02	1.74E-02	1.87E-02	1.79E-02	5.72E+00
ADULT	TOTALS	3.59E-01	2.11E-02	1.77E-02	1.87E-02	1.80E-02	5.72E+00

TIME STEP NUMBER 7, 2017 DURATION IN YRS IS... 1.0

NUMBER 15 NAME=Hank-west central X= 7.1KM, Y= 4.2KM, Z= 102.0M, DIST= 8.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	6.88E-01	1.96E-02	1.88E-02	2.32E-02	2.04E-02	1.12E+01
CHILD	TOTALS	6.88E-01	2.02E-02	1.90E-02	2.10E-02	1.97E-02	1.12E+01
TEENAGE	TOTALS	6.88E-01	2.17E-02	1.91E-02	2.00E-02	1.95E-02	1.12E+01
ADULT	TOTALS	6.88E-01	2.17E-02	1.93E-02	2.00E-02	1.95E-02	1.12E+01

TIME STEP NUMBER 8, 2018 DURATION IN YRS IS... 1.0

SUMMARY PRINT OF POPULATION DOSES COMPUTED FOR TSTEP 8--DOSES SHOWN ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DOSES RECEIVED BY PEOPLE WITHIN 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	6.596E-03	5.339E-02	8.778E-04	4.004E-02	1.926E-02	2.082E+00
GROUND	4.443E-04	4.443E-04	4.443E-04	4.443E-04	4.443E-04	4.443E-04
CLOUD	1.778E-02	1.778E-02	1.778E-02	1.778E-02	1.778E-02	1.778E-02
VEG. ING	3.175E-02	3.668E-01	3.175E-02	1.090E-01	8.881E-02	3.175E-02
MEAT ING	1.904E-03	2.200E-02	1.904E-03	6.538E-03	5.325E-03	1.904E-03
MILK ING	3.864E-04	4.465E-03	3.864E-04	1.327E-03	1.081E-03	3.864E-04
RNPLUS50	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTALS	5.885E-02	4.649E-01	5.313E-02	1.752E-01	1.327E-01	2.134E+00

DOSES RECEIVED BY PEOPLE BEYOND 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
GROUND	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CLOUD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
VEG. ING	2.981E-01	3.444E+00	2.981E-01	1.024E+00	8.338E-01	2.981E-01
MEAT ING	3.983E-03	4.602E-02	3.983E-03	1.368E-02	1.114E-02	3.983E-03
MILK ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RNPLUS50	2.022E+00	2.757E+01	4.595E-01	2.022E+00	2.022E+00	1.287E+01
TOTALS	2.324E+00	3.106E+01	7.615E-01	3.059E+00	2.867E+00	1.317E+01

TOTAL DOSES COMPUTED OVER ALL POPULATIONS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	6.596E-03	5.339E-02	8.778E-04	4.004E-02	1.926E-02	2.082E+00
GROUND	4.443E-04	4.443E-04	4.443E-04	4.443E-04	4.443E-04	4.443E-04
CLOUD	1.778E-02	1.778E-02	1.778E-02	1.778E-02	1.778E-02	1.778E-02
VEG. ING	3.298E-01	3.811E+00	3.298E-01	1.133E+00	9.226E-01	3.298E-01
MEAT ING	5.886E-03	6.802E-02	5.886E-03	2.022E-02	1.647E-02	5.886E-03
MILK ING	3.864E-04	4.465E-03	3.864E-04	1.327E-03	1.081E-03	3.864E-04
RNPLUS50	2.022E+00	2.757E+01	4.595E-01	2.022E+00	2.022E+00	1.287E+01
TOTALS	2.383E+00	3.152E+01	8.147E-01	3.234E+00	2.999E+00	1.530E+01

TIME STEP NUMBER 8, 2018 DURATION IN YRS IS... 1.0

NUMBER 1 NAME=T-Chair Ranch X= 3.7KM, Y= -2.2KM, Z= -7.0M, DIST= 4.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	3.39E-02	4.30E-03	3.45E-03	8.23E-03	5.25E-03	5.07E-01
CHILD	TOTALS	3.38E-02	4.99E-03	3.67E-03	5.80E-03	4.47E-03	5.07E-01
TEENAGE	TOTALS	3.39E-02	6.63E-03	3.83E-03	4.74E-03	4.17E-03	5.07E-01
ADULT	TOTALS	3.39E-02	6.57E-03	4.02E-03	4.78E-03	4.26E-03	5.07E-01

NUMBER 2 NAME=Dry Fork Ranch X= -2.7KM, Y= -1.1KM, Z= -58.0M, DIST= 2.9KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.09E-02	1.84E-03	1.27E-03	4.48E-03	2.48E-03	1.60E-01
CHILD	TOTALS	1.09E-02	2.29E-03	1.42E-03	2.84E-03	1.95E-03	1.60E-01
TEENAGE	TOTALS	1.09E-02	3.37E-03	1.52E-03	2.13E-03	1.75E-03	1.60E-01
ADULT	TOTALS	1.09E-02	3.31E-03	1.64E-03	2.15E-03	1.80E-03	1.60E-01

TIME STEP NUMBER 8, 2018 DURATION IN YRS IS... 1.0

NUMBER 3 NAME=Christensen Ranch X= 1.8KM, Y= 7.8KM, Z= -1.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.65E-02	7.43E-03	5.85E-03	1.47E-02	9.20E-03	8.43E-01
CHILD	TOTALS	5.64E-02	8.77E-03	6.29E-03	1.02E-02	7.77E-03	8.43E-01
TEENAGE	TOTALS	5.65E-02	1.18E-02	6.58E-03	8.27E-03	7.22E-03	8.43E-01
ADULT	TOTALS	5.65E-02	1.18E-02	6.95E-03	8.36E-03	7.38E-03	8.43E-01

NUMBER 4 NAME=Pfister Ranch X= 7.8KM, Y= 7.4KM, Z= 78.0M, DIST= 10.8KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	3.88E-01	3.32E-02	3.00E-02	4.83E-02	3.69E-02	5.99E+00
CHILD	TOTALS	3.88E-01	3.59E-02	3.08E-02	3.90E-02	3.39E-02	5.99E+00
TEENAGE	TOTALS	3.88E-01	4.21E-02	3.14E-02	3.49E-02	3.27E-02	5.99E+00
ADULT	TOTALS	3.88E-01	4.18E-02	3.21E-02	3.51E-02	3.31E-02	5.99E+00

TIME STEP NUMBER 8, 2018 DURATION IN YRS IS... 1.0

NUMBER 5 NAME=Pumpkin Butte Ranch X= 11.1KM, Y= 3.6KM, Z= 218.0M, DIST= 11.7KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	3.04E-01	1.78E-02	1.67E-02	2.32E-02	1.92E-02	4.80E+00
CHILD	TOTALS	3.04E-01	1.88E-02	1.70E-02	1.99E-02	1.81E-02	4.80E+00
TEENAGE	TOTALS	3.04E-01	2.11E-02	1.72E-02	1.85E-02	1.77E-02	4.80E+00
ADULT	TOTALS	3.04E-01	2.10E-02	1.75E-02	1.85E-02	1.78E-02	4.80E+00

NUMBER 6 NAME=Van Buggenum Ranch X= 15.4KM, Y= 5.3KM, Z= 130.0M, DIST= 16.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	8.39E-02	9.87E-03	7.91E-03	1.89E-02	1.21E-02	1.27E+00
CHILD	TOTALS	8.37E-02	1.15E-02	8.43E-03	1.33E-02	1.03E-02	1.27E+00
TEENAGE	TOTALS	8.38E-02	1.52E-02	8.78E-03	1.09E-02	9.58E-03	1.27E+00
ADULT	TOTALS	8.39E-02	1.51E-02	9.22E-03	1.10E-02	9.77E-03	1.27E+00

TIME STEP NUMBER 8, 2018 DURATION IN YRS IS... 1.0

NUMBER 7 NAME=Ruby Ranch X= 19.0KM, Y= 2.9KM, Z= 101.0M, DIST= 19.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.43E-02	7.56E-03	5.51E-03	1.70E-02	9.86E-03	8.10E-01
CHILD	TOTALS	5.41E-02	9.22E-03	6.05E-03	1.12E-02	7.98E-03	8.10E-01
TEENAGE	TOTALS	5.43E-02	1.32E-02	6.42E-03	8.62E-03	7.25E-03	8.10E-01
ADULT	TOTALS	5.43E-02	1.30E-02	6.88E-03	8.71E-03	7.45E-03	8.10E-01

NUMBER 8 NAME=Nichols-north centra X= -0.4KM, Y= 1.3KM, Z= 57.0M, DIST= 1.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.98E-02	4.51E-03	3.40E-03	9.66E-03	5.76E-03	4.39E-01
CHILD	TOTALS	2.97E-02	5.39E-03	3.69E-03	6.47E-03	4.73E-03	4.39E-01
TEENAGE	TOTALS	2.98E-02	7.52E-03	3.88E-03	5.07E-03	4.34E-03	4.39E-01
ADULT	TOTALS	2.98E-02	7.41E-03	4.13E-03	5.12E-03	4.44E-03	4.39E-01

TIME STEP NUMBER 8, 2018 DURATION IN YRS IS... 1.0

NUMBER 9 NAME=Nichols-east central X= 0.6KM, Y= 0.2KM, Z= -2.0M, DIST= 0.6KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.32E-02	3.39E-03	2.60E-03	7.06E-03	4.28E-03	3.43E-01
CHILD	TOTALS	2.32E-02	4.02E-03	2.81E-03	4.79E-03	3.55E-03	3.43E-01
TEENAGE	TOTALS	2.32E-02	5.54E-03	2.95E-03	3.80E-03	3.27E-03	3.43E-01
ADULT	TOTALS	2.32E-02	5.47E-03	3.12E-03	3.83E-03	3.34E-03	3.43E-01

NUMBER 10 NAME=Nichols-south centra X= -0.3KM, Y= -1.1KM, Z= -18.0M, DIST= 1.1KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.95E-02	2.99E-03	2.20E-03	6.62E-03	3.87E-03	2.87E-01
CHILD	TOTALS	1.94E-02	3.60E-03	2.40E-03	4.37E-03	3.14E-03	2.87E-01
TEENAGE	TOTALS	1.95E-02	5.10E-03	2.54E-03	3.38E-03	2.86E-03	2.87E-01
ADULT	TOTALS	1.95E-02	5.02E-03	2.71E-03	3.41E-03	2.94E-03	2.87E-01

TIME STEP NUMBER 8, 2018 DURATION IN YRS IS... 1.0

NUMBER 11 NAME=Nichols-west central X= -1.4KM, Y= 0.5KM, Z= 12.0M, DIST= 1.5KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.30E-02	3.70E-03	2.68E-03	8.42E-03	4.85E-03	3.37E-01
CHILD	TOTALS	2.29E-02	4.49E-03	2.94E-03	5.49E-03	3.90E-03	3.37E-01
TEENAGE	TOTALS	2.29E-02	6.43E-03	3.11E-03	4.21E-03	3.53E-03	3.37E-01
ADULT	TOTALS	2.30E-02	6.32E-03	3.34E-03	4.25E-03	3.63E-03	3.37E-01

NUMBER 12 NAME=Hank-north central X= 7.9KM, Y= 6.6KM, Z= 86.0M, DIST= 10.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.41E-01	3.82E-02	3.55E-02	5.11E-02	4.14E-02	8.45E+00
CHILD	TOTALS	5.41E-01	4.05E-02	3.62E-02	4.32E-02	3.88E-02	8.45E+00
TEENAGE	TOTALS	5.41E-01	4.58E-02	3.67E-02	3.97E-02	3.78E-02	8.45E+00
ADULT	TOTALS	5.41E-01	4.56E-02	3.73E-02	3.98E-02	3.81E-02	8.45E+00

TIME STEP NUMBER 8, 2018 DURATION IN YRS IS... 1.0

NUMBER 13 NAME=Hank-east central X= 8.8KM, Y= 3.3KM, Z= 160.0M, DIST= 9.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.47E+00	1.83E-02	1.82E-02	1.88E-02	1.84E-02	4.09E+01
CHILD	TOTALS	2.47E+00	1.84E-02	1.82E-02	1.85E-02	1.83E-02	4.09E+01
TEENAGE	TOTALS	2.47E+00	1.87E-02	1.82E-02	1.84E-02	1.83E-02	4.09E+01
ADULT	TOTALS	2.47E+00	1.87E-02	1.83E-02	1.84E-02	1.83E-02	4.09E+01

NUMBER 14 NAME=Hank-south central X= 7.9KM, Y= 1.3KM, Z= 139.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	3.45E-01	1.63E-02	1.55E-02	1.97E-02	1.71E-02	5.51E+00
CHILD	TOTALS	3.45E-01	1.69E-02	1.58E-02	1.76E-02	1.64E-02	5.51E+00
TEENAGE	TOTALS	3.45E-01	1.84E-02	1.59E-02	1.67E-02	1.62E-02	5.51E+00
ADULT	TOTALS	3.45E-01	1.84E-02	1.61E-02	1.67E-02	1.63E-02	5.51E+00

TIME STEP NUMBER 8, 2018 DURATION IN YRS IS... 1.0

NUMBER 15 NAME=Hank-west central X= 7.1KM, Y= 4.2KM, Z= 102.0M, DIST= 8.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	6.76E-01	1.79E-02	1.75E-02	1.97E-02	1.84E-02	1.10E+01
CHILD	TOTALS	6.76E-01	1.83E-02	1.77E-02	1.86E-02	1.80E-02	1.10E+01
TEENAGE	TOTALS	6.76E-01	1.91E-02	1.77E-02	1.82E-02	1.79E-02	1.10E+01
ADULT	TOTALS	6.76E-01	1.91E-02	1.78E-02	1.82E-02	1.79E-02	1.10E+01

TIME STEP NUMBER 9, 2019 DURATION IN YRS IS... 1.0

SUMMARY PRINT OF POPULATION DOSES COMPUTED FOR TSTEP 9--DOSES SHOWN ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DOSES RECEIVED BY PEOPLE WITHIN 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	4.947E-03	4.004E-02	6.583E-04	3.003E-02	1.444E-02	1.561E+00
GROUND	3.879E-04	3.879E-04	3.879E-04	3.879E-04	3.879E-04	3.879E-04
CLOUD	1.333E-02	1.333E-02	1.333E-02	1.333E-02	1.333E-02	1.333E-02
VEG. ING	2.422E-02	2.799E-01	2.422E-02	8.319E-02	6.776E-02	2.422E-02
MEAT ING	1.515E-03	1.751E-02	1.515E-03	5.203E-03	4.238E-03	1.515E-03
MILK ING	3.075E-04	3.554E-03	3.075E-04	1.056E-03	8.603E-04	3.075E-04
RNPLUS50	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTALS	4.471E-02	3.547E-01	4.042E-02	1.332E-01	1.010E-01	1.601E+00

DOSES RECEIVED BY PEOPLE BEYOND 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
GROUND	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CLOUD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
VEG. ING	2.274E-01	2.628E+00	2.274E-01	7.811E-01	6.362E-01	2.274E-01
MEAT ING	3.170E-03	3.663E-02	3.170E-03	1.089E-02	8.867E-03	3.170E-03
MILK ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RNPLUS50	1.516E+00	2.068E+01	3.446E-01	1.516E+00	1.516E+00	9.649E+00
TOTALS	1.747E+00	2.334E+01	5.752E-01	2.308E+00	2.161E+00	9.880E+00

TOTAL DOSES COMPUTED OVER ALL POPULATIONS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	4.947E-03	4.004E-02	6.583E-04	3.003E-02	1.444E-02	1.561E+00
GROUND	3.879E-04	3.879E-04	3.879E-04	3.879E-04	3.879E-04	3.879E-04
CLOUD	1.333E-02	1.333E-02	1.333E-02	1.333E-02	1.333E-02	1.333E-02
VEG. ING	2.517E-01	2.908E+00	2.517E-01	8.643E-01	7.040E-01	2.517E-01
MEAT ING	4.685E-03	5.413E-02	4.685E-03	1.609E-02	1.311E-02	4.685E-03
MILK ING	3.075E-04	3.554E-03	3.075E-04	1.056E-03	8.603E-04	3.075E-04
RNPLUS50	1.516E+00	2.068E+01	3.446E-01	1.516E+00	1.516E+00	9.649E+00
TOTALS	1.792E+00	2.370E+01	6.156E-01	2.441E+00	2.262E+00	1.148E+01

TIME STEP NUMBER 9, 2019 DURATION IN YRS IS... 1.0

NUMBER 1 NAME=T-Chair Ranch X= 3.7KM, Y= -2.2KM, Z= -7.0M, DIST= 4.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.54E-02	3.22E-03	2.59E-03	6.17E-03	3.94E-03	3.81E-01
CHILD	TOTALS	2.54E-02	3.77E-03	2.76E-03	4.36E-03	3.36E-03	3.81E-01
TEENAGE	TOTALS	2.54E-02	5.02E-03	2.88E-03	3.57E-03	3.14E-03	3.81E-01
ADULT	TOTALS	2.54E-02	4.99E-03	3.03E-03	3.60E-03	3.21E-03	3.81E-01

NUMBER 2 NAME=Dry Fork Ranch X= -2.7KM, Y= -1.1KM, Z= -58.0M, DIST= 2.9KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	8.19E-03	1.38E-03	9.54E-04	3.36E-03	1.86E-03	1.20E-01
CHILD	TOTALS	8.15E-03	1.73E-03	1.07E-03	2.14E-03	1.47E-03	1.20E-01
TEENAGE	TOTALS	8.18E-03	2.55E-03	1.14E-03	1.60E-03	1.32E-03	1.20E-01
ADULT	TOTALS	8.19E-03	2.52E-03	1.24E-03	1.62E-03	1.36E-03	1.20E-01

TIME STEP NUMBER 9, 2019 DURATION IN YRS IS... 1.0

NUMBER 3 NAME=Christensen Ranch X= 1.8KM, Y= 7.8KM, Z= -1.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	4.24E-02	5.57E-03	4.39E-03	1.10E-02	6.90E-03	6.33E-01
CHILD	TOTALS	4.23E-02	6.64E-03	4.74E-03	7.69E-03	5.84E-03	6.33E-01
TEENAGE	TOTALS	4.24E-02	8.97E-03	4.97E-03	6.23E-03	5.44E-03	6.33E-01
ADULT	TOTALS	4.24E-02	8.96E-03	5.26E-03	6.31E-03	5.57E-03	6.33E-01

NUMBER 4 NAME=Pfister Ranch X= 7.8KM, Y= 7.4KM, Z= 78.0M, DIST= 10.8KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.91E-01	2.49E-02	2.25E-02	3.62E-02	2.77E-02	4.49E+00
CHILD	TOTALS	2.91E-01	2.70E-02	2.32E-02	2.93E-02	2.55E-02	4.49E+00
TEENAGE	TOTALS	2.91E-01	3.17E-02	2.36E-02	2.62E-02	2.46E-02	4.49E+00
ADULT	TOTALS	2.91E-01	3.16E-02	2.42E-02	2.64E-02	2.48E-02	4.49E+00

TIME STEP NUMBER 9, 2019 DURATION IN YRS IS... 1.0

NUMBER 5 NAME=Pumpkin Butte Ranch X= 11.1KM, Y= 3.6KM, Z= 218.0M, DIST= 11.7KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.28E-01	1.34E-02	1.25E-02	1.74E-02	1.44E-02	3.60E+00
CHILD	TOTALS	2.28E-01	1.42E-02	1.28E-02	1.49E-02	1.36E-02	3.60E+00
TEENAGE	TOTALS	2.28E-01	1.59E-02	1.29E-02	1.39E-02	1.33E-02	3.60E+00
ADULT	TOTALS	2.28E-01	1.59E-02	1.31E-02	1.39E-02	1.34E-02	3.60E+00

NUMBER 6 NAME=Van Buggenum Ranch X= 15.4KM, Y= 5.3KM, Z= 130.0M, DIST= 16.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	6.29E-02	7.40E-03	5.93E-03	1.42E-02	9.06E-03	9.49E-01
CHILD	TOTALS	6.28E-02	8.66E-03	6.34E-03	1.00E-02	7.72E-03	9.49E-01
TEENAGE	TOTALS	6.29E-02	1.15E-02	6.61E-03	8.19E-03	7.21E-03	9.49E-01
ADULT	TOTALS	6.29E-02	1.15E-02	6.96E-03	8.27E-03	7.36E-03	9.49E-01

TIME STEP NUMBER 9, 2019 DURATION IN YRS IS... 1.0

NUMBER 7 NAME=Ruby Ranch X= 19.0KM, Y= 2.9KM, Z= 101.0M, DIST= 19.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	4.07E-02	5.67E-03	4.13E-03	1.28E-02	7.40E-03	6.08E-01
CHILD	TOTALS	4.06E-02	6.98E-03	4.56E-03	8.40E-03	6.00E-03	6.08E-01
TEENAGE	TOTALS	4.07E-02	9.98E-03	4.85E-03	6.49E-03	5.46E-03	6.08E-01
ADULT	TOTALS	4.08E-02	9.90E-03	5.21E-03	6.58E-03	5.63E-03	6.08E-01

NUMBER 8 NAME=Nichols-north centra X= -0.4KM, Y= 1.3KM, Z= 57.0M, DIST= 1.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.23E-02	3.38E-03	2.55E-03	7.25E-03	4.32E-03	3.29E-01
CHILD	TOTALS	2.23E-02	4.07E-03	2.77E-03	4.86E-03	3.56E-03	3.29E-01
TEENAGE	TOTALS	2.23E-02	5.69E-03	2.93E-03	3.82E-03	3.26E-03	3.29E-01
ADULT	TOTALS	2.24E-02	5.63E-03	3.12E-03	3.86E-03	3.35E-03	3.29E-01

TIME STEP NUMBER 9, 2019 DURATION IN YRS IS... 1.0

NUMBER 9 NAME=Nichols-east central X= 0.6KM, Y= 0.2KM, Z= -2.0M, DIST= 0.6KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.74E-02	2.54E-03	1.95E-03	5.30E-03	3.21E-03	2.57E-01
CHILD	TOTALS	1.74E-02	3.04E-03	2.11E-03	3.60E-03	2.67E-03	2.57E-01
TEENAGE	TOTALS	1.74E-02	4.19E-03	2.22E-03	2.86E-03	2.46E-03	2.57E-01
ADULT	TOTALS	1.74E-02	4.15E-03	2.36E-03	2.89E-03	2.52E-03	2.57E-01

NUMBER 10 NAME=Nichols-south centra X= -0.3KM, Y= -1.1KM, Z= -18.0M, DIST= 1.1KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.46E-02	2.24E-03	1.65E-03	4.97E-03	2.90E-03	2.15E-01
CHILD	TOTALS	1.46E-02	2.72E-03	1.81E-03	3.28E-03	2.36E-03	2.15E-01
TEENAGE	TOTALS	1.46E-02	3.86E-03	1.92E-03	2.55E-03	2.15E-03	2.15E-01
ADULT	TOTALS	1.46E-02	3.81E-03	2.05E-03	2.57E-03	2.21E-03	2.15E-01

TIME STEP NUMBER 9, 2019 DURATION IN YRS IS... 1.0

NUMBER 11 NAME=Nichols-west central X= -1.4KM, Y= 0.5KM, Z= 12.0M, DIST= 1.5KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.72E-02	2.77E-03	2.01E-03	6.32E-03	3.64E-03	2.52E-01
CHILD	TOTALS	1.72E-02	3.39E-03	2.21E-03	4.12E-03	2.93E-03	2.52E-01
TEENAGE	TOTALS	1.72E-02	4.86E-03	2.35E-03	3.17E-03	2.66E-03	2.52E-01
ADULT	TOTALS	1.72E-02	4.80E-03	2.52E-03	3.20E-03	2.73E-03	2.52E-01

NUMBER 12 NAME=Hank-north central X= 7.9KM, Y= 6.6KM, Z= 86.0M, DIST= 10.3KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	4.06E-01	2.87E-02	2.66E-02	3.84E-02	3.10E-02	6.34E+00
CHILD	TOTALS	4.06E-01	3.04E-02	2.72E-02	3.24E-02	2.91E-02	6.34E+00
TEENAGE	TOTALS	4.06E-01	3.45E-02	2.76E-02	2.98E-02	2.84E-02	6.34E+00
ADULT	TOTALS	4.06E-01	3.44E-02	2.80E-02	2.99E-02	2.86E-02	6.34E+00

TIME STEP NUMBER 9, 2019 DURATION IN YRS IS... 1.0

NUMBER 13 NAME=Hank-east central X= 8.8KM, Y= 3.3KM, Z= 160.0M, DIST= 9.4KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	1.85E+00	1.37E-02	1.36E-02	1.41E-02	1.38E-02	3.07E+01
CHILD	TOTALS	1.85E+00	1.38E-02	1.37E-02	1.39E-02	1.37E-02	3.07E+01
TEENAGE	TOTALS	1.85E+00	1.41E-02	1.37E-02	1.38E-02	1.37E-02	3.07E+01
ADULT	TOTALS	1.85E+00	1.41E-02	1.37E-02	1.38E-02	1.37E-02	3.07E+01

NUMBER 14 NAME=Hank-south central X= 7.9KM, Y= 1.3KM, Z= 139.0M, DIST= 8.0KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	2.59E-01	1.22E-02	1.17E-02	1.48E-02	1.28E-02	4.13E+00
CHILD	TOTALS	2.59E-01	1.27E-02	1.18E-02	1.32E-02	1.23E-02	4.13E+00
TEENAGE	TOTALS	2.59E-01	1.38E-02	1.19E-02	1.25E-02	1.22E-02	4.13E+00
ADULT	TOTALS	2.59E-01	1.39E-02	1.21E-02	1.26E-02	1.22E-02	4.13E+00

TIME STEP NUMBER 9, 2019 DURATION IN YRS IS... 1.0

NUMBER 15 NAME=Hank-west central X= 7.1KM, Y= 4.2KM, Z= 102.0M, DIST= 8.2KM, IRTYPE= 1

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	TOTALS	5.07E-01	1.34E-02	1.32E-02	1.48E-02	1.38E-02	8.24E+00
CHILD	TOTALS	5.07E-01	1.37E-02	1.33E-02	1.40E-02	1.35E-02	8.24E+00
TEENAGE	TOTALS	5.07E-01	1.43E-02	1.33E-02	1.36E-02	1.34E-02	8.24E+00
ADULT	TOTALS	5.07E-01	1.44E-02	1.34E-02	1.37E-02	1.35E-02	8.24E+00

0Program execution time = 10.38 seconds