KANSAS GEOLOGICAL SURVEY
OPEN-FILE REPORT 2000-64

Compilation of Hydrocarbon Source-rock Analyses for Wells
in East-central and Northeastern Kansas, and
Adjacent Areas in Missouri and Nebraska

by

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Joseph R. Hatch

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Compilation of Hydrocarbon Source-Rock Analyses for Wells in East-Central and Northeastern Kansas, and adjacent areas in Missouri and Nebraska

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ABSTRACT

Source-rock analyses for 493 samples obtained from 83 wells from the Salina basin, Forest City basin, Sedgwick basin, Central Kansas uplift, and Nemaha uplift are presented in this report. The data include total-organic-carbon analyses and Rock-Eval parameters; vitrinite-reflectance values for 63 samples are also reported. These analyses are on rocks that range in age from Precambrian to Permian. Core samples compose 164 analyses; 329 analyses are from well cuttings and sidewall cores. These analyses have been compiled from several publications on the oil and gas potential in the vicinity of eastern Kansas, as well as some analyses being previously unpublished.

INTRODUCTION

The accompanying database (Table 1) is a compilation of hydrocarbon source-rock analyses collected for central and eastern Kansas, and from counties immediately adjacent to Kansas in Nebraska and Missouri. Most of the rock samples were collected by the authors from 1983 to 2000. These samples were from either rock cores archived at the Kansas Geological Survey in Lawrence, KS, or from air-dried well cuttings collected at the well site by the authors, or by operators at the request of the authors. Other analyses were donated, usually in exchange for access and destructive testing of archived samples.

The samples were analyzed by several different laboratories utilizing standardized techniques (see Jarvie, 1991; Philp and Galvez-Sinibaldi, 1991), but probably slightly differing in procedure. Because these analyses have been gathered and analyzed by several different parties over several years, the authors cannot guarantee the direct comparability of all the information presented.

These analyses have in part been summarized or presented in other publications on the petroleum geology of Kansas, including Hatch and others (1984), Hatch and others (1987), Hatch and others (1989), Hatch and Leventhal (1992), Hatch and Newell (1999), Newell and Hatch (2000) and Newell and Hatch (in press). The impetus for this Open-File Report is similar to that of Hatch and others (1984), which was an earlier compilation of source-rock data from eastern Kansas and regions in adjacent states. This latest Open-File Report is a new compilation, but there are data from some localities in the Hatch and others (1984) compilation that are not included in this report. A map showing the location of the analyses presented in this report is shown in Figure 1.

ORGANIZATION OF THE DATABASE

Wells are arranged by sample type (i.e., core, cuttings, sidewall cores). In each of these categories, wells are arranged according to location -- first south townships - west ranges; then south townships - east ranges, then north townships. Location and depth information for each well are given in a line above the listings for its source-rock analyses. The geologic region and county are also included as ancillary information. Some of the location data are duplicated in for each sample in order to facilitate sorting in spreadsheet database programs.

Under each well, samples are arranged according to depth. In many cases, particularly with cuttings data, there is a depth interval reported for a given sample, and in such cases an average depth is also given.

The stratigraphic data are hierarchical, in which the age of the unit is first given, and then successively more specific data (for example, [Penn, Missou, KC, STRK] is Pennsylvanian, Missourian, Kansas City Group, Stark Shale Member). The last column, under the heading of "FORM" (i.e., formation) is a four-letter abbreviation of the rock unit. Some of these data are repetitive (for example, Cheroke and CHER, Lans and LANS, etc.) but having separate columns of these data may aid in sorting the data.

ABBREVIATIONS

Several abbreviations are in the database. They are explained alphabetically.

Header Information

FORM -- Formation
LITH -- Lithology
SEC, T., R. -- Section, township, range
SPOT -- location information within the section
SUBSURF. DEPTH -- Subsurface depth, measured from the datum point (usually a well kelly bushing), measured in feet

Analytical Data

Blank space indicates no data. Some data not given (such as S1, S2, S3) can be calculated from TOC and HI, OI, and PI data. In some cases these data were not reported in the original laboratory reports.

HI -- Hydrogen Index [(S2/TOC)*100], mgHC/gTOC.
OI -- Oxygen Index [(S3/TOC)*100], mgCO2/gTOC
Ro -- vitrinite reflectance (%)
PI -- Productivity Index [S1/(S1+S2)]
S1 -- Rock-Eval parameter, free hydrocarbon (HC) in sample, mgHC/g sample
S1+S2 -- Genetic potential, mgHC/g sample
S2 -- Rock-Eval parameter, pyrolytic hydrocarbon (HC) in sample, mgHC/g sample
S3 -- Rock-Eval parameter, pyrolytic oxygen in sample, mg/g sample
Tmax -- Rock-Eval parameter, temperature at which the yield of pyrolysis products (S2) is at a maximum
TOC -- Total organic carbon (weight %)

Age, Formation, and Lithology

Cheroke -- Cherokee Group
C/O -- Cambrian-Ordovician
Desmoi -- Desmoinesian
Dev -- Devonian
Douglas -- Douglas Group
KC -- Kansas City Group
Lans - Lansing Group
LKC -- Lansing-Kansas City groups
Marmat -- Marmaton Group
Missou -- Missourian
Mssp -- Mississippian
OrdM -- Middle Ordovician
OrdU -- Upper Ordovician
Pcmb -- Precambrian
Penn -- Pennsylvanian
Perm -- Permian
Pleasant -- Pleasanton Group
S/D -- Silurian-Devonian
Shawnee -- Shawnee Group
Virgil -- Virgilian
Wabaun -- Wabaunsee Group

ABCK -- Arbuckle Group
AD-CG -- Admire-Council Grove Groups
ANNA -- Anna Shale Member
CABN -- Cabaniss Formation
CG -- Council Grove Group
CHAT -- Chattanooga Shale
CHER -- Cherokee Group
CHSE -- Chase Group
DGLS -- Douglas Group
DRCK -- Deer Creek Limestone
EUD -- Eudora Shale Member
EX -- Excello Shale Member
HEEB -- Heebner Shale Member
HNTN -- "Hunton" Formation

HUSH -- Hushpuckney Shale Member
KC -- Kansas City Group
LADR -- Ladore Shale Member
LANS -- Lansing Group
LCMP -- Lecompton Limestone Member
LEX -- Lexington coal bed
LKC -- Lansing-Kansas City Groups
MARM -- Marmaton Group
MQKT -- Maquoketa Shale
MSSP -- Mississippian (undifferentiated)
MUNS -- Muncie Creek Shale
PERM -- Permian (undifferentiated)
PLES -- Pleasanton Group
RICE -- Rice Group
SHAW -- Shawnee Group
SH-WA -- Shawnee-Wabaunsee Groups
SMPS -- Simpson Group
STRK -- Stark Shale Member
STRN -- Strawn Limestone
VIOL -- Viola Limestone
WAB -- Wabaunsee Group
WEA -- Wea Shale Member

cl -- coal
cls -- carbonaceous limestone
csh -- calcareous shale
dol -- dolomite
dsh -- dolomitic shale
ls -- limestone
sh -- shale
slst -- siltstone
ss -- sandstone

Data Source

Amoco -- 9/81 Amoco Oil Company internal technical report released to Kansas Geological Survey in 9/86.

ARCo1 -- Sample analyzed by Arco Research Laboratory in Plano, Texas, reported in appendices in Lambert (1992).

ARCo2 -- 8/82 letter (K.F. Thompson, Arco, to W.L. Watney, Kansas Geological Survey) reporting vitrinite reflectance on selected Kansas cores by Arco researcher Ken Yordy.

B&R -- Samples selected by K.D. Newell and analyzed by Brown & Ruth Laboratories, Inc., Houston, TX.

Cook -- Well information reported in Cook (1977), based on cores archived at the Kansas Geological Survey.

Core1 -- Technical report for Stone Petroleum Company by Core Laboratories, Dallas, TX; released to Kansas Geological Survey in 9/87 by Mr. Ed Eble.

Core2 -- 3/87 letter (L.E. Roberts, Mobil, to W.L. Watney, Kansas Geological Survey) reporting organic analyses on selected Kansas cores by Mobil Oil Field Research Laboratory, with analytical work contracted to Core Laboratories, Dallas, TX.

DGSI -- Samples selected by K.D. Newell, and analytical work contracted to DGSI, The Woodlands, TX.

Sohio -- Samples selected by K.D. Newell, with analyses performed at Sohio Petroleum Research Laboratories, Cleveland, OH.

USGS -- Samples selected by J.R. Hatch and analyzed in USGS laboratories at the Denver Federal Center, Denver, Colorado.

White -- Samples selected by K.D. Newell and J.R. Hatch, analyzed by Tim White, Department of Geosciences, University of Iowa.

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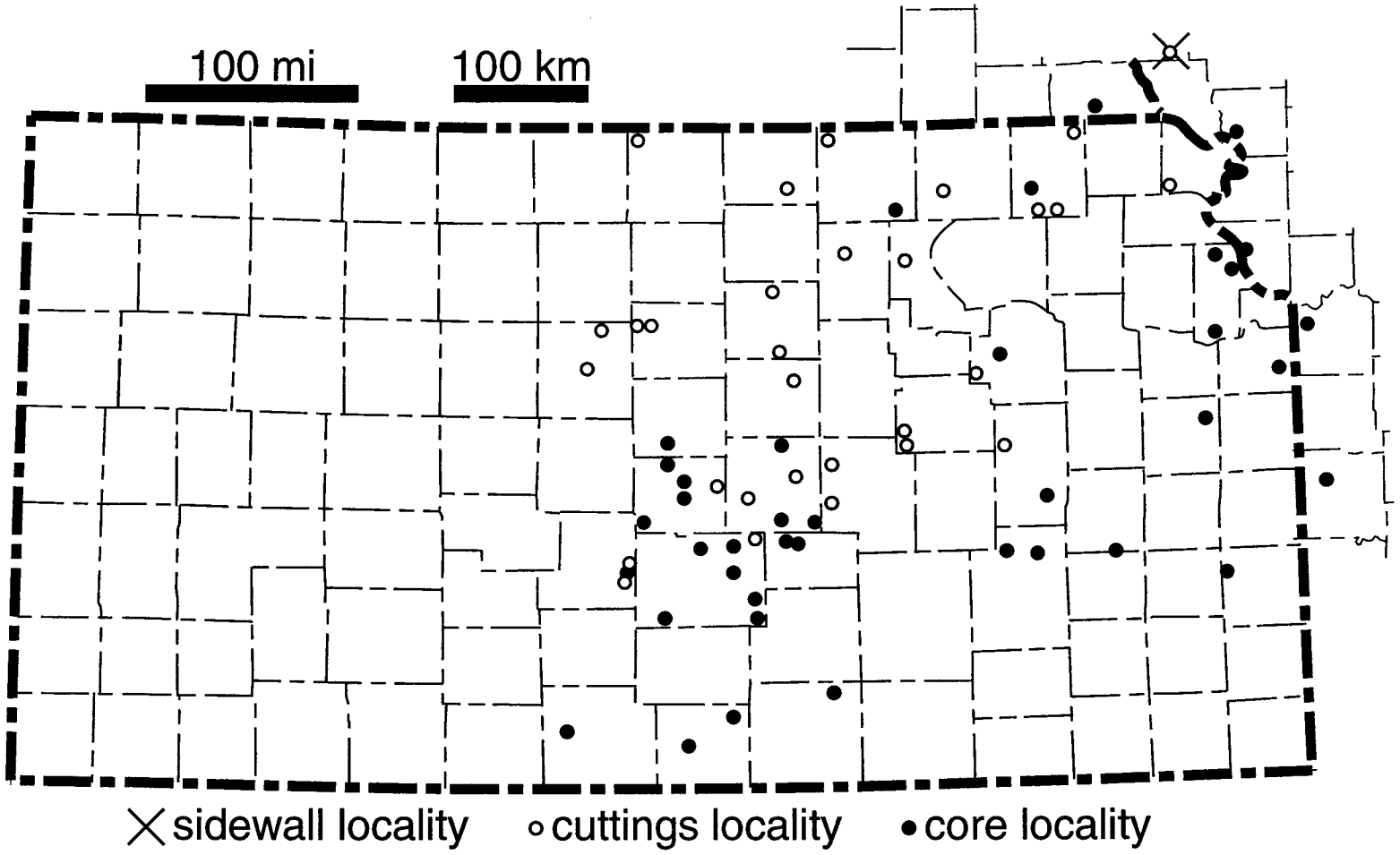

Figure 1. Location of source-rock analyses

Compilation of Hydrocarbon Source-Rock Analyses for Wells in East-Central and Northeastern Kansas, and adjacent areas in Missouri and Nebraska

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Table 1. KANSAS HYDROCARBON SOURCE-ROCK & MATURATION DATA

