Table X: Isotope Dilution Single-Grain Analyses of Zircons from .

Fraction*	Weight (mg)	U (ppm)	Pb (ppm)	Observed# $^{206}Pb/^{204}Pb$	Radiogenic Ratios ± 2SE (%)† $^{207*}Pb/^{235}U$	$^{206*}Pb/^{238}U$	$^{207*}Pb/^{206*}Pb$	Calculated Ages ± 2SE (Ma)‡ $^{207*}Pb/^{235}U$	$^{206*}Pb/^{238}U$	$^{207*}/^{206*}$
A. KSBB3: Bourbon County, Ks Stevenson well #319 1 KID: 1030622753 added by NP										
#1 NM(0)	0.001	260.61	66.26	441.4	2.9444± .043	.2098± .003	.1018± .0003	1393.4± 20.4	1227.7± 17.4	1657± 6.4
#2 NM(0)	0.001	634.15	26.39	148.58	.2203± .009	.0295± .001.	.0541± .001	202.14± 7.9	187.57± 5.78	375.73±50
#3 M(1)	0.002	627.23	104.52	529.38	1.1888± .009	.1444± .001	.05969± .0003	795.41± 5.8	869.71± 4.7	592.48± 2.7
#3 M(1) (58)	0.006	829.62	88.57	1442.35	.85627± .57%	.10284± .535%	.06039± .192%	628.1± 3.6	631± 3.4	617.6± 4.1
#3 M(1) (62)	0.003	376.65	34.08	534.235	.69417± .951%	.082646± .8%	.060917± 1.6%	535.3± 5.1	511.9± 4.1	636.3± 10
#6 M(0)	0.002	28.05	8.22	95.84	3.459± .211	.2049± .01	.1225± .003	1518± 92.6	1201.4± 61.4	1992.4± 54
#8 M(0)	0.001	350.78	77.55	446.81	2.9179± .038	.1972± .002	.1073± .0004	1386.6± 18	1160.4± 14.4	1754.1± 6.8
#8 M(0) (40)	0.001	237.85	58.83	315.98	2.734± 1.83%	.19342± 1.72%	.10252± .58%	1337.8± 24.4	1139.9± 19.6	1670.2± 10.7
#11 M(0) (39)	0.002	569.55	66.82	365.297	.83929± .805%	.10057± .712%	.060528± .355%	618.75± 5	617.72± 4.4	622.51± 7.7
B. MOCE-1: USGS NS-2A, Cedar County, Mo										
#1 NM(0)	0.003	294.03	100.69	365.48	3.5296± .036	.2590± .006	.0989± .0003	1533.9± 15.8	1484.5± 14.3	1602.6± 6.3
#1 M(0) (80)	0.002	110.04	42.79	230.42	3.6805± .03	.2720± .002	.09813± .0004	1567.1± 12.9	1551.1± 11.2	1588.8± 7
#1 M(0) (V5)	0.001	123.7	40.79	596.39	3.7517± .048	.2689± .003	.1012± .0004	1582.5± 20	1535.3± 18.6	1645.9± 6.8
#2 M(0) (81)	0.001	173.55	56.37	107.27	1.2797± .34	.21267± .009	.0436± .011	836.73±222	1243±53.8	-130.85±21
#3 M(0) (V7)	0.001	55.37	20.23	153.58	3.4673±.086	.25543±.006	.09845±.001	1519.8±37.54	1466.4±32.6	1595±18
#3 M(0) (82)	0.003	57.69	13.08	121.14	1.6845±.084	.16779±.008	.07281±.001	1002.7±50	999.93±48	1008.7±23
#3 NM(0) (81)	0.003	70.35	13.89	198.68	1.5202±.023	.15521±.002	.07104±.0004	938.57±14	930.1±13	958.5±12
#3 M(0) (V6)	0.002	119.5	20.76	629.18	1.6882±.018	.16524±.002	.07410±.0002	1004.1±10.6	985.8±9.5	1044.3±8.1
#4 NM(0) (82)	0.001	98.03	35.98	297.29	4.5045±.052	.30419±.003	.1074±.0004	1731.8±20	1712±18.8	1755.8±6.3
#4 M(0) (V8)	0.001	256.58	67.25	575.16	2.8175±.047	.20812±.003	.09819±.0005	1360.2±22.6	1218.8±18.9	1590±10
#4 M(0) (88)	0.001	143.94	47.21	376.41	4.0253±.081	.28245±.005	.10336±.001	1639.3±33	1603.7±31	1685.3±9.9

Fraction*	Weight (mg)	U (ppm)	Pb (ppm)	Observed# $^{206}Pb/^{204}Pb$	Radiogenic Ratios ± 2SE (%)† $^{207*}Pb/^{235}U$	$^{206*}Pb/^{238}U$	$^{207*}Pb/^{206*}Pb$	Calculated Ages ± 2SE (Ma)‡ $^{207*}Pb/^{235}U$	$^{206*}Pb/^{238}U$	207*/206*
C. V-2 & V-3: Vernon County, MO										
1. V-2/Q Quartzite										
#1 NM(0) (13)	0.001	356.33	114.01	562.72	3.8228±.043	.27365±.003	.101319±.0003	1597.6±18.2	1559.3±17	1648.4±5.7
#1 NM(0) (14)	0.003	532	126.35	1439.01	3.3146±.021	.22274±.001	.10793±.0002	1484.5±9.4	1296.4±8	1764.7±2.6
#1 NM(0) (56)	0.003	57.84	18.11	243.77	3.2226±.05	.23666±.003	.09876±.001	1462.6±22.7	1369.3±18	1600.9±14
#1 NM(0) (40)	0.004	78.19	23.92	987.24	3.6008±.026	.25809±.002	.10119±.0002	1549.7±11	1480±10	1646±4
#1 NM(0) (3)	0.004	**	**	**	**	**	**	**	**	**
#1 NM(0) (39)	0.004	**	**	**	**	**	**	**	**	**
#1 NM(0) (54)	**	**	**	**	**	**	**	**	**	**
#2 NM(0) (33)	0.005	60.40	20.03	2345.17	4.8105±.03	.3119±.002	.11186±.0001	1786.7±11	1750.1±10.9	1829.8±2.4
#2 NM(0) (41)	0.003	**	**	**	**	**	**	**	**	**
#2 NM(0) (34)	0.004	**	**	**	**	**	**	**	**	**
#2 NM(0) (3)	**	**	**	**	**	**	**	**	**	**
2. V-3/O Quartzite Stubblefield 1 KID; 100582905 4										
#1 NM(0) (27)	0.002	102.78	33.37	410.66	3.7919±.052	.2699±.003	.1019±.0005	1591±21.6	1540.3±19.4	1658.9±8.6
#1 NM(0) (17)	0.003	113.67	74.05	48.32	3.1407±.088	.22398±.002	.10170±.003	1442.7±40.5	1302.9±11	1655.3±47
#1 NM(0) (20)	0.002	117.81	38.62	640.34	3.71±.026	.2666±.002	.10093±.0002	1573.5±11	1523.6±10.3	1641.2±3.4
#1 NM(0) (30)	0.002	89.56	30.51	1676.7	4.8773±.034	.31629±.002	.1118±.0002	1798.3±12.6	1771.6±12.2	1829.5±2.7
#2 NM(0) (14)	0.003	77.17	24.19	584.53	3.4522±.027	.24913±.002	.10050±.0003	1516.4±12	1434±10.3	1633.4±5.8
#2 NM(0) (13)	0.013	15.83	4.75	608.32	3.6489±.047	.25913±.003	.10213±.0005	1560.3±20	1485.4±17.8	1663.1±8.3
#2 NM(0) (16)	0.002	294.33	86.35	981.50	4.0420±.029	.27018±.002	.10850±.0002	1642.7±11.9	1541.7±10.6	1774.4±4.1
#2 NM(0) (3)	0.002	62.41	20.28	940.63	3.7255±.065	.27136±.005	.09957±.0002	1576.9±27.6	1547.7±26.8	1616.1±3.7
#2 NM(0) (16)	0.003	**	**	**	**	**	**	**	**	**

Fraction*	Weight (mg)	U (ppm)	Pb (ppm)	Observed# $^{206}Pb/^{204}Pb$	Radiogenic Ratios ± 2SE (%)† $^{207*}Pb/^{235}U$	$^{206*}Pb/^{238}U$	$^{207*}Pb/^{206*}Pb$	Calculated Ages ± 2SE (Ma)‡ $^{207*}Pb/^{235}U$	$^{206*}Pb/^{238}U$	207*/206*
3. V-3/K Quartzite										
#1 NM(0) (45)	0.008	342.73	108.09	1404.18	3.7155±..125	.2663±..002	.10119±..0002	1574.7±.14	1522.1±.13.5	1646±.3.9
#1 NM(0) (54)	0.004	383.31	106.05	1383.85	3.9341 ±..04	.27101±..003	.10528±..0002	1620.7±.16.4	1545.9±..15	1719.3±.4.1
#1 NM(0) (79)	0.002	54.99	6.69	149.65	.67771±..031	.08487±..002	.05791±..002	525.39±.24.2	525.13±.9.7	526.48±.88
#1b NM(0) (31)	0.002	39.35	34.16	25.97	.87011±..139	.11298±..004	.05586±..008	635.63±.101.7	690.04±.24	446.64±.330
#1b NM(0) (78)	0.003	63.41	7.27	185.28	.64745±..027	.08339±..001	.05631±..002	506.9±.21	516.3±.7.6	464.75±.82
#1 NM(0) (35)	0.001	131.57	56.44	111.40	3.1807±..137	.26969±..005	.08554±..003	1452.5±.62.5	1539.2±.27.4	1327.8±.70
#2 NM(0) (45)	0.002	63.94	22.79	372.72	3.863±..042	.2784±..003	.10064±..0004	1606±.1.2	1583.3±.16	1636±.7.7
#2 NM(0) (58)	0.003	36.22	12.49	742.76	3.776±..08	.2742±..005	.09986±..001	1587.6±.33.5	1562.3±.30.9	1621.4±.12
#2 NM(0) (62)	0.002	65.24	19.84	695.14	3.432±.059	.2473±..004	.10064±..0002	1511.8±.25.9	1424.7±.24	1635.9±.4.1

Notes:

*: M, NM refer to magnetic, non-magnetic splits at Franz separator tilt (at1.5 amp) given in parentheses.

#: Uncorrected for analytical blank (ca. 4 pg) or original non-radiogenic Pb in the zircon.

†: Corrected for analytical blank and original non-radiogenic Pb in the zircon; see text.

‡: Based on the decay constants of Steiger and Jäger (1977).

Project Name				**XXXX**	**XXXX**			
Scientist Name				**Lisa**	**Hampton**			
Date Begun				**Nov. 15**	**1996**			
Date Completed				**Jan. 17**	**1997**			
KGS No.	960232	960233	960234	960235	960236	960237	960238	960239
Sample No.	1 KSBB 3	2 KSBB 3	3 KSBB 3	4 KSBB 3	5 KSBB 3	V-3/N SH	V-3/L SLT	V-3/PSH
Depth Interval	1943-1953'	2002-2039'	2098-2127'	2167-2185'	2233-2264'	1600-1615'	1960-1970'	1272-1313'
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Co	118.8	43.66	41.18	59.62	55.92	71.56	68.7	48.4 ~~34.92~~
Cr	57.09	57.89	56.86	60.7	52.48	65.3	22.65	34.92
Ni	26.38	33.43	36.49	27.79	56.8	22.26	79.58	56.3
Dried at	110	110	110	110	110	110	110	110

15-173-00690
A.C. Wright

CHEMICAL ANALYSES OF ROCK SAMPLES
KANSAS GEOLOCICAL SURVEY
University of Kansas, Lawrence

County Sedgwick **Lab. No.** 960000

Location E2,NE,SW **Sec.** 12 **T.** 26 **S., R.** 1 E (W)

Lithology

Stratigraphic horizon

Thickness of bed Depth 4235 - 40

Type of sample Core Sample - Cities Service Wright

Topographic position Sample # 1 KSSG 4

Sampled by Lisa Hampton **Date Sampled**

Majors	%	Traces	ppm
		Barium (Ba)	28.72
Silica (SiO_2)	41.53	Cadmium (Cd)	0.028
Alumina (Al_2O_3)	11.93	Chromium (Cr)	290.7
Iron oxide (Fe_2O_3)	11.40	Cobalt (Co)	99.08
Titanium oxide (TiO_2)	3.11	Copper (Cu)	73.00
Manganese oxide (MnO)	0.17	Lead (Pb)	1.49
Calcium oxide (CaO)	8.83	Lithium (Li)	61.03
Magnesium oxide (MgO)	8.82	Molybdenum	0.84
Strontium oxide (SrO)		Nickel (Ni)	121.5
Potassium oxide (K_2O)	0.27	Silver (Ag)	0.038
Sodium Oxide (Na_2)	1.85	Strontium (Sr)	92.31
		Zinc (Zn)	74.02
		Palladium (Pd)	0.64
		Platinum (Pt)	0.00
Loss on Ignition at 1000 °C.	12.07		
Total	99.98		
Dried at 110 °C.			

Date May, 1996 **Analyst** Galle