CORE SAMPLES

OPERATOR AND WELL NAME SEC	T	R	SPOT	SAMPLE INTERVAL top	base	SUBSURF. DEPTH (ft)	AGE	FORM	LITH	TOC WT. %	S1 KG/TN	S2 KG/TN	S3 KG/TN	HI	OI	TMAX deg C	PI	S1+S2 KG/TN	Ro %	DATA SOURCE
Damac #1 Allen, SW sec. 7-T.17S.-R.3W. (SALINA BASIN -- McPherson County, Kansas), 1360' datum																				
7	17S	03W	SW			3140	Dev	CHAT	sh	0.36										DGSI
7	17S	03W	SW			3353.9	Dev	CHAT	sh	0.5				167	20	439				ARCo1
7	17S	03W	SW			3355	Dev	CHAT	sh	0.47	0.10	0.42	0.32	89	68	425	0.19	0.52		DGSI
7	17S	03W	SW			3359.9	Dev	CHAT	sh	1.06	0.30	2.19	0.61	206	57	434	0.12	2.49		White
7	17S	03W	SW			3367.9	Dev	CHAT	sh	1.36	0.42	3.58	0.32	263	24	435	0.11	4.00		DGSI
Hollow Oil #1 Janzen, SE SW SE sec. 18-T.17S.-R.9W. (CENTRAL KANSAS UPLIFT -- Ellsworth Co., Kansas), 1788' datum																				
18	17S	9W	SE SW SE			3249.5	OrdM	SMPS	sh	0.2				515			0.08	1.2		Amoco
Shell #2 Ploog, E2 E2 SE sec. 33-T.18S.-R.9W. (CENTRAL KANSAS UPLIFT -- Rice County, Kansas), 1718' datum																				
33	18S	9W	E2 E2 SE			3258.5	OrdM	SMPS	sh	0.2										Amoco
33	18S	9W	E2 E2 SE			3269.5	OrdM	SMPS	sh	0.2										Amoco
Champlin #1 Kottman, NE SW sec. 19-T.19S.-R.8W. (CENTRAL KANSAS UPLIFT -- Rice County, Kansas), 1714' datum																				
19	19S	08W	NE SW			3378.5	OrdM	SMPS	sh	8.72	2.23	76.0	0.99	871	11	442	0.03	78.2		USGS
19	19S	08W	NE SW			3380.5	OrdM	SMPS	sh	0.60	0.00	0.62	0.32	103	53	426	0.00	0.62		USGS
19	19S	08W	NE SW			3383.3	OrdM	SMPS	sh	0.30	0.01	0.48	0.40	160	133	424	0.02	0.49		USGS
19	19S	08W	NE SW			3385.2	OrdM	SMPS	sh	0.35	0.12	0.35	0.96	100	274	427	0.26	0.47		USGS
19	19S	08W	NE SW			3385.7	OrdM	SMPS	sh	7.05	2.46	41.9	2.39	595	34	444	0.06	44.4		USGS
19	19S	08W	NE SW			3386.4	OrdM	SMPS	sh	0.28	0.01	1.29	0.24	461	86	426	0.01	1.3		USGS
Sutton #3 Bell, NE NW sec. 33-T.19S.-R.8W. (CENTRAL KANSAS UPLIFT -- Rice County, Kansas), 1614' datum																				
33	19S	08W	NE NW			3362.6	Dev	CHAT	sh	0.3				117	38	424				ARCo1
NNG #1 Madsen, NE SE sec. 35-T.19S.-R.8W. (CENTRAL KANSAS UPLIFT -- Rice County, Kansas), 1725' datum																				
35	19S	08W	NE SE			3266.5	OrdM	SMPS	sh	0.79	0.16	1.56	0.49	197	62	430	0.09	1.72		USGS
35	19S	08W	NE SE			3268.5	OrdM	SMPS	sh	0.63	0.03	1.37	0.21	217	33	434	0.02	1.4		USGS
35	19S	08W	NE SE			3270.5	OrdM	SMPS	sh	0.13	0.02	0.05	0.14	38	108	413	0.29	0.07		USGS
35	19S	08W	NE SE			3272	OrdM	SMPS	sh	0.27	0.02	0.16	0.13	59	48	414	0.11	0.18		USGS
35	19S	08W	NE SE			3274	OrdM	SMPS	sh	0.29	0.02	0.28	0.10	97	34	423	0.07	0.3		USGS
35	19S	08W	NE SE			3275.5	OrdM	SMPS	sh	0.19	0.03	0.17	0.09	89	47	417	0.15	0.2		USGS
NNG #35-9 Pulliam, N2 S2 N2 sec. 35-T.19S.-R.8W. (CENTRAL KANSAS UPLIFT -- Rice County, Kansas), 1726' datum																				
35	19S	08W	N2 S2 N2			3276	OrdM	SMPS	sh	0.83	0.12	5.31	0.1	640	12	430	0.02	5.43		USGS
35	19S	08W	N2 S2 N2			3287	OrdM	SMPS	sh	0.17										USGS
NNG #1 Caldwell, NE NE sec. 2-T.20S.-R.8W. (CENTRAL KANSAS UPLIFT -- Rice County, Kansas), 1720' datum																				

2	20S	08W		NE	NE	3279.5	OrdU	VIOL	sh	0.56	0.16	5.01	0.12	895	21	432	0.03	5.17	USGS
2	20S	08W		NE	NE	3279.5	OrdU	VIOL	sh	1.1				400	9	434	0.02	5.2	USGS
2	20S	08W		NE	NE	3300	OrdM	SMPS	sh	0.5				210	25	433	0.05	1.1	USGS
2	20S	08W		NE	NE	3322	OrdM	SMPS	sh	0.3				86	100	424	0.08	0.3	USGS
2	20S	08W		NE	NE	3328.5	OrdM	SMPS	sh	0.7				150	59	437	0.03	1.1	USGS
2	20S	08W		NE	NE	3329.6	OrdM	SMPS	sh	0.96	0.17	3.03	0.96	315	100	435	0.05	3.20	White
2	20S	08W		NE	NE	3331.5	OrdM	SMPS	sh	0.1				280	180	431	0.05	0.4	USGS
2	20S	08W		NE	NE	3332.7	OrdM	SMPS	sh	0.2				190	130	423	0.01	0.3	USGS
2	20S	08W		NE	NE	3333	OrdM	SMPS	sh	0.33	0.01	0.33	0.39	100	118	424	0.03	0.34	USGS
2	20S	08W		NE	NE	3334.5	OrdM	SMPS	sh	0.77	0.08	1.18	0.12	153	16	421	0.06	1.26	USGS
2	20S	08W		NE	NE	3335	OrdM	SMPS	sh	0.66	0.13	3.19	0.39	483	59	434	0.04	3.32	White
2	20S	08W		NE	NE	3336	OrdM	SMPS	sh	1.07	0.12	1.99	0.15	186	14	420	0.06	2.11	USGS
2	20S	08W		NE	NE	3338	OrdM	SMPS	sh	0.51	0.32	2.96	0.50	580	98	507	0.10	3.28	White
2	20S	08W		NE	NE	3338	OrdM	SMPS	sh	0.38	0.04	0.62	0.10	163	26	422	0.06	0.66	USGS
2	20S	08W		NE	NE	3339	OrdM	SMPS	sh	0.3				140	25	426	0.10	0.5	USGS
2	20S	08W		NE	NE	3342.5	OrdM	SMPS	sh	0.2				120	28	420	0.10	0.3	USGS
2	20S	08W		NE	NE	3343.8	OrdM	SMPS	sh	0.23	0.01	0.16	0.10	70	43	416	0.06	0.17	USGS
2	20S	08W		NE	NE	3344.6	OrdM	SMPS	sh	0.7				170	12	427	0.07	1.2	USGS
2	20S	08W		NE	NE	3346.5	OrdM	SMPS	sh	0.2				150	38	422	0.10	0.3	USGS
Champlin #8 Speck, NE sec. 7-T.20S.-R.8W. (CENTRAL KANSAS UPLIFT -- Rice County, Kansas), 1671' datum																			
7	20S	08W			NE	3446	OrdM	SMPS	sh	0.64	0.06	2.46	0.26	384	41	434	0.02	2.52	USGS
7	20S	08W			NE	3449	OrdM	SMPS	sh	0.22									USGS
Shell #1 Maughlin, NE NW SE sec. 11-T.20S.-R.8W. (CENTRAL KANSAS UPLIFT -- Rice County, Kansas), 1671' datum																			
7	20S	08W	NE	NW	SE	3221.5	OrdU	VIOL	sh	0.4				140			0.17	0.7	Amoco
Derby #4 Arnold, NW SW sec. 16-T.21S.-R.1W. (SALINA BASIN -- McPherson County, Kansas), 1482' datum																			
16	21S	01W		NW	SW	3310	Dev	CHAT	sh	0.3									Mobil
16	21S	01W		NW	SW	3317	Dev	CHAT	sh	1				315	73	439	0.09	3.6	Mobil
Mabee-Shell #1 P.A. Koehn, SW NE NE sec. 33-T.21S.-R.3W. (SALINA BASIN -- McPherson County, Kansas), 1450' datum																			
16	21S	03W	SW	NE	NE	3407	OrdM	SMPS	sh	5.34	1.32	63.3	1.14	731	21	438	0.02	64.6	White
16	21S	03W	SW	NE	NE	3409	OrdM	SMPS	sh	8.81	2.19	69.5	2.47	787	28	440	0.03	71.7	White
16	21S	03W	SW	NE	NE	3409.5	OrdM	SMPS	sh	18.2				665			0.04	126	Amoco
Mabee-Shell #1 Friessen, NW SW SE sec. 33-T.21S.-R.3W. (SALINA BASIN -- McPherson County, Kansas), 1465' datum																			
33	21S	03W	NW	SW	SE	3476	Dev	CHAT	sh	0.40	0.08	0.35	0.23	88	58	417	0.19	0.43	DGSI
Shell #1 A.C. Gordon, W2 W2 NE sec. 21-T.21S.-R.10W. (CENTRAL KANSAS UPLIFT -- Rice County, Kansas), 1727' datum																			
21	21S	10W	W2	W2	NE	3416	OrdM	SMPS	sh	0.23	0.10	1.17	0.20	509	87	426	0.08	1.27	USGS
21	21S	10W	W2	W2	NE	3418	OrdM	SMPS	sh	0.69	0.05	1.58	0.05	229	7		0.03	1.63	USGS
21	21S	10W	W2	W2	NE	3426	OrdM	SMPS	sh	0.56	0.03	0.67	0.01	120	2		0.04	0.70	USGS
Derby #3 Lehman, SW SE NW sec. 13-T.22S.-R.2W. (SEDGWICK BASIN -- Harvey County, Kansas), 1470' datum (estimated)																			
13	22S	02W	SW	SE	NW	3452	OrdM	SMPS	sh	4.57	8.89	0.00	2.87	0	62			8.89	White
Tomlinson #2 Boese, N2 NW NW sec. 24-T.22S.-R.2W. (SEDGWICK BASIN -- Harvey County, Kansas), 1470' datum																			
24	22S	02W	N2	NW	NW	3432	OrdM	SMPS	sh	1.81	0.80	8.87	1.26	490	69	445	0.69	2.61	White
24	22S	02W	N2	NW	NW	3462	OrdM	SMPS	sh	0.38	0.18	0.58	0.90	152	236	428	0.68	0.56	White
Shell #6 Voth, NW sec. 4-T.22S.-R.3W. (SEDGWICK BASIN -- Harvey County, Kansas), 1440' datum (estimated)																			
4	22S	03W			NW	3487	Dev	CHAT	sh	0.28									DGSI

Shell #1 Duerkson, SE SW sec. 5-T.22S.-R.3W. (SEDGWICK BASIN -- Harvey County, Kansas), 1460' datum																					
5	22S	03W		SE	SW		3476.6	Dev	CHAT	sh	0.2				91	43	429				ARCo1
Derby #1 Wood, NE NE sec. 36-T.22S.-R.5W. (SEDGWICK BASIN -- Reno County, Kansas), 1531' datum																					
36	22S	05W	NE	NE			3760	Dev	CHAT	sh	3.94	1.16	19.0	1.31	482	33	435	0.06	20.2		White
36	22S	05W	NE	NE			3885	OrdU	MQKT	sh	0.56	0.14	0.85	0.82	152	146	434	0.14	0.99		DGSI
Derby #1 Rainbow, NW NW SE sec. 33-T.22S.-R.7W. (SEDGWICK BASIN -- Reno County, Kansas), 1600' datum																					
33	22S	07W	NW	NW	SE		3839	OrdM	SMPS	sh	0.28										USGS
33	22S	07W	NW	NW	SE		3903.5	OrdM	SMPS	sh	0.23										USGS
33	22S	07W	NW	NW	SE		3909	OrdM	SMPS	sh	0.12										USGS
33	22S	07W	NW	NW	SE		3918	OrdM	SMPS	sh	0.60	0.11	2.46	0.26	410	43	430	0.04	2.57		USGS
33	22S	07W	NW	NW	SE		3920	OrdM	SMPS	sh	0.20										USGS
33	22S	07W	NW	NW	SE		3932	OrdM	SMPS	sh	2.26	0.13	10.4	0.34	458	15	433	0.01	10.5		USGS
33	22S	07W	NW	NW	SE		3932	OrdM	SMPS	sh	0.37	0.05	0.78	1.34	210	362	436	0.06	0.83		White
Derby #8 Schrock, SE SE SW sec. 27-T.24S.-R.5W. (SEDGWICK BASIN -- Reno County, Kansas), 1535' datum (estimated)																					
33	24S	05W	SE	SE	SW		3766	Dev	CHAT	sh	7.47	2.36	34.0	2.06	455	27	434	0.06	36.4		White
Braden-Zenith #1 Zenith Unit, SW SE SW sec. 11-T.24S.-R.11W. (SEDGWICK BASIN -- Stafford County, Kansas), 1816' datum																					
11	24S	11W	SW	SE	SW		3753	Dev	CHAT	sh	0.08	0.16	0.48	1.54	600	1925	395	0.25	0.64		DGSI
11	24S	11W	SW	SE	SW		3754	Dev	CHAT	sh	0.21	0.25	1.26	2.51	600	1195	395	0.17	1.51		DGSI
Midcontinent-Marine #1 North Hilger, W2 W2 W2 sec. 34-T.25S.-R.4W. (SEDGWICK BASIN -- Reno County, Kansas), 1214' datum																					
34	25S	04W	W2	W2	W2		4096	Dev	CHAT	sh	2.00				420	13	445				ARCo
34	25S	04W	W2	W2	W2		4096	Dev	CHAT	sh	1.55	0.97	6.63	0.53	427	34	442	0.13	7.60		White
Midcontinent-Marine #1 South Hilger, W2 SW SW sec. 9-T.26S.-R.4W. (SEDGWICK BASIN -- Reno County, Kansas), 1498' datum																					
9	26S	04W	W2	SW	SW		4096	Dev	CHAT	sh	1.60	1.50	6.84	0.91	428	57	439	0.18	8.34	0.54	DGSI
Sinclair #1 Nett, NW SE sec. 32-T.26S.-R.4W. (SEDGWICK BASIN -- Reno County, Kansas), 1409' datum																					
32	26S	04W		NW	SE		4010	Dev	CHAT	sh	0.96	0.64	2.60	0.86	271	90	441	0.20	3.24		DGSI
Shell #1 Mauck, SE NW NE sec. 14-T.26S.-R.9W. (SEDGWICK BASIN -- Reno County, Kansas), 1650' datum																					
14	26S	09W	SE	NW	NE		4118	Dev	CHAT	sh	1.8				285	24	440				ARCo
Terra Resources #1 Peasel, NE NW NE sec. 33-T.31S.-R.1W. (SEDGWICK BASIN -- Sumner County, Kansas), 1286' datum																					
33	31S	01W	NE	NW	NE		4096	Dev	CHAT	sh	2.3				336	8	443				ARCo
Olson-Skelly #1 Elsea, SW SE NW sec. 27-T.32S.-R.14W. (HUGOTON EMBAYMENT -- Barber County, Kansas), 1903' datum																					
27	32S	14W	SW	SE	NW		4961	Dev	CHAT	sh	2.8				261	21	441				ARCo
Mack Oil #1 Misak, SE NE NW sec. 6-T.34S.-R.4W. (SEDGWICK BASIN -- Sumner County, Kansas), 1246' datum																					
6	34S	04W	SE	NE	NW		4719	Dev	CHAT	sh	2.58	0.93	5.38	0.67	208	25	446	0.37	3.52		White
Kansas Geological Survey Vermillion Core, SE NE NW sec. 3-T.4S.-R.12E. (NEMAHA UPLIFT -- Nemaha, County, Kansas), 1210' datum																					
3	04S	12E	SE	NE	NW		1078	OrdM	SMPS	sh	0.36										DGSI
3	04S	12E	SE	NE	NW		1105	OrdM	SMPS	sh	0.44	0.05	0.80	0.40	182	91	428	0.06	0.85		DGSI
Texaco #1 Poersch, SW SW sec. 31-T.5S.-R.5E. (NEMAHA UPLIFT -- Washington County, Kansas), 1411' datum																					
31	05S	05E		SW	SW		2704	OrdM	SMPS	sh	0.37	0.02	0.64	0.22	173	59	429	0.03	0.66	0.45 ?	DGSI
31	05S	05E		SW	SW		2722	OrdM	SMPS	sh	0.33	0.00	0.28	0.11	85	33	423	0.00	0.28		DGSI
31	05S	05E		SW	SW		2744	OrdM	SMPS	sh	0.42	0.02	0.71	0.15	169	36	430	0.03	0.73	0.47 ?	DGSI
31	05S	05E		SW	SW		2782	OrdM	SMPS	sh	0.57	0.01	0.81	0.14	142	25	429	0.01	0.82		DGSI

31	05S	05E		SW	SW			2798	OrdM			SMPS	sh	0.27	0.01	0.05	0.19	19	70	434	0.17	0.06		DGSI
Jennings #2 Hentzelman, E2 SE NE sec. 23-T.8S.-R.21E. (FOREST CITY BASIN -- Leavenworth County, Kansas), 1023' datum																								
23	08S	21E	E2	SE	NE			1364	Penn	DesMoi	Cheroke	CHER	sh	1.16	0.21	0.74	1.52	64	131	431	0.22	0.95	0.50	DGSI
Kansas Geological Survey #1A Edmonds, SE NW SW sec. 35-T.9S.-R.22E. (FOREST CITY BASIN -- Leavenworth County, Kansas), 941' datum																								
35	09S	22E	SE	NW	SW	401.35	403.37	402.36	Penn	Missou	KC	STRK	sh	4.8				400	18	432	0.02	19		USGS
35	09S	22E	SE	NW	SW	401.35	403.37	402.36	Penn	Missou	KC	STRK	sh	29.3				505	26	422	0.02	150		USGS
35	09S	22E	SE	NW	SW	401.35	403.37	402.36	Penn	Missou	KC	STRK	sh	25.9				425	25	422	0.02	110		USGS
35	09S	22E	SE	NW	SW	401.35	403.37	402.36	Penn	Missou	KC	STRK	sh	11.0				320	36	425	0.04	40		USGS
Robison #1 Graham, NW SW SW sec. 9-T.12S.-R.21E. (FOREST CITY BASIN -- Leavenworth County, Kansas), 845' datum																								
9	12S	22E	NW	SW	SW			693	Penn	DesMoi	Cheroke	CHER	sh										0.51	ARCo2
Carter #2-A Davis, SW NE SW sec. 33-T.13S.-R.10E. (FOREST CITY BASIN -- Wabaunsee Co., Kansas), 1428' datum																								
33	13S	10E	SW	NE	SW	1850	1871	1863.6	Penn	Missou	KC	KC	sh										0.40	ARCo2
33	13S	10E	SW	NE	SW	1862.7	1864.4	1863.6	Penn	Missou	KC	STRK	sh	29.5				430	9	423	0.08	140		USGS
33	13S	10E	SW	NE	SW	1862.7	1864.4	1863.6	Penn	Missou	KC	STRK	sh	2.1				340	13	431	0.18	8.8		USGS
33	13S	10E	SW	NE	SW	1862.7	1864.4	1863.6	Penn	Missou	KC	STRK	sh	21.4				435	13	423	0.08	100		USGS
33	13S	10E	SW	NE	SW	1862.7	1864.4	1863.6	Penn	Missou	KC	STRK	sh	14.4				465	16	425	0.07	72		USGS
33	13S	10E	SW	NE	SW	1862.7	1864.4	1863.6	Penn	Missou	KC	STRK	sh	2.2				170	37	429	0.09	4.2		USGS
33	13S	10E	SW	NE	SW	1862.7	1864.4	1863.6	Penn	Missou	KC	STRK	sh	17.9				390	15	425	0.08	76		USGS
33	13S	10E	SW	NE	SW	1862.7	1864.4	1863.6	Penn	Missou	KC	STRK	sh	0.9				86	85	425	0.15	0.8		USGS
33	13S	10E	SW	NE	SW	1862.7	1864.4	1863.6	Penn	Missou	KC	STRK	sh	13.5				360	16	427	0.07	53		USGS
33	13S	10E	SW	NE	SW	1862.7	1864.4	1863.6	Penn	Missou	KC	STRK	sh	23.6				340	22	424	0.10	89		USGS
33	13S	10E	SW	NE	SW	1862.7	1864.4	1863.6	Penn	Missou	KC	STRK	sh	1.6				210	48	430	0.08	3.7		USGS
33	13S	10E	SW	NE	SW			2977	Dev			CHAT	sh	1.9				240	25	434	0.23			USGS
33	13S	10E	SW	NE	SW			2977.5	Dev			CHAT	sh	1.46	1.41	5.76	0.23	395	16	430	0.20	7.17		USGS
33	13S	10E	SW	NE	SW	2977	2980	2978.5	Dev			CHAT	sh										0.35	ARCo2
33	13S	10E	SW	NE	SW			2978.5	Dev			CHAT	sh	2.2				242	25	441		5.6		ARCo1
33	13S	10E	SW	NE	SW			2979	Dev			CHAT	sh	1.85	1.18	3.57	0.70	193	38	436	0.25	4.75		DGSI
33	13S	10E	SW	NE	SW			2979.8	Dev			CHAT	sh	3.13	1.55	17.2	0.21	551	7	430	0.08	18.8		USGS
33	13S	10E	SW	NE	SW			2980	Dev			CHAT	sh	3.4				390	8	438	0.10	15		USGS
33	13S	10E	SW	NE	SW			3200	OrdU			MQKT?	sh	0.25										DGSI
33	13S	10E	SW	NE	SW			3200	OrdU			MQKT?	sh	0.26	0.00	0.23	0.14	88	54	425	0.00	0.23		USGS
33	13S	10E	SW	NE	SW			3298.5	OrdM			SMPS	sh	0.61	0.27	1.35	0.15	221	25	432	0.17	1.62		USGS
33	13S	10E	SW	NE	SW			3313.5	OrdM			SMPS	sh	15.8	2.98	148	0.65	936	4	444	0.02	151		USGS
33	13S	10E	SW	NE	SW			3314.8	OrdM			SMPS	sh	1.02	0.21	3.69	0.27	362	26	443	0.05	3.90		USGS
33	13S	10E	SW	NE	SW			3315.5	OrdM			SMPS	sh	1.43	0.30	3.73	0.33	261	23	440	0.07	4.03		USGS
33	13S	10E	SW	NE	SW			3320.4	OrdM			SMPS	sh	0.77	0.14	1.17	0.15	152	19	438	0.11	1.31		USGS
33	13S	10E	SW	NE	SW			3321	OrdM			SMPS	sh	0.76	0.73	2.12	0.39	279	51	437	0.26	2.85		DGSI
33	13S	10E	SW	NE	SW			3321	OrdM			SMPS	sh	0.95	0.21	3.51	0.27	369	28	437	0.06	3.72		USGS
33	13S	10E	SW	NE	SW			3322.5	OrdM			SMPS	sh	0.69	0.40	1.24	0.22	180	32	433	0.24	1.64		USGS
33	13S	10E	SW	NE	SW			3323.5	OrdM			SMPS	sh	0.53	0.45	1.24	0.37	234	70	452	0.27	1.69		USGS
33	13S	10E	SW	NE	SW			3326.2	OrdM			SMPS	sh	0.76	0.72	2.91	0.29	383	38	436	0.20	3.63		USGS
Brazos #1 Haver Investment Company, NW NE NW sec. 21-T.14S.-R.25E. (FOREST CITY BASIN -- Johnson County, Kansas), 893' datum																								
21	14S	25E	NW	NE	NW			517	Penn	DesMoi	Cheroke	CHER	cl										0.53	Cook
Brazos #8 Gilliland, N2 SE NE sec. 19-T.17S.-R.21E. (FOREST CITY BASIN -- Franklin County, Kansas), 943' datum																								
19	17S	21E	N2	SE	NE			585	Penn	DesMoi	Cheroke	CHER	cl										0.48	Arco2
Shell #1 Farr, NW SE SW sec. 7-T.20S.-R.12E. (FOREST CITY BASIN -- Lyon Co., Kansas), 1135' datum																								
7	20S	12E	NW	SE	SW			2427	Dev			CHAT	sh	4.4				394	13	442		17		ARCo1

Shell #1 Friday, NE SW SW sec. 9-T.20S.-R.12E. (FOREST CITY BASIN -- Lyon Co., Kansas), 1187' datum

9	20S	12E	NE	SW	SW			2566	Dev			CHAT	sh	2.57	0.91	5.39	0.39	210	15	440	0.14	6.30		DGSI

Marathon #50 J.W. Martindell, SW sec. 31-T.23S.-R.10E. (CHEROKEE BASIN -- Greenwood Co., Kansas), 1423' datum

31	23S	10E			SW	2095.1	2096.1	2095.6	Penn	DesMoi	Marmat	EX	sh	21.6				280	6	440	0.06	64		USGS
31	23S	10E			SW	2213.0	2213.1	2213.1	Penn	DesMoi	Cheroke	CABN	cl	47.0				230	5	445	0.05	120		USGS
31	23S	10E			SW	2225.0	2226.4	2225.7	Penn	DesMoi	Cheroke	CABN	sh	14.9				260	11	449	0.05	41		USGS
31	23S	10E			SW	2252.8	2253.9	2253.4	Penn	DesMoi	Cheroke	CABN	sh	8.1				170	14	446	0.09	15		USGS
31	23S	10E			SW	2288.7	2289.3	2289.0	Penn	DesMoi	Cheroke	CABN	sh	9.0				170	21	447	0.09	18		USGS

ERDA #1 Bock, SW NE NE sec. 15-T.23S.-R.12E. (CHEROKEE BASIN -- Greenwood Co., Kansas), 1065' datum

15	23S	12E	SW	NE	NE			2164	Dev			CHAT	sh	2.9				390	29	445	0.10	13		USGS
15	23S	12E	SW	NE	NE			2165.2	Dev			CHAT	sh	1.98	1.22	9.87	0.86	498	43	443	0.11	11		Core2
15	23S	12E	SW	NE	NE			2166	Dev			CHAT	sh	3.7				390	28	444	0.10	16		USGS
15	23S	12E	SW	NE	NE			2168	Dev			CHAT	sh	4.0				350	26	444	0.10	16		USGS
15	23S	12E	SW	NE	NE			2170	Dev			CHAT	sh	3.2				350	30	443	0.11	12		USGS
15	23S	12E	SW	NE	NE			2170	Dev			CHAT	sh	4.3				373	17	441				ARCo1
15	23S	12E	SW	NE	NE			2172	Dev			CHAT	sh	4.2				320	46	444	0.09	15		USGS
15	23S	12E	SW	NE	NE			2174	Dev			CHAT	sh	3.6				290	53	445	0.10	12		USGS
15	23S	12E	SW	NE	NE			2174.8	Dev			CHAT	sh	3.75	2.27	19.1	0.96	516	26	439	0.11	21.4		Core2
15	23S	12E	SW	NE	NE			2175.5	Dev			CHAT	sh	0.30										Core2

ERDA #1 Stauffer, NE sec. 20-T.23S.-R.12E. (CHEROKEE BASIN -- Greenwood Co., Kansas), 1136' datum

20	23S	12E			NE			2313	Dev			CHAT	sh	4.1				320	29	443	0.11	15		USGS
20	23S	12E			NE			2315	Dev			CHAT	sh	4.1				370	18	445	0.11	17		USGS
20	23S	12E			NE			2316	Dev			CHAT	sh	3.1				290	57	442	0.12	10		USGS
20	23S	12E			NE			2318	Dev			CHAT	sh	5.0				390	14	444	0.09	22		USGS
20	23S	12E			NE			2319	Dev			CHAT	sh	4.2				350	23	442	0.09	16		USGS

Lincoln 77 #1 Webb, SE SE NE sec. 11-T.23S.-R.16E. (FOREST CITY BASIN -- Coffey County, Kansas), 990' datum (estimated)

11	23S	16E	SE	SE	NE			970	Penn	DesMoi	Cheroke	CHER	slst										0.38	ARCo2

Kansas Geological Survey #5A Woodward, NE SE SW SE sec. 12-T.25S.-R.21E. (BOURBON ARCH -- Bourbon Co., Kansas), 1045' datum (estimated)

12	25S	21E	SE	SW	SE	49.64	54.03	51.84	Penn	Missou	KC	STRK	sh	1.1				140	98	438	0.03	1.6		USGS
12	25S	21E	SE	SW	SE	49.64	54.03	51.84	Penn	Missou	KC	STRK	sh	4.9				210	65	439	0.05	10		USGS
12	25S	21E	SE	SW	SE	49.64	54.03	51.84	Penn	Missou	KC	STRK	sh	16.9				360	36	436	0.05	63		USGS
12	25S	21E	SE	SW	SE	49.64	54.03	51.84	Penn	Missou	KC	STRK	sh	23.2				370	39	431	0.03	89		USGS
12	25S	21E	SE	SW	SE	49.64	54.03	51.84	Penn	Missou	KC	STRK	sh	13.5				230	55	429	0.05	33		USGS
12	25S	21E	SE	SW	SE	49.64	54.03	51.84	Penn	Missou	KC	STRK	sh	7.6				200	52	438	0.05	16		USGS

APC-DEI #1 Goyer, SE NW sec. 25-T.30S.-R.1E. (SEDGWICK BASIN -- Sumner County, Kansas), 1214' datum

25	30S	01E		SE	NW			3612.2	Dev			CHAT	sh	2.2				384	7	440				ARCo1

Big J Production #1 Harper-Sibberson, SE NE NW sec. 20-T.1N.-R.16E. (FOREST CITY BASIN -- Richardson Co., Nebraska), 895' datum

20	01N	16E	SE	NE	NW			2196	Dev			CHAT	sh	2.8				490	22	438		3.8		ARCo1

Missouri Geological Survey core USAF MC 121, SW sec. 1-T.40N.-R.32W. (FOREST CITY BASIN -- Bates County, Missouri), 851' datum

1	40N	32W			SW			62.3	Penn	DesMoi	Marmat	ANNA	sh	19.7				400	7	439	0.05	83		USGS
1	40N	32W			SW			62.5	Penn	DesMoi	Marmat	ANNA	sh	9.9				220	7	441	0.07	23		USGS
1	40N	32W			SW	73.3	73.5	73.6	Penn	DesMoi	Marmat	LEX	cl	61.0				230	5	436	0.04	150		USGS

R.M. Coveney 12, NE sec. 5-T.49N.-R.33W. (FOREST CITY BASIN -- Jackson County, Missouri), datum unknown

5	49N	33W			NE			30	Penn	Missou	KC	MUNS	sh	13.2				360	26	417	0.02	48		USGS

R.M. Coveney 15, NE sec. 5-T.49N.-R.33W. (FOREST CITY BASIN -- Jackson County, Missouri), datum unknown

5	49N	33W		NE				12	Penn	Missou	KC	STRK	sh	24.4			295	22	420	0.03	75		USGS

R.M. Coveney 5, sec. 18-T.49N.-R.33W. (FOREST CITY BASIN -- Jackson County, Missouri), datum unknown

18	49N	33W						100	Penn	Missou	KC	HUSH	sh	15.4			440	24	424	0.05	71		USGS

Core WM-9, NE SE sec. 9-T.53N.-R.36W. (FOREST CITY BASIN -- Platte County, Missouri), 770' datum (estimated)

9	53N	36W		NE	SE	302.5	304.3	303.4	Penn	Missou	KC	HUSH	sh	13.3			230	50	429	0.03	32		USGS

Core WM-10, SE SE sec. 4-T.59N.-R.34W. (FOREST CITY BASIN -- Andrew County, Missouri), 1000' datum (estimated)

4	59N	34W		SE	SE			415.5	Penn	Missou	KC	WEA	sh	1.8			22	21	424	0.10	0.5		USGS
4	59N	34W		SE	SE			421	Penn	Missou	KC	WEA	sh	1.5			13	20	420	0.10	0.3		USGS

CUTTINGS SAMPLES

OPERATOR AND WELL NAME						*SAMPLE INTERVAL*		*SUBSURF.*	*AGE*			*FORM*	*LITH*	*TOC*	*S1*	*S2*	*S3*	*HI*	*OI*	*TMAX*	*PI*	*S1+S2*	*Pb*	*DATA*
SEC	*T*	*R*	*SPOT*			*top*	*base*	*DEPTH*						*WT. %*	*KG/TN*	*KG/TN*	*KG/TN*			*C*		*KG/TN*	*%*	*SOURCE*
Mallard Drlg. #1 Broeckelman, N2 NE NE sec. 15-T.1S.-R.10W. (SALINA BASIN -- Jewell County, Kansas), 1922' datum																								
15	01S	10W	N2	NE	NE	2700	2710	2705	Penn	Virgil	Shawnee	DRCK	csh	15.0	2.61	64.2		428		421	0.04	66.8	0.47	Sohio
15	01S	10W	N2	NE	NE	2840	2850	2845	Penn	Virgil	Shawnee	HEEB	sh	6.14	0.78	20.2		329		422	0.04	21.0	0.52	Sohio
15	01S	10W	N2	NE	NE	3090	3100	3095	Penn	Missou	Lans	LANS	sh	4.10	0.27	10.9		266		426	0.02	11.2		Sohio
15	01S	10W	N2	NE	NE	3100	3110	3105	Penn	Missou	Lans	LANS	csh	5.08	1.00	16.3		321		427	0.06	17.3		Sohio
15	01S	10W	N2	NE	NE	3110	3120	3115	Penn	Missou	Lans	LANS	csh	9.63	1.51	50.1		520		424	0.03	51.6	0.47	Sohio
15	01S	10W	N2	NE	NE	3330	3340	3335	Penn	DesMoi	Marmat	MARM	csh	18.5	2.55	92.3		498		423	0.03	94.8	0.46	Sohio
15	01S	10W	N2	NE	NE	3440	3450	3445	Penn	DesMoi	Cheroke	CHER	sh	4.30	0.30	9.45		220		428	0.03	9.75		Sohio
15	01S	10W	N2	NE	NE	3520	3550	3535	Penn	DesMoi	Cheroke	CHER	sh	20.9	0.49	36.6		175		430	0.01	37.0	0.53	Sohio
15	01S	10W	N2	NE	NE	3721	3721	3721	S/D			HNTN	dol	0.17	0.00	0.01		6		435	0.00	0.01		Sohio
15	01S	10W	N2	NE	NE	4130	4160	4145	OrdM			SMPS	sh	0.18	0.09	0.31		172		361	0.23	0.40	0.55	Sohio
15	01S	10W	N2	NE	NE	4130	4160	4145	OrdM			SMPS	sh	7.1	0.23	10.9		153		439	0.02	11.2		Sohio
Pemsco #1 Schou, NE SE NE sec. 23-T.4S.-R.2W. (SALINA BASIN -- Republic County, Kansas), 1488' datum																								
23	04S	02W	NE	SE	NE	2710	2720	2715	Dev			CHAT	sh	0.17									0.5	DGSI
23	04S	02W	NE	SE	NE	2710	2720	2715	Dev			CHAT	sh	0.37	0.08	0.09	0.45	24	122	425	0.47	0.17		DGSI
23	04S	02W	NE	SE	NE	3100	3110	3105	OrdU			MQKT	sh	0.27									CAVINGS	DGSI
23	04S	02W	NE	SE	NE	3420	3430	3425	OrdM			SMPS	sh	0.20									CAVINGS	DGSI
23	04S	02W	NE	SE	NE	3430	3440	3435	OrdM			SMPS	sh	0.36	0.36	0.75	0.74	208	206	428	0.32	1.11		DGSI
Wakefield #1 Nelson, SE SW SW sec. 6-T.9S.-R.3W. (SALINA BASIN -- Ottawa County, Kansas), 1397' datum																								
6	09S	03W	SE	SW	SW	2046	2053	2049.5	Penn	Virgil	Shawnee	HEEB	sh	4.67	0.18	6.32	1.68	135	36	421	0.03	6.50	0.42	DGSI
6	09S	03W	SE	SW	SW	2400	2440	2420	Penn	Missou	Lans	LANS	sh	0.74	0.04	0.34	0.40	46	54	424	0.11	0.38		DGSI
6	09S	03W	SE	SW	SW	2620	2640	2630	Penn	DesMoi	Cheroke	CHER	sh	0.84	0.02	0.08	0.40	10	48	419	0.20	0.10		DGSI
6	09S	03W	SE	SW	SW	2840	2850	2845	Penn	DesMoi	Cheroke	CHER	sh	1.21	0.05	0.24	0.48	20	40	424	0.17	0.29	0.53	DGSI
6	09S	03W	SE	SW	SW	3270	3290	3280	Dev			CHAT	sh	0.37	0.01	0.04	0.29	11	78	412	0.20	0.05	0.63	DGSI
6	09S	03W	SE	SW	SW	3510	3520	3515	OrdU			MQKT	sh	0.23	0.03	0.06	0.23	26	100	317	0.33	0.09		DGSI
6	09S	03W	SE	SW	SW	3713	3727	3720	OrdM			SMPS	sh	0.19	0.01	0.02	0.07	11	37	305	0.33	0.03		DGSI
Kosarek #1 Lessor, SW SE SE sec. 11-T.11S.-R.9W. (SALINA BASIN -- Lincoln County, Kansas), 1491' datum																								
11	11S	09W	SW	SE	SE	2550	2560	2555	Penn	Virgil	Shawnee	HEEB	sh	1.97	0.29	4.39	0.27	223	14	426	0.06	4.68	0.45 ?	DGSI
11	11S	09W	SW	SE	SE	3120	3130	3125	Penn	Missou	KC	HUSH	sh	2.45	0.27	4.89	0.28	200	11	427	0.05	5.16	0.59	DGSI
11	11S	09W	SW	SE	SE	3510	3520	3515	Dev			CHAT	sh	0.29									0.73	DGSI

11	11S	09W	SW	SE	SE	3595	3600	3597.5	OrdU			MQKT	sh	0.74	0.08	0.32	0.23	43	31	432	0.20	0.40	CAVINGS		DGSI
11	11S	09W	SW	SE	SE	3860	3865	3862.5	OrdM			SMPS	sh	0.37	0.08	0.28	0.2	76	54	430	0.22	0.36			DGSI
Kosarek #1 Nielson, NE NE sec. 16-T.11S.-R.9W. (SALINA BASIN -- Lincoln County, Kansas), 1491' datum																											
16	11S	09W		NE	NE	2920	2930	2925	Penn	Missou	KC	HUSH	sh	0.57	0.20	0.37	0.50	65	88	426	0.35	0.57			DGSI
16	11S	09W		NE	NE	3210	3230	3220	Dev			CHAT	sh	0.77	0.15	0.79	0.44	103	57	431	0.16	0.94			DGSI
16	11S	09W		NE	NE	3300	3310	3305	OrdU			MQKT	sh	0.34	0.10	0.22	0.41	65	121	416	0.31	0.32			DGSI
16	11S	09W		NE	NE	3600	3620	3610	OrdM			SMPS	sh	0.16											DGSI
Sunflower #1 Wohler, NW NE NE sec. 2-T.11S.-R.10W. (SALINA BASIN -- Lincoln County, Kansas), 1507' datum																											
2	11S	10W	NW	NE	NE	2500	2510	2505	Penn	Virgil	Shawnee	DRCK	sh	2.50	0.06	2.26	0.94	90	38	429	0.03	2.32			DGSI
2	11S	10W	NW	NE	NE	2590	2600	2595	Penn	Virgil	Shawnee	LCMP	sh	1.81	0.08	2.38	0.4	131	22	428	0.03	2.46			DGSI
2	11S	10W	NW	NE	NE	2650	2660	2655	Penn	Virgil	Shawnee	HEEB	sh	10.2	0.83	29.9	4.48	294	44	417	0.03	30.7		0.5	DGSI
2	11S	10W	NW	NE	NE	3170	3180	3175	Penn	Missou	KC	KC	sh	10.7	2.55	48.2	1.38	448	13	424	0.05	50.7			DGSI
2	11S	10W	NW	NE	NE	3180	3190	3185	Penn	Missou	KC	KC	sh	11.2	1.57	41.8	2.53	374	23	423	0.04	43.4			DGSI
2	11S	10W	NW	NE	NE	3190	3200	3195	Penn	Missou	KC	KC	sh	12.3	2.45	49.0	2.03	399	17	423	0.05	51.5			DGSI
2	11S	10W	NW	NE	NE	3718	3730	3724	OrdU			MQKT	sh	0.27											DGSI
2	11S	10W	NW	NE	NE	3940	3960	3950	OrdM			SMPS	sh	0.20											DGSI
2	11S	10W	NW	NE	NE	3985	3990	3987.5	OrdM			SMPS	sh	0.50	0.02	0.76	0.21	152	42	432	0.03	0.78			DGSI
Shields #2 Strecker, W2 SE NE sec. 31-T.11S.-R.12W. (CENTRAL KANSAS UPLIFT -- Russell County, Kansas), 1739' datum																											
31	11S	12W	W2	SE	NE	2880	2884	2882	Penn	Virgil	Shawnee	HEEB	sh	3.85	0.68	12.1	0.87	314	23	424	0.05	12.8		0.47	DGSI
31	11S	12W	W2	SE	NE	3006	3008	3007	Penn	Missou	KC	STRK	sh	1.25	0.19	0.89	0.44	71	35	430	0.18	1.08			DGSI
Ogle #1 Stanley, SE SW sec. 15-T.12S.-R.3W. (SALINA BASIN -- Ottawa County, Kansas), 1287' datum																											
15	12S	03W		SE	SW	2360	2370	2365	Penn	Missou	LKC	LKC	sh	15.4	3.50	69.2	1.92	449	12	416	0.05	72.7			DGSI
15	12S	03W		SE	SW	2520	2530	2525	Penn	Missou	LKC	LKC	sh	5.99	0.59	15.9	0.88	265	15	420	0.04	16.5			DGSI
15	12S	03W		SE	SW	2620	2650	2635	Penn	DesMoi	Marmat	MARM	sh	6.34	0.56	20.9	0.69	329	11	419	0.03	21.4			DGSI
15	12S	03W		SE	SW	2730	2750	2740	Penn	DesMoi	Cheroke	CHER	sh	0.89	0.10	0.18	0.18	20	20	431	0.36	0.28			DGSI
15	12S	03W		SE	SW	3190	3200	3195	Dev			CHAT	sh	0.15											DGSI
15	12S	03W		SE	SW	3260	3270	3265	Dev			CHAT	sh	0.87	0.07	0.23	0.21	26	24	430	0.23	0.30			DGSI
15	12S	03W		SE	SW	3530	3535	3532.5	OrdU			MQKT	sh	0.42	0.09	0.14	0.07	33	17	427	0.39	0.23			DGSI
15	12S	03W		SE	SW	3675	3680	3677.5	OrdM			SMPS	sh	0.29	0.11	0.31	0.12	107	41	425	0.26	0.42			DGSI
Thunderbird #1 Holland, NE NW NE sec. 15-T.13S.-R.13W. (CENTRAL KANSAS UPLIFT -- Russell County, Kansas), 1799' datum																											
15	13S	13W	NE	NW	NE	2920	2950	2935	Penn	Virgil	Douglas	DGLS	sh	2.29	0.19	4.5	0.53	197	23	422	0.04	4.69			B&R
15	13S	13W	NE	NW	NE	2980	3000	2990	Penn	Missou	LKC	LKC	sh	1.17	0.11	1.23	0.34	105	29	428	0.08	1.34			B&R
15	13S	13W	NE	NW	NE	3060	3080	3070	Penn	Missou	LKC	LKC	sh	1.03	<0.10	0.54	0.45	52	44	425					B&R
15	13S	13W	NE	NW	NE	3130	3140	3135	Penn	Missou	LKC	LKC	sh	0.86	<0.10	0.28	0.48	33	56	428					B&R
15	13S	13W	NE	NW	NE	3170	3180	3175	Penn	Missou	LKC	LKC	sh	0.14											B&R
15	13S	13W	NE	NW	NE	3210	3225	3217.5	Penn	Missou	LKC	LKC	sh	9.09	0.84	34.5	2.59	380	28	420	0.02	35.4			B&R
15	13S	13W	NE	NW	NE	3210	3225	3217.5	Penn	Missou	LKC	LKC	sh	9.94	0.99	39.6	3.34	398	34	421	0.02	40.6			B&R
15	13S	13W	NE	NW	NE	3240	3260	3250	Penn	Missou	LKC	LKC	sh	1.48	0.12	1.67	0.72	113	49	428	0.07	1.79			B&R
15	13S	13W	NE	NW	NE	3240	3260	3250	Penn	Missou	LKC	LKC	sh	0.76	<0.10	0.34	0.38	45	50	427					B&R
Range #1 Winslow, N2 S2 sec. 5-T.14S.-R.2W. (SALINA BASIN -- Saline County, Kansas), 1213' datum																											
5	14S	02W		N2	S2	1950	1960	1955	Penn	Missou	LKC	LKC	sh	0.62	<0.10	0.16	0.26	26	42	479					B&R
5	14S	02W		N2	S2	1950	1960	1955	Penn	Missou	LKC	LKC	sh	0.72	<0.10	<0.10	0.24		33						B&R
5	14S	02W		N2	S2	1980	2000	1990	Penn	Missou	LKC	LKC	sh	0.64	<0.10	<0.10	0.24		38						B&R
5	14S	02W		N2	S2	1980	2000	1990	Penn	Missou	LKC	LKC	sh	0.67	<0.10	<0.10	0.26		39						B&R
5	14S	02W		N2	S2	2100	2110	2105	Penn	Missou	LKC	LKC	sh	0.73	<0.10	0.18	0.24	25	33	428					B&R
5	14S	02W		N2	S2	2100	2110	2105	Penn	Missou	LKC	LKC	sh	0.74	<0.10	0.24	0.21	32	28	427					B&R
5	14S	02W		N2	S2	2120	2130	2125	Penn	Missou	LKC	LKC	sh	15.1	1.19	42.7	7.37	283	49	422	0.03	43.9			B&R
5	14S	02W		N2	S2	2120	2130	2125	Penn	Missou	LKC	LKC	sh	15.3	1.36	46.9	7.86	306	51	424	0.03	48.2			B&R

5	14S	02W	N2	S2	2210	2220	2215	Penn	Missou	LKC	LKC	sh	14.3	2.40	60.3	1.91	423	13	424	0.04	62.7		B&R
5	14S	02W	N2	S2	2210	2220	2215	Penn	Missou	LKC	LKC	sh	13.8	2.44	59.2	1.83	430	13	423	0.04	61.7		B&R
5	14S	02W	N2	S2	2260	2280	2270	Penn	Missou	LKC	LKC	sh	2.81	<0.10	3.09	0.93	110	33	429				B&R
5	14S	02W	N2	S2	2260	2280	2270	Penn	Missou	LKC	LKC	sh	2.23	<0.10	2.25	0.91	101	41	430				B&R
5	14S	02W	N2	S2	2300	2310	2305	Penn	Missou	LKC	LKC	sh	1.33	<0.10	0.95	0.38	71	29	428				B&R
5	14S	02W	N2	S2	2300	2310	2305	Penn	Missou	LKC	LKC	sh	1.75	0.11	1.72	0.40	98	23	428	0.06	1.83		B&R
5	14S	02W	N2	S2	2320	2330	2325	Penn	Missou	LKC	LKC	sh	0.92	<0.10	0.34	0.39	37	42	426				B&R
5	14S	02W	N2	S2	2320	2330	2325	Penn	Missou	LKC	LKC	sh	1.11	<0.10	0.57	0.46	51	41	427				B&R
5	14S	02W	N2	S2	2410	2420	2415	Penn	DesMoi	Cheroke	CHER	sh	0.97	<0.10	0.44	0.35	45	36	428				B&R
5	14S	02W	N2	S2	2410	2420	2415	Penn	DesMoi	Cheroke	CHER	sh	1.09	<0.10	0.55	0.36	50	33	426				B&R
5	14S	02W	N2	S2	2480	2500	2490	Penn	DesMoi	Cheroke	CHER	sh	0.72	<0.10	0.18	0.31	25	43	431				B&R
5	14S	02W	N2	S2	2480	2500	2490	Penn	DesMoi	Cheroke	CHER	sh	0.73	<0.10	0.18	0.40	25	55	427				B&R
5	14S	02W	N2	S2	2540	2550	2545	Penn	DesMoi	Cheroke	CHER	sh	3.30	0.11	3.29	1.62	100	49	429	0.03	3.40		B&R
5	14S	02W	N2	S2	2540	2550	2545	Penn	DesMoi	Cheroke	CHER	sh	0.71	<0.10	0.27	0.26	38	37	382				B&R
5	14S	02W	N2	S2	2560	2580	2570	Penn	DesMoi	Cheroke	CHER	sh	1.23	<0.10	0.3	0.29	24	24	430				B&R
5	14S	02W	N2	S2	2560	2580	2570	Penn	DesMoi	Cheroke	CHER	sh	1.38	<0.10	0.42	0.29	30	21	429				B&R
5	14S	02W	N2	S2	2620	2630	2625	Mssp			MSSP	csh	0.86	<0.10	0.28	0.19	33	22	429				B&R
5	14S	02W	N2	S2	2620	2630	2625	Mssp			MSSP	csh	0.97	<0.10	0.12	0.26	12	27	429				B&R
5	14S	02W	N2	S2	2720	2750	2735	Dev			CHAT	sh	1.87	<0.10	0.4	0.59	21	32	432				B&R
5	14S	02W	N2	S2	2720	2750	2735	Dev			CHAT	sh	1.74	<0.10	0.31	0.64	18	37	431				B&R
5	14S	02W	N2	S2	2830	2850	2840	Dev			CHAT	sh	1.24	<0.10	0.28	0.29	23	23	430				B&R
5	14S	02W	N2	S2	2830	2850	2840	Dev			CHAT	sh	1.04	<0.10	0.18	0.31	17	30	429				B&R
5	14S	02W	N2	S2	2880	2890	2885	Dev			CHAT	sh	0.71	<0.10	<0.10	0.31		44	428				B&R
5	14S	02W	N2	S2	2880	2890	2885	Dev			CHAT	sh	0.80	<0.10	<0.10	0.26		33	424				B&R
5	14S	02W	N2	S2	2900	2910	2905	Dev			CHAT	sh	0.78	<0.10	<0.10	0.26		33	429				B&R
5	14S	02W	N2	S2	2900	2910	2905	Dev			CHAT	sh	1.17	<0.10	0.35	0.26	30	22	433				B&R
5	14S	02W	N2	S2	2920	2930	2925	Dev			CHAT	sh	0.70	<0.10	<0.10	0.25		36					B&R
5	14S	02W	N2	S2	2920	2930	2925	Dev			CHAT	sh	0.75	<0.10	<0.10	0.28		37	429				B&R
5	14S	02W	N2	S2	2970	2980	2975	Dev			CHAT	sh	1.05	<0.10	0.17	0.29	16	28	430				B&R
5	14S	02W	N2	S2	2970	2980	2975	Dev			CHAT	sh	1.02	<0.10	0.14	0.25	14	25	427				B&R
5	14S	02W	N2	S2	3100	3100	3100	OrdU			MQKT	sh	1.63	<0.10	0.36	0.27	22	17	431				B&R
5	14S	02W	N2	S2	3100	3110	3105	OrdU			MQKT	sh	0.93	<0.10	0.13	0.23	14	25	430				B&R
5	14S	02W	N2	S2	3140	3150	3145	OrdU			MQKT	sh	0.78	<0.10	0.13	0.26	17	33	436				B&R
5	14S	02W	N2	S2	3140	3150	3145	OrdU			MQKT	sh	0.66	<0.10	0.2	0.28	30	42	428				B&R
Brandt #10 Dunsford, SW sec. 23-T.19S.-R.2W. (SALINA BASIN -- McPherson County, Kansas), 1550' datum																							
23	19S	02W		SW	2895	2900	2897.5	Penn	DesMoi	Cheroke	CHER	sh	0.78	<0.10	0.27	0.15	35	19	428				B&R
23	19S	02W		SW	2910	2920	2915	Penn	DesMoi	Cheroke	CHER	sh	1.05	<0.10	0.2	0.12	19	11	429				B&R
23	19S	02W		SW	3370	3380	3375	OrdM			SMPS	sh	0.72	<0.10	0.22	0.16	31	22	434				B&R
23	19S	02W		SW	3410	3425	3417.5	OrdM			SMPS	sh	0.73	0.19	1.15	0.23	158	32	440	0.14	1.34		B&R
23	19S	02W		SW	3440	3460	3450	OrdM			SMPS	sh	0.75	0.17	1.14	0.12	152	16	441	0.13	1.31		B&R
23	19S	02W		SW	3460	3480	3470	OrdM			SMPS	sh	0.63	0.13	0.88	0.07	140	11	438	0.13	1.01		B&R
Holl #1-23 IHDE, NE NE SE sec. 23-T.19S.-R.6W. (SALINA BASIN -- Rice County, Kansas), 1582' datum																							
23	19S	06W	NE	NE	SE	2540	2550	2545	Penn	Virgil	Shawnee	HEEB	sh	0.65	0.1	0.42	0.78	65	120	435	0.19	0.52		DGSI
23	19S	06W	NE	NE	SE	3080	3090	3085	Penn	Missou	KC	HUSH	sh	0.80	0.11	0.42	0.85	53	106	427	0.21	0.53		DGSI
Walker #1 Baerg, SE NW sec. 25-T.20S.-R.4W. (SALINA BASIN -- McPherson County, Kansas), 1472' datum																							
25	20S	04W	SE	NW	2330	2340	2335	Penn	Virgil	Shawnee	HEEB	sh	12.0	1.96	56.9		474		429	0.03	58.9	0.60	Sohio
25	20S	04W	SE	NW	2380	2390	2385	Penn	Virgil	Douglas	DGLS	sh	0.72	0.02	0.19		26		435	0.10	0.21		Sohio
25	20S	04W	SE	NW	2430	2440	2435	Penn	Virgil	Douglas	DGLS	sh	0.84	0.03	0.36		43		436	0.08	0.39		Sohio
25	20S	04W	SE	NW	2540	2550	2545	Penn	Virgil	Douglas	DGLS	sh	0.67	0.00	0.07		10		320	0.00	0.07		Sohio
25	20S	04W	SE	NW	2880	2890	2885	Penn	Missou	KC	STRK	sh	0.65	0.08	0.25		38		314	0.24	0.33	0.69	Sohio
25	20S	04W	SE	NW	2910	2930	2920	Penn	Missou	Lans	LANS	sh	0.81	0.00	0.09		11		291	0.00	0.09		Sohio

25	20S	04W		SE	NW	3040	3050	3045	Penn	DesMoi	Marmat	MARM	sh	2.34	0.18	3.30		141		438	0.05	3.48	0.65	Sohio
25	20S	04W		SE	NW	3070	3080	3075	Penn	DesMoi	Marmat	MARM	sh	0.53	0.07	0.22		42		441	0.24	0.29		Sohio
25	20S	04W		SE	NW	3090	3110	3100	Penn	DesMoi	Marmat	MARM	sh	0.97	0.01	0.05		5		403	0.17	0.06		Sohio
25	20S	04W		SE	NW	3140	3150	3145	Penn	DesMoi	Cheroke	CHER	sh	1.04	0.00	0.05		5		352	0.00	0.05		Sohio
25	20S	04W		SE	NW	3560	3570	3565	Dev			CHAT	sh	0.33	0.02	0.02		6		439	0.50	0.04		Sohio
25	20S	04W		SE	NW	3590	3600	3595	Dev			CHAT	sh	0.65	0.01	0.18		28		374	0.05	0.19		Sohio
25	20S	04W		SE	NW	3720	3730	3725	Dev			CHAT	sh	0.49	0.00	0.06		12		312	0.00	0.06		Sohio
25	20S	04W		SE	NW	3770	3770	3770	OrdU			MQKT	sh	0.66	0.00	0.15	1.07	23	162	438	0.00	0.15		Sohio
25	20S	04W		SE	NW	3800	3810	3805	OrdM			SMPS	sh	0.67	0.00	0.14	1.20	21	179	356	0.00	0.14		Sohio
25	20S	04W		SE	NW	3830	3840	3835	OrdM			SMPS	sh	0.13	0.00	0.00	1.21	0	931	235		0		Sohio
25	20S	04W		SE	NW	3830	3840	3835	OrdM			SMPS	sh	0.81	0.01	0.17	2.84	21	351	357	0.06	0.18	0.82	Sohio
25	20S	04W		SE	NW	3850	3860	3855	OrdM			SMPS	sh	0.65	0.00	0.16	2.19	25	337	401	0.00	0.16		Sohio
Walker #1-08 Goertzen, SE NW SW sec. 8-T.22S.-R.4W. (SEDGWICK BASIN -- Reno County, Kansas), 1535' datum																							
8	22S	04W	SE	NW	SW	3330	3350	3340	Penn	Missou	LKC	LKC	sh	0.90	<0.10	0.46	0.35	51	39	432				B&R
8	22S	04W	SE	NW	SW	3380	3400	3390	Penn	Missou	LKC	LKC	sh	0.55	<0.10	0.22	0.23	40	42	431				B&R
8	22S	04W	SE	NW	SW	3670	3690	3680	Dev			CHAT	sh	0.92	0.10	0.53	0.41	58	45	430	0.16	0.63		B&R
8	22S	04W	SE	NW	SW	3720	3740	3730	Dev			CHAT	sh	0.77	<0.10	0.43	0.25	56	32	430				B&R
8	22S	04W	SE	NW	SW	3760	3780	3770	Dev			CHAT	sh	0.84	<0.10	0.47	0.39	56	46	431				B&R
8	22S	04W	SE	NW	SW	3860	3870	3865	Dev			CHAT	sh	0.85	0.10	1.20	0.28	141	33	434	0.08	1.30		B&R
8	22S	04W	SE	NW	SW	3970	3990	3980	OrdM			SMPS	sh	0.53	<0.10	0.34	0.3	64	57	435				B&R
Quinoco #1 Zenith Unit, W2 SW sec. 12-T.24S.-R.11W. (SEDGWICK BASIN -- Stafford County, Kansas), 1818' datum																							
12	24S	11W		W2	SW	3170	3320	3245	Penn	Virgil	Shawnee	HEEB	sh	1.11	0.11	0.57	0.13	51	12	428	0.16	0.68	0.55	DGSI
12	24S	11W		W2	SW	3380	3410	3395	Penn	Missou	Lansing	EUD(?)	sh	0.50	0.07	0.11	0.2	22	40	430	0.39	0.18		DGSI
12	24S	11W		W2	SW	3650	3690	3670	Penn	Missou	KC	STRK	sh	0.55	0.05	0.16	0.29	29	53	430	0.24	0.21		DGSI
12	24S	11W		W2	SW	3694	3746	3720	Dev			CHAT	sh	0.67	0.08	0.23	0.15	34	22	433	0.26	0.31		DGSI
12	24S	11W		W2	SW	3900	3910	3905	OrdM			SMPS	sh	0.36	0.08	0.14	0.2	39	56	429	0.36	0.22		DGSI
12	24S	11W		W2	SW	3940	3950	3945	OrdM			SMPS	sh	0.63	0.04	0.19	0.18	30	29	428	0.17	0.23		DGSI
Moore #1 Secrest, S2 SE NW sec. 21-T.25S.-R.11W. (SEDGWICK BASIN -- Stafford County, Kansas), 1815' datum																							
21	25S	11W	S2	SE	NW	3740	3750	3745	Penn	Missou	KC	HUSH	sh	0.72	0.22	0.54	0.56	75	78	429	0.29	0.76		DGSI
21	25S	11W	S2	SE	NW	3915	3920	3918	Dev			CHAT	sh	0.59	0.22	0.34	0.50	58	85	430	0.39	0.56		DGSI
21	25S	11W	S2	SE	NW	4080	4090	4085	OrdM			SMPS	sh	0.44	0.06	0.02	0.56	5	127	322	0.75	0.08		DGSI
Dallas Group #1-83 Rift, NE SE NW sec. 8-T.1S.-R.1E. (SALINA BASIN -- Washington County, Kansas), 1604' datum																							
8	01S	01E	NE	SE	NW	860	880	870	Perm			CHSE	sh	0.37	0.07	0.13	0.25	35	68	390	0.35	0.20		DGSI
8	01S	01E	NE	SE	NW	1380	1400	1390	Penn	Virgil	Wabaun	WAB	sh	0.42	0.02	0.04	0.20	10	48	325	0.33	0.06		DGSI
8	01S	01E	NE	SE	NW	1838	1842	1840	Penn	Virgil	Shawnee	HEEB	sh	5.81	0.89	18.7	1.79	322	31	419	0.05	19.6	0.42	DGSI
8	01S	01E	NE	SE	NW	2080	2140	2110	Penn	Missou	KC	KC	sh	1.24	0.13	0.54	0.55	44	44	419	0.19	0.67		DGSI
8	01S	01E	NE	SE	NW	2380	2420	2400	Penn	DesMoi	Cheroke	CHER	sh	0.76	0.07	0.12	0.62	16	82	413	0.37	0.19		DGSI
8	01S	01E	NE	SE	NW	3160	3170	3165	OrdM			SMPS	sh	0.29	0.18	0.22	0.61	76	210	409	0.45	0.40		DGSI
8	01S	01E	NE	SE	NW	3260	3270	3265	C/O			ABCK	dol	0.07	0.03	0.00	0.47	0	671	277	1.00	0.03		DGSI
Roxy Resources #1-14 Schneider, NW SE SW sec. 14-T.1S.-R.14E. (FOREST CITY BASIN -- Nemaha County, Kansas), 1204' datum																							
14	01S	14E	NW	SE	SW	370	460	415	Perm			AD-CG	sh	7.94	0.68	7.17	1.61	90	20	429	0.09	7.85		DGSI
14	01S	14E	NW	SE	SW	760	850	805	Penn	Virgil		SH-WA	sh	5.43	0.59	14.1	0.89	260	16	428	0.04	14.7		DGSI
14	01S	14E	NW	SE	SW	970	1000	985	Penn	Virgil		SH-WA	sh	7.19	1.05	26.3	1.60	366	22	416	0.04	27.4	0.39 ?	DGSI
14	01S	14E	NW	SE	SW	1330	1360	1345	Penn	Missou	Lans	LANS	sh	10.0	1.91	41.6	2.01	415	20	417	0.04	43.5	0.40 ?	DGSI
14	01S	14E	NW	SE	SW	1440	1470	1455	Penn	Missou	LKC	LKC	sh	9.69	1.98	42.5	1.79	438	18	419	0.04	44.5		DGSI
14	01S	14E	NW	SE	SW	1540	1570	1555	Penn	DesMoi	Marmat	MARM	sh	2.64	0.25	1.01	0.47	38	18	429	0.20	1.26		DGSI
14	01S	14E	NW	SE	SW	1690	1730	1710	Penn	DesMoi	Cheroke	CHER	sh	11.5	2.04	47.2	1.38	411	12	421	0.04	49.2	0.47	DGSI
14	01S	14E	NW	SE	SW	1900	1940	1920	Penn	DesMoi	Cheroke	CHER	sh	5.91	0.51	10.7	0.64	180	11	428	0.05	11.2		DGSI
14	01S	14E	NW	SE	SW	1980	2000	1990	Penn	DesMoi	Cheroke	CHER	sh	2.87	0.15	2.02	0.38	70	13	430	0.07	2.17		DGSI

14	01S	14E	NW	SE	SW	2230	2240	2235	Penn	DesMoi	Cheroke	CHER	sh	4.95	0.33	5.80	0.97	117	20	430	0.05	6.13		DGSI
14	01S	14E	NW	SE	SW	2330	2340	2335	Penn	DesMoi	Cheroke	CHER	sh	3.23	0.19	3.01	0.57	93	18	431	0.06	3.20	0.54	DGSI
14	01S	14E	NW	SE	SW	2390	2400	2395	Mssp			MSSP	sh	2.41	0.16	1.48	0.43	61	18	433	0.10	1.64		DGSI
14	01S	14E	NW	SE	SW	2540	2550	2545	Dev			CHAT	sh	1.85	0.10	0.61	0.35	33	19	433	0.14	0.71		DGSI
14	01S	14E	NW	SE	SW	2680	2690	2685	Dev			CHAT	sh	1.90	0.09	0.78	0.37	41	19	431	0.10	0.87	0.58	DGSI
14	01S	14E	NW	SE	SW	3410	3430	3420	OrdU			MQKT	sh	3.07	0.28	2.18	0.51	71	17	430	0.11	2.46		DGSI
14	01S	14E	NW	SE	SW	3480	3490	3485	OrdU			VIOL	ls	2.89	0.20	2.00	0.54	69	19	432	0.09	2.20		DGSI
14	01S	14E	NW	SE	SW	3700	3720	3710	OrdM			SMPS	sh	8.15	1.74	66.4	0.88	815	11	441	0.03	68.1		DGSI
14	01S	14E	NW	SE	SW	3810	3830	3820	C/O			ABCK	ls	2.05	0.17	1.24	0.62	60	30	431	0.12	1.41		DGSI

Producers Eng. et al. #1-4 Finn, S2 S2 NE sec. 4-T.4S.-R.7E. (NEMAHA UPLIFT -- Marshall County, Kansas), 1362' datum

4	04S	07E	S2	S2	NE	2050	2100	2075	OrdM			SMPS	sh	0.06									DGSI
4	04S	07E	S2	S2	NE	2090	2110	2100	OrdM			SMPS	sh	0.27	0.10	0.10	0.63	37	233	424	0.50	0.20	DGSI
4	04S	07E	S2	S2	NE	2110	2130	2120	OrdM			SMPS	sh	0.25									DGSI
4	04S	07E	S2	S2	NE	2140	2150	2145	Pcmb			RICE	slst	0.66	0.15	0.32	0.32	48	48	445	0.32	0.57	DGSI
4	04S	07E	S2	S2	NE	2150	2160	2155	Pcmb			RICE	slst	0.77	0.19	0.37	0.16	48	21	446	0.34	0.56	DGSI
4	04S	07E	S2	S2	NE	2160	2180	2170	Pcmb			RICE	slst	0.72	0.14	0.31	0.18	43	25	449	0.31	0.45	DGSI
4	04S	07E	S2	S2	NE	2190	2200	2195	Pcmb			RICE	slst	0.59	0.21	0.36	0.11	61	19	451	0.37	0.57	DGSI
4	04S	07E	S2	S2	NE	2200	2210	2205	Pcmb			RICE	slst	0.67	0.15	0.30	0.13	45	19	448	0.33	0.45	DGSI
4	04S	07E	S2	S2	NE	2210	2220	2215	Pcmb			RICE	slst	0.59	0.17	0.28	0.17	47	29	447	0.38	0.45	DGSI
4	04S	07E	S2	S2	NE	2220	2230	2225	Pcmb			RICE	slst	0.77	0.16	0.33	0.11	43	14	449	0.33	0.49	DGSI
4	04S	07E	S2	S2	NE	2230	2240	2235	Pcmb			RICE	slst	0.59	0.22	0.39	0.19	66	32	447	0.36	0.61	DGSI
4	04S	07E	S2	S2	NE	2240	2250	2245	Pcmb			RICE	slst	0.62	0.12	0.23	0.11	37	18	449	0.34	0.35	DGSI
4	04S	07E	S2	S2	NE	2250	2260	2255	Pcmb			RICE	slst	0.70	0.19	0.48	0.09	69	13	450	0.28	0.67	DGSI
4	04S	07E	S2	S2	NE	2260	2270	2265	Pcmb			RICE	slst	0.62	0.20	0.47	0.21	76	34	445	0.30	0.67	DGSI
4	04S	07E	S2	S2	NE	2270	2280	2275	Pcmb			RICE	slst	0.56	0.15	0.30	0.21	54	38	446	0.33	0.45	DGSI
4	04S	07E	S2	S2	NE	2280	2290	2285	Pcmb			RICE	slst	0.36	0.05	0.11	0.04	31	11	447	0.31	0.16	DGSI
4	04S	07E	S2	S2	NE	2290	2300	2295	Pcmb			RICE	cls	0.42	0.08	0.16	0.16	38	38	448	0.33	0.24	DGSI
4	04S	07E	S2	S2	NE	2300	2310	2305	Pcmb			RICE	cls	0.20	0.08	0.05	0.12	25	60	427	0.62	0.13	DGSI
4	04S	07E	S2	S2	NE	2310	2320	2315	Pcmb			RICE	cls	0.15									DGSI
4	04S	07E	S2	S2	NE	2320	2330	2325	Pcmb			RICE	slst	0.17									DGSI
4	04S	07E	S2	S2	NE	2330	2360	2345	Pcmb			RICE	slst	0.16									DGSI
4	04S	07E	S2	S2	NE	2360	2370	2365	Pcmb			RICE	slst	0.13									DGSI
4	04S	07E	S2	S2	NE	2370	2390	2380	Pcmb			RICE	slst	0.29	0.11	0.23	0.06	79	21	426	0.32	0.34	DGSI
4	04S	07E	S2	S2	NE	2390	2400	2395	Pcmb			RICE	slst	0.15									DGSI
4	04S	07E	S2	S2	NE	2400	2410	2405	Pcmb			RICE	slst	0.10									DGSI
4	04S	07E	S2	S2	NE	2410	2420	2415	Pcmb			RICE	slst	0.07									DGSI
4	04S	07E	S2	S2	NE	2410	2420	2415	Pcmb			RICE	slst	0.15									DGSI

Mid Gulf #1 Caudle Farm, NE NE NW sec. 28-T.4S.-R.20E. (FOREST CITY BASIN -- Doniphan County, Kansas), 1025' datum

28	04S	20E	NE	NE	NW	440	460	450	Penn	Virgil	Shawnee	SHAW	sh	0.70	0.07	0.23	0.66	33	94	432	0.23	0.30		DGSI
28	04S	20E	NE	NE	NW	660	670	665	Penn	Virgil	Douglas	DGLS	sh	0.68	0.08	0.22	0.48	32	71	421	0.27	0.30		DGSI
28	04S	20E	NE	NE	NW	940	980	960	Penn	Missou	LKC	LKC	sh	2.32	0.36	4.92	0.64	212	28	423	0.07	5.28	0.52 ?	DGSI
28	04S	20E	NE	NE	NW	1200	1220	1210	Penn	Missou	LKC	LKC	sh	8.97	0.54	17.69	0.74	197	8	426	0.03	18.2	0.51 ?	DGSI
28	04S	20E	NE	NE	NW	1365	1375	1370	Penn	Missou	LKC	LKC	sh	0.97	0.12	0.39	0.52	40	54	432	0.24	0.51	0.59	DGSI
28	04S	20E	NE	NE	NW	1545	1555	1550	Penn	Missou	LKC	LKC	sh	3.49	0.22	3.73	0.38	107	11	433	0.06	3.95	0.51	DGSI
28	04S	20E	NE	NE	NW	1800	1810	1805	Penn	Missou	LKC	LKC	sh	3.47	0.22	2.94	0.30	85	9	433	0.07	3.16	0.57	DGSI
28	04S	20E	NE	NE	NW	2020	2030	2025	Penn	DesMoi	Cheroke	CHER	sh	2.27	0.16	1.45	0.51	64	22	434	0.10	1.61	0.56	DGSI
28	04S	20E	NE	NE	NW	2110	2120	2115	Penn	DesMoi	Cheroke	CHER	sh	1.15	0.03	3.42	0.27	297	23	434	0.01	3.45		DGSI
28	04S	20E	NE	NE	NW	2310	2320	2315	Mssp			MSSP	ls	0.06										DGSI
28	04S	20E	NE	NE	NW	2390	2400	2395	Mssp			MSSP	ls	0.01										DGSI
28	04S	20E	NE	NE	NW	2460	2470	2465	Dev			CHAT	sh	0.05										DGSI
28	04S	20E	NE	NE	NW	2490	2510	2500	Dev			CHAT	sh	0.18										DGSI
28	04S	20E	NE	NE	NW	2510	2520	2515	Dev			CHAT	sh	0.30										DGSI

28	04S	20E	NE	NE	NW	2680	2685	2682.5	OrdU			MQKT	dol	0.53	0.10	2.06	0.49	389	92	443	0.05	2.16		DGSI
28	04S	20E	NE	NE	NW	2710	2715	2712.5	OrdM			SMPS	sh	0.24										DGSI
28	04S	20E	NE	NE	NW	2725	2730	2727.5	OrdM			SMPS	dol	1.13	0.32	5.51	0.30	488	27	446	0.05	5.83		DGSI
28	04S	20E	NE	NE	NW	2750	2755	2752.5	OrdM			SMPS	dol	0.12										DGSI
28	04S	20E	NE	NE	NW	2830	2835	2832.5	C/O			ABCK	dol	0.02										DGSI
Texaco #1 Poersch, SW SW sec. 31-T.5S.-R.5E. (NEMAHA UPLIFT -- Washington County, Kansas), 1411' datum																								
31	05S	05E		SW	SW	350	360	355	Perm			CG	sh	0.38	0.06	0.06	0.48	16	126	438	0.50	0.12		DGSI
31	05S	05E		SW	SW	720	750	735	Penn	Virgil	Wabaun	WAB	sh	0.55	0.04	0.15	0.32	27	58	405	0.21	0.19		DGSI
31	05S	05E		SW	SW	1100	1120	1110	Penn	Virgil	Wabaun	WAB	sh	0.60	0.01	0.10	0.52	17	87	421	0.09	0.11		DGSI
31	05S	05E		SW	SW	1382	1388	1385	Penn	Virgil	Shawnee	HEEB	sh	10.6	2.35	46.6	2.74	441	26	413	0.05	48.9		DGSI
31	05S	05E		SW	SW	1736	1740	1738	Penn	Missou	KC	LADR	sh	11.1	1.69	44.9	5.07	405	46	417	0.04	46.6		DGSI
31	05S	05E		SW	SW	1840	1900	1870	Dev			CHAT	sh	0.28	0.00	0.04	0.75	14	268	421	0.00	0.04	0.38 ?	DGSI
31	05S	05E		SW	SW	1970	2020	1995	Dev			CHAT	sh	0.13	0.01	0.02	0.38	15	292	402	0.33	0.03		DGSI
31	05S	05E		SW	SW	2490	2520	2505	OrdU			MQKT	sh	0.30	0.03	0.19	0.39	63	130	426	0.14	0.22		DGSI
31	05S	05E		SW	SW	8590	8600	8595	Pcmb			RICE	sh	0.12	0.05	0.08	0.16	67	133	451	0.38	0.13		DGSI
Pendleton #1 Steinlage, SE NE sec. 27-T.5S.-R.12E. (FOREST CITY BASIN -- Nemaha County, Kansas), 1290' datum																								
27	05S	12E		SE	NE	875	890	882.5	Penn	Virgil	Douglas	DGLS	sh	0.55	0.07	0.07	0.23	13	42	434	0.50	0.14		DGSI
27	05S	12E		SE	NE	998	1016	1007	Penn	Missou	Lans	LANS	sh	0.39										DGSI
27	05S	12E		SE	NE	1596	1620	1608	Dev			CHAT	sh	0.78	0.08	0.11	0.24	14	31	427	0.42	0.19		DGSI
27	05S	12E		SE	NE	2310	2320	2315	OrdU			MQKT	sh	0.14										DGSI
27	05S	12E		SE	NE	2580	2630	2605	OrdM			SMPS	sh	0.44	0.13	0.39	0.11	89	25	432	0.25	0.52	0.52	DGSI
Pendleton #1 Hermesch, NW SE SE sec. 9-T.5S.-R.13E. (FOREST CITY BASIN -- Nemaha County, Kansas), 1342' datum																								
9	05S	13E	NW	SE	SE	2730	2740	2735	Dev			CHAT	sh	1.43	0.17	0.96	0.60	67	42	433	0.15	1.13	0.63	DGSI
9	05S	13E	NW	SE	SE	3580	3590	3585	OrdU			MQKT	sh	0.13										DGSI
9	05S	13E	NW	SE	SE	3720	3800	3760	OrdM			SMPS	sh	0.20	0.34	0.26	0.62	130	310	422	0.57	0.60		DGSI
Wakefield #1 Bergin, N2 SE NW sec. 36-T.7S.-R.2E. (SALINA BASIN -- Clay County, Kansas), 1213' datum																								
36	07S	02E	N2	SE	NW	1510	1520	1515	Penn	Virgil	Shawnee	HEEB	sh	7.63	1.51	35.17	1.44	461	19	415	0.04	36.7		DGSI
36	07S	02E	N2	SE	NW	1600	1610	1605	Penn	Virgil	Douglas	DGLS	sh	0.90	0.11	0.76	0.99	84	110	433	0.13	0.87		DGSI
36	07S	02E	N2	SE	NW	1750	1760	1755	Penn	Missou	LKC	LKC	sh	0.34	0.09	0.18	0.92	53	271	409	0.33	0.27		DGSI
36	07S	02E	N2	SE	NW	1860	1870	1865	Penn	Missou	LKC	LKC	sh	0.64	0.18	0.31	0.46	48	72	425	0.37	0.49		DGSI
36	07S	02E	N2	SE	NW	2200	2210	2205	Dev			CHAT	sh	0.31	0.14	0.08	0.50	26	161	375	0.64	0.22		DGSI
Producers Eng. et al. #1-8 Freiderich, S2 SE SE sec. 8-T.7S.-R.5E. (SALINA BASIN -- Riley County, Kansas), 1331' datum																								
8	07S	05E	S2	SE	SE	2630	2650	2640	OrdM			SMPS	sh	0.18										DGSI
Heller #1 Stice, NW sec. 11-T.14S.-R.8E. (NEMAHA UPLIFT -- Wabaunsee County, Kansas), 1481' datum																								
11	14S	08E			NW	1180	1190	1185	Penn	Virgil	Shawnee	HEEB	sh	10.4	0.85	21.1		203		435	0.04	22.0	0.55	Sohio
11	14S	08E			NW	1390	1400	1395	Penn	Virgil	Douglas	STRN	sh	1.14	0.09	0.20		18		438	0.31	0.29		Sohio
11	14S	08E			NW	1610	1630	1620	Penn	Missou	Lans	LANS	csh	1.96	0.06	0.37		19		444	0.14	0.43	0.57	Sohio
11	14S	08E			NW	1660	1680	1670	Penn	Missou	KC	STRK	csh	14.0	1.40	30.3		216		434	0.04	31.7		Sohio
11	14S	08E			NW	1680	1700	1690	Penn	Missou	KC	HUSH	csh	25.0	2.86	73.5		294		437	0.04	76.3	0.55	Sohio
11	14S	08E			NW	1710	1730	1720	Penn	Missou	Pleasant	PLES	csh	8.01	0.78	11.3		141		440	0.06	12.1		Sohio
11	14S	08E			NW	1760	1770	1765	Penn	Missou	Pleasant	PLES	csh	0.72	0.33	0.56		78		478	0.37	0.89		Sohio
11	14S	08E			NW	1760	1770	1765	Penn	Missou	Pleasant	PLES	slts	4.38	0.34	5.41		124		444	0.06	5.75	0.60	Sohio
11	14S	08E			NW	1780	1800	1790	Penn	DesMoi	Marmat	MARM	csh	1.06	0.16	0.62		58		444	0.21	0.78		Sohio
11	14S	08E			NW	1830	1840	1835	Penn	DesMoi	Marmat	MARM	ls	0.11	0.07	0.74		673		387	0.09	0.81		Sohio
11	14S	08E			NW	1850	1870	1860	Penn	DesMoi	Cheroke	CHER	slts	1.82	0.09	0.48		26		460	0.16	0.57	0.70	Sohio
11	14S	08E			NW	1870	1880	1875	Penn	DesMoi	Cheroke	CHER	ls	0.36	0.07	0.47		131		430	0.13	0.54		Sohio
11	14S	08E			NW	1870	1880	1875	Penn	DesMoi	Cheroke	CHER	ls	0.39	0.07	0.55		141		353	0.11	0.62		Sohio
11	14S	08E			NW	1880	1890	1885	Penn	DesMoi	Cheroke	CHER	sh	3.28	0.23	1.84		56		490	0.11	2.07		Sohio

11	14S	08E			NW	1890	1900	1895	Penn	DesMoi	Cheroke	CHER	sh	1.91	0.11	0.59		31		528	0.16	0.70		Sohio
11	14S	08E			NW	1901	1901	1901	Mssp			MSSP	dsh	0.35	0.71	0.31		89		436	0.70	1.02		Sohio
11	14S	08E			NW	2010	2140	2075	Dev			CHAT	sh	2.09	0.15	1.57		75		444	0.09	1.72	0.60	Sohio
11	14S	08E			NW	2045	2049	2047	S/D			HNTN	dol	0.20	0.47	0.74		370		434	0.39	1.21		Sohio
11	14S	08E			NW	2135	2140	2137.5	S/D			HNTN	dol	2.26	0.15	6.28		278		446	0.02	6.43		Sohio
11	14S	08E			NW	2162	2165	2163.5	OrdU			MQKT	sh	1.52	0.08	0.92		61		447	0.08	1.00		Sohio
11	14S	08E			NW	2165	2170	2167.5	OrdM			SMPS	sh	1.20	0.11	0.91		76		494	0.11	1.02		Sohio
11	14S	08E			NW	2220	2225	2222.5	OrdM			SMPS	sh	1.03	0.10	0.38		37		486	0.21	0.48		Sohio
Discovery #1 Rindt, NE NE NW sec. 23-T.16S.-R.5E. (SALINA BASIN -- Morris County, Kansas), 1479' datum																								
23	16S	05E	NE	NE	NW	1550	1560	1555	Penn	Virgil	Shawnee	HEEB	sh	10.1	1.94	51.5	1.52	512	15	421	0.04	53.4		DGSI
23	16S	05E	NE	NE	NW	1980	1990	1985	Penn	Missou	KC	HUSH	sh	11.4	1.57	49.1	2.33	429	20	419	0.03	50.6		DGSI
Range Oil #1-A Gutsch, SE NE NW sec. 14-T.17S.-R.5E. (SALINA BASIN -- Morris County, Kansas), 1442' datum																								
14	17S	05E	SE	NE	NW	1459	1464	1461.5	Penn	Virgil	Shawnee	HEEB	sh	1.48	0.21	0.90	0.76	61	51	428	0.19	1.11	0.39	DGSI
14	17S	05E	SE	NE	NW	1707	1711	1709	Penn	Missou	LKC	LKC	sh	0.64	0.10	0.04	0.45	6	70	434	0.71	0.14		DGSI
14	17S	05E	SE	NE	NW	2000	2020	2010	Penn	Missou	Pleasant	PLES	sh	0.48	0.12	0.17	0.68	35	142	328	0.41	0.29		DGSI
Gough #1 Shaeffer, NE SE NW sec. 20-T.17S.-R.10E. (FOREST CITY BASIN -- Lyon County, Kansas), 1203' datum																								
20	17S	10E	NE	SE	NW			197	Perm			PERM	sh	0.1										Amoco
20	17S	10E	NE	SE	NW	476	507	491.5	Perm			PERM	sh	1.3									0.44	Amoco
20	17S	10E	NE	SE	NW	662	694	678	Perm			PERM	sh	0.4										Amoco
20	17S	10E	NE	SE	NW	787	818	802.5	Perm			PERM	sh	0.3										Amoco
20	17S	10E	NE	SE	NW	973	1005	989	Perm			PERM	sh	0.5										Amoco
20	17S	10E	NE	SE	NW	1130	1161	1145.5	Perm			PERM	sh	0.8									0.54	Amoco
20	17S	10E	NE	SE	NW	1348	1379	1363.5	Penn	Missou	Lans	LANS	sh	0.6										Amoco
20	17S	10E	NE	SE	NW			1443	Penn	Missou	LKC	LKC	sh	0.2										Amoco
20	17S	10E	NE	SE	NW			1662	Penn	Missou	LKC	LKC	sh	0.4										Amoco
20	17S	10E	NE	SE	NW			1788	Penn	Missou	LKC	LKC	sh	0.8									0.60	Amoco
20	17S	10E	NE	SE	NW	2007	2038	2022.5	Penn	Missou	LKC	LKC	sh	1.5										Amoco
20	17S	10E	NE	SE	NW	2101	2132	2116.5	Penn	Missou	LKC	LKC	sh	0.7									0.44	Amoco
20	17S	10E	NE	SE	NW	2201	2232	2216.5	Penn	Missou	LKC	LKC	sh	0.4										Amoco
20	17S	10E	NE	SE	NW			2324	Mssp			MSSP	sh	0.8									0.41	Amoco
20	17S	10E	NE	SE	NW			2638	Mssp			MSSP	sh	0.7										Amoco
Diamond-Shamrock #1-9 Skully 181, SE SE sec. 9-T.18S.-R.1E. (SALINA BASIN -- Marion County, Kansas), 1439' datum																								
9	18S	01E		SE	SE	1900	1920	1910	Penn	Virgil	Shawnee	HEEB	sh	0.92	0.04	0.42	0.28	46	30	432	0.09	0.46		Sohio
9	18S	01E		SE	SE	2160	2170	2165	Penn	Missou	Lans	LANS	sh	4.78	0.59	12.7	0.52	265	11	434	0.04	13.3	0.61	Sohio
9	18S	01E		SE	SE	2270	2290	2280	Penn	Missou	Lans	LANS	sh	0.69	0.01	0.15	0.33	22	48	438	0.06	0.16		Sohio
9	18S	01E		SE	SE	2400	2410	2405	Penn	Missou	Lans	LANS	sh	10.7	2.91	53.0	1.42	495	13	430	0.05	55.9		Sohio
9	18S	01E		SE	SE	2440	2450	2445	Penn	Missou	KC	HUSH	sh	13.6	3.69	72.0	1.67	532	12	432	0.05	75.7	0.56	Sohio
9	18S	01E		SE	SE	2460	2480	2470	Penn	Missou	Lans	LANS	sh	1.68	0.15	2.03	0.42	121	25	433	0.07	2.18		Sohio
9	18S	01E		SE	SE	2480	2490	2485	Penn	Missou	LKC	LKC	csh	0.23	0.03	0.14	0.23	61	100	439	0.18	0.17		Sohio
9	18S	01E		SE	SE	2580	2590	2585	Penn	DesMoi	Marmat	MARM	csh	0.96	0.05	0.27	0.33	28	34	437	0.16	0.32		Sohio
9	18S	01E		SE	SE	2610	2620	2615	Penn	DesMoi	Marmat	MARM	csh	0.08	0.00	0.00	0.16		200	258				Sohio
9	18S	01E		SE	SE	2630	2640	2635	Penn	DesMoi	Marmat	MARM	csh	0.69	0.12	0.18		26		383	0.40	0.30		Sohio
9	18S	01E		SE	SE	2630	2640	2635	Penn	DesMoi	Marmat	MARM	csh	0.09	0.00	0.00				233				Sohio
9	18S	01E		SE	SE	2630	2640	2635	Penn	DesMoi	Marmat	MARM	csh	0.07	0.01	0.00				439	1.00	0.01		Sohio
9	18S	01E		SE	SE	2660	2670	2665	Penn	DesMoi	Marmat	MARM	ls	0.06	0.07	0.00				357	1.00	0.07	0.54	Sohio
9	18S	01E		SE	SE	2660	2670	2665	Penn	DesMoi	Cheroke	CHER	csh	0.68	0.32	0.22		32		407	0.59	0.54		Sohio
9	18S	01E		SE	SE	2820	2840	2830	Mssp			MSSP	sh	0.53	0.26	0.03		6		313	0.90	0.29		Sohio
9	18S	01E		SE	SE	2900	2910	2905	Dev			CHAT	sh	0.24	0.15	0.42		175		289	0.26	0.57		Sohio
9	18S	01E		SE	SE	2970	3000	2985	Dev			CHAT	sh	0.67	0.08	0.19		28		395	0.30	0.27		Sohio
9	18S	01E		SE	SE	2980	3000	2990	Dev			CHAT	sh	0.17	0.04	0.16		94		380	0.20	0.20		Sohio

9	18S	01E		SE	SE	3030	3040	3035	Dev			CHAT	sh	1.00	0.23	1.73		173		440	0.12	1.96		Sohio
9	18S	01E		SE	SE	3080	3090	3085	OrdU			MQKT	sh	0.56	0.04	0.09		16		447	0.31	0.13		Sohio
9	18S	01E		SE	SE	3133	3133	3133	OrdU			MQKT	sh	0.52	0.05	0.16		31		366	0.24	0.21	0.66	Sohio
9	18S	01E		SE	SE	3141	3141	3141	OrdM			VIOL	dol	0.24	0.06	0.40		167		433	0.13	0.46		Sohio
9	18S	01E		SE	SE	3230	3245	3237.5	OrdM			SMPS	sh	0.72	0.08	1.51		210		448	0.05	1.59		Sohio
9	18S	01E		SE	SE	3265	3270	3267.5	OrdM			SMPS	slst	7.29	2.67	71.5		981		451	0.04	74.2		Sohio
9	18S	01E		SE	SE	3270	3280	3275	OrdM			SMPS	sh	0.44	0.19	1.15		261		443	0.14	1.34		Sohio
9	18S	01E		SE	SE	3280	3290	3285	OrdM			SMPS	sh	0.88	0.00	0.00				448				Sohio
9	18S	01E		SE	SE	3320	3330	3325	C/O			ABCK	dol	0.06	0.01	0.01		17		340	0.50	0.02		Sohio
Walker #1-15 Unruh, NW SW SE sec. 15-T.20S.-R.1E. (SALINA BASIN -- Marion County, Kansas), 1485' datum																								
15	20S	01E	NW	SW	SE	1992	1996	1994	Penn	Virgil	Shawnee	HEEB	sh	1.54	0.28	2.53	0.61	164	40	430	0.10	2.81	0.48	DGSI
15	20S	01E	NW	SW	SE	2478	2480	2479	Penn	Missou	KC	STRK	sh	0.70	0.16	0.22	0.37	31	53	427	0.42	0.38		DGSI
15	20S	01E	NW	SW	SE	3090	3140	3115	Dev			CHAT	sh	1.01	0.18	0.61	0.37	60	37	430	0.23	0.79	0.52	DGSI
15	20S	01E	NW	SW	SE	3260	3320	3290	OrdM			SMPS	sh	0.25										DGSI
Stone #1 McCartney, SE SE SE sec. 5-T.64N.-R.39W. (FOREST CITY BASIN -- Atchison County, Missouri), 1039' datum																								
5	64N	39W	SE	SE	SE			3130	OrdM			SMPS	ls	0.62										Core1
5	64N	39W	SE	SE	SE			3130	OrdM			SMPS	ls	0.29										Core1
5	64N	39W	SE	SE	SE	3130	3140	3135	OrdM			SMPS	sh	14.5	7.92	168	1.04	1159	7	444	0.04	176		Core1

SIDEWALL CORE SAMPLES

OPERATOR AND WELL NAME																								
SEC	*T*	*R*	*SPOT*			*SAMPLE INTERVAL*		*SUBSURF.*	*AGE*			*FORM*	*LITH*	*TOC*	*S1*	*S2*	*S3*	*HI*	*OI*	*TMAX*	*PI*	*S1+S2*	*Ro*	*DATA*
						top	*base*	*DEPTH*						*WT. %*	*KG/TN*	*KG/TN*	*KG/TN*			*C*		*KG/TN*	*%*	*SOURCE*
Stone #1 McCartney, SE SE SE sec. 5-T.64N.-R.39W. (FOREST CITY BASIN -- Atchison County, Missouri), 1039' datum																								
5	64N	39W	SE	SE	SE			2790	OrdU			VIOL	ss	0.85	11.6	3.49	1.32	411	155	418	0.77	15.1		Core1
5	64N	39W	SE	SE	SE			2792	OrdU			VIOL	ls	0.32										Core1
5	64N	39W	SE	SE	SE			2796	OrdU			VIOL	ls	0.34	2.12	0.78	1.16	229	341	417	0.73	2.90		Core1
5	64N	39W	SE	SE	SE			2798	OrdU			VIOL	ls	0.34										Core1
5	64N	39W	SE	SE	SE			3092	OrdM			SMPS	ls	0.26										Core1
5	64N	39W	SE	SE	SE			3126	OrdM			SMPS	sh	1.47	0.91	10.16	1.03	691	70	442	0.08	11.1		Core1
5	64N	39W	SE	SE	SE			3127	OrdM			SMPS	ls	0.31										Core1
5	64N	39W	SE	SE	SE			3128	OrdM			SMPS	ls	0.33										Core1
5	64N	39W	SE	SE	SE			3136	OrdM			SMPS	ls	0.47										Core1
5	64N	39W	SE	SE	SE			3142	OrdM			SMPS	sh	1.98	1.11	12.2	0.80	618	40	436	0.08	13.4		Core1
5	64N	39W	SE	SE	SE			3144	OrdM			SMPS	sh	0.46										Core1
5	64N	39W	SE	SE	SE			3156	OrdM			SMPS	sh	1.10	0.37	4.11	1.30	374	118	439	0.08	4.48		Core1
5	64N	39W	SE	SE	SE			3173	OrdM			SMPS	sh	0.52	0.13	1.82	1.23	350	237	437	0.07	1.95		Core1
5	64N	39W	SE	SE	SE			3175	OrdM			SMPS	sh	0.20										Core1
5	64N	39W	SE	SE	SE			3176	OrdM			SMPS	ss	0.06										Core1

EXPLANATION OF ABBREVIATIONS

Header Information

FORM -- Formation
LITH -- Lithology
SEC, T., R. -- Section, township, range
SPOT -- location information within the section
SUBSURF. DEPTH -- Subsurface depth, measured from the datum point (usually a well kelly bushing), measured in feet

Analytical Data

"blank space indicates no data"

TOC = Total Organic Carbon (wt. %)
Tmax = Temperature (degrees C) at which the yield of pyrolysis products (S2) is at a maximum
HI (Hydrogen Index)= S2/TOC, mgHC/gTOC
OI (Oxygen Index) = S3/TOC, mgCO2/gTOC
GP (Genetic Potential) = S1 + S2, mgHC/g sample
PI (Productivity Index) = S1/(S1 +S2)

Age, Formation, and Lithology

Cheroke -- Cherokee Group
C/O -- Cambrian-Ordovician
Desmoi -- Desmoinesian
Dev -- Devonian
Douglas -- Douglas Group
KC -- Kansas City Group
Lans - Lansing Group
LKC -- Lansing-Kansas City groups
Marmat -- Marmaton Group
Missou -- Missourian
Mssp -- Mississippian
OrdM -- Middle Ordovician
OrdU -- Upper Ordovician
Pcmb -- Precambrian
Penn -- Pennsylvanian
Perm -- Permian
Pleasant -- Pleasanton Group
S/D -- Silurian-Devonian
Shawnee -- Shawnee Group
Virgil -- Virgilian
Wabaun -- Wabaunsee Group

ABCK -- Arbuckle Group
AD-CG -- Admire-Council Grove Groups
ANNA -- Anna Shale Member
CABN -- Cabaniss Formation
CG -- Council Grove Group
CHAT -- Chattanooga Shale
CHER -- Cherokee Group
CHSE -- Chase Group
DGLS -- Douglas Group
DRCK -- Deer Creek Limestone
EUD -- Eudora Shale Member
EX -- Excello Shale Member
HEEB -- Heebner Shale Member
HNTN -- "Hunton" Formation
HUSH -- Hushpuckney Shale Member
KC -- Kansas City Group
LADR -- Ladore Shale Member
LANS -- Lansing Group

cl -- coal
cls -- carbonaceous limestone
csh -- calcareous shale
dol -- dolomite
dsh -- dolomitic shale
ls -- limestone
sh -- shale
slst -- siltstone
ss -- sandstone

Data Source

Amoco -- 9/81 Amoco Oil Company internal technical report released to Kansas Geological Survey in 9/86.
ARCo1 -- Sample analyzed by Arco Research Laboratory in Plano, Texas, reported in appendices in Lambert (1992).
ARCo2 -- 8/82 letter (K.F. Thompson, Arco, to W.L. Watney, Kansas Geological Survey) reporting vitrinite reflectance on selected Kansas cores by Arco researcher Ken Yordy.
B&R -- Samples selected by K.D. Newell and analyzed by Brown & Ruth Laboratories, Inc., Houston, TX.
Cook -- Well information reported in Cook (1977), based on cores archived at the Kansas Geological Survey.
Core1 -- Technical report for Stone Petroleum Company by Core Laboratories, Dallas, TX; released to Kansas Geological Survey in 9/87 by Mr. Ed Eble.
Core2 -- 3/87 letter (L.E. Roberts, Mobil, to W.L. Watney, KGS) reporting analyses on selected KS cores by Mobil Oil Field Research Lab, with analyses contracted to Core Lab, Dallas, TX.
DGSI -- Samples selected by K.D. Newell, and analytical work contracted to DGSI, The Woodlands, TX.
Sohio -- Samples selected by K.D. Newell, with analyses performed at Sohio Petroleum Research Laboratories, Cleveland, OH.
USGS -- Samples selected by J.R. Hatch and analyzed in USGS laboratories at the Denver Federal Center, Denver, Colorado.
White -- Samples selected by K.D. Newell and J.R. Hatch, analyzed by Tim White, Department of Geosciences, University of Iowa